



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



NOV 24 2014

Mr. Raymond Rodriguez
Occidental Of Elk Hills Inc
P.O. Box 1001
Tupman, CA 93276

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-382
Project # S-1140870

Dear Mr. Rodriguez:

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. The project authorizes the installation of two new 100,000 bbl external floating roof tanks, one truck unloading operation and one truck loading operation served by a 3.2 MMBtu/hr natural-gas fired thermal oxidizer.

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. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

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

Sayed Sadredin
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San Joaquin Valley Air Pollution Control District Authority to Construct

**Two New 100,000 bbl External Floating Roof Tanks, Truck Unloading Operation,
Truck Loading Operation Served by 3.2 MMBtu/hr Thermal Oxidizer**

Facility Name: Occidental of Elk Hills Inc
Mailing Address: P.O. Box 1001
Tupman, CA 93276

Date: September 10, 2014
Engineer: Jesse A. Garcia
Lead Engineer: Joven Refuerzo

Contact Person: Raymond Rodriguez

Telephone: (661) 763-6159

Email: Raymond_rodriguez@oxy.com

Application #(s): S-382-854-0, -855-0, -856-0, -857-0

Project #: S-1140870

Deemed Complete: March 26, 2014

I. PROPOSAL

Occidental of Elk Hills Inc (OEHI) requests Authorities to Construct (ATCs) for the installation of:

- Two new 100,000 bbl external floating roof tanks (S-382-854-0 & -855-0)
- One truck unloading operation (S-382-856-0)
- One truck loading operation served by a 3.2 MMBtu/hr natural gas-fired thermal oxidizer (S-382-857-0)

OEHI has received their Title V Permit. 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. OEHI must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC issued with this project.

II. APPLICABLE RULES

District Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
District Rule 2410	Prevention of Significant Deterioration (6/16/11)
District Rule 2520	Federally Mandated Operating Permits (6/21/01)
District Rule 4001	New Source Performance Standards (4/14/99)
District Rule 4002	National Emission Standards for Hazardous Air Pollutants (NESHAPs)
District Rule 4101	Visible Emissions (2/17/05)
District Rule 4102	Nuisance (12/17/92)
District Rule 4201	Particulate Matter Concentration (12/17/92)
District Rule 4301	Fuel Burning Equipment (12/17/92)

District Rule 4409 Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities (4/20/05)
District Rule 4623 Storage of Organic Liquids (5/19/05)
District Rule 4624 Transfer of Organic Liquid (12/20/07)
District Rule 4801 Sulfur Compounds (12/17/92)
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 equipment is located at Section 18G, T31S and R 24E and is not located within 1,000 feet of a school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. PROCESS DESCRIPTION

The crude oil blending, storage and loading facility will receive crude oil via pipeline and truck transfer. The truck unloading operation consists of three unloading bays. Oil received by truck will be transferred to the external floating roof tanks using dedicated transfer pumps. Oil received via pipeline will be metered prior to being routed to the external floating roof tanks. Facility piping allows the stored oil to be circulated through "static mixers" to blend oil of different qualities and characteristics into the desired final product for shipping.

The proposed maximum amount of oil received through the truck unloading operation is 6,120 bbls/day. The proposed maximum amount of oil received via pipeline is 31,700 bbls/day.

The blended oil will be shipped out by the pipeline and by truck. There are two circulation/shipping pumps and one truck-loading pump per external floating roof tank. The truck loading operation consists of one loading bay and is equipped with a vapor control system with thermal oxidizer for VOC destruction. The thermal oxidizer is fueled by PUC quality natural gas. The truck loading operation is anticipated to have a maximum loading capacity of 2,040 bbls/day.

See Appendix A for a facility process flow diagram.

V. EQUIPMENT LISTING

S-382-854-0: ONE 100,000 BBL (4,200,000 GALLON) WELDED EXTERNAL FLOATING ROOF ORGANIC LIQUID BLEND STORAGE TANK (T-101) WITH PRIMARY METAL SHOE SEAL AND SECONDARY WIPER SEAL

S-382-855-0: ONE 100,000 BBL (4,200,000 GALLON) WELDED EXTERNAL FLOATING ROOF ORGANIC LIQUID BLEND STORAGE TANK (T-102) WITH PRIMARY METAL SHOE SEAL AND SECONDARY WIPER SEAL

S-382-856-0: ORGANIC LIQUID TRUCK UNLOADING OPERATION WITH ONE UNLOADING RACK CONSISTING OF THREE UNLOADING BAYS, EACH EQUIPPED WITH ONE TRANSFER PUMP AND DRY-BREAK COUPLER CONNECTIONS

S-382-857-0: ORGANIC LIQUID TRUCK LOADING OPERATION WITH ONE LOADING RACK CONSISTING OF ONE LOADING BAY WITH TWO TRANSFER PUMPS AND DRY-BREAK COUPLER CONNECTIONS, SERVED BY A 3.2 MMBTU/HR NATURAL GAS-FIRED THERMAL OXIDIZER

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

The floating roof design of the tank minimizes the headspace that is created when oil is removed from the tank, thereby reducing the amount of VOCs that are released.

Fugitive VOCs from component leaks will be minimized by the operator by adding them to OEHI's Rule 4409 Inspection and Maintenance Plan.

Emissions from the loading operation will be minimized by equipping it with dry-break couplers and a vapor control system consisting of a natural gas-fired thermal oxidizer with a minimum 99% control efficiency.

VII. GENERAL CALCULATIONS

A. Assumptions

Facility operates 8760 hours per year (worst-case assumption)

Permit Unit S-382-854-0 & -855-0

VOC is the only pollutant emitted from this operation

Each tank may store organic liquid of up to TVP 3.0 psia (proposed by applicant)

Each tank throughput is 100,000 bbl/day (proposed by applicant)

Fitting count is based off count submitted by applicant

Permit Unit S-382-856-0

Density of crude oil = 7.21 lb/gal

Max number of truck loading disconnects = 36/day (12 trucks/day x 3 unloading bays) and
13,140/year (36 trucks/day x 365 days)

Permit Unit S-382-857-0

Density of crude oil = 7.21 lb/gal

Max number of truck loading disconnects = 12/day (12 trucks/day) and 4,380/year (12 trucks/day x 365 days)

Maximum daily throughput = 2,040 bbls/day = 85,680 gals/day (provided by applicant)

B. Emission Factors

Permit Unit S-382-854-0 & -855-0

Tank Operating Losses:

Emission factors are from US EPA's TANKS 4.0.9d program. See Appendix B

On-tank and Off-tank Components Fugitive Emissions:

Emissions factors are based on EPA Protocol for Equipment Leak Emission Estimates Table 5-7, Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production. These emission factors were used to calculate the fugitive emissions from on-tank and off-tank components and to construct the fugitive emissions spreadsheets listed in Appendix C.

Permit Unit S-382-856-0

Unloading Operating Fugitive Emissions:

Emissions factors are based on EPA Protocol for Equipment Leak Emission Estimates Table 5-7, Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production. These emission factors were used to calculate the fugitive emissions from the unloading operation components and to construct the fugitive emissions spreadsheets listed in Appendix C.

Unloading Disconnect Emissions:

OEHI has proposed 10 mL/disconnect equivalent to 0.00264 gal/disconnect.

Permit Unit S-382-857-0

Loading Operating Fugitive Emissions:

Emissions factors are based on EPA Protocol for Equipment Leak Emission Estimates Table 5-7, Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production. These emission factors were used to calculate the fugitive emissions from the loading operation components and to construct the fugitive emissions spreadsheets listed in Appendix C.

Loading Disconnect Emissions:

OEHI has proposed 10 mL/disconnect equivalent to 0.00264 gal/disconnect.

Loading Rack Emissions:

Loading Loss (lbs/1000 gal) = 12.46 SPM/T (AP-42 Section 5.2 1/95)

S = saturation factor

P = true vapor pressure of liquid loaded (psia)

M = molecular weight of vapors (lb/lb-mole)

T = temperature of bulk liquid loaded (Rankin = Fahrenheit + 460)

S = 0.60 (Table 5.2-1 *Saturation (S) Factors For Calculating Petroleum Liquid Loading Losses*)

P = 3.0 psia (provided by applicant)

M = 50.0 lb/lb-mole

T = 115 deg F = 575 deg R

Loading Loss = $12.46 (0.6)(3.0)(50)/(575)$
= 1.95 lb/1000 gal

Thermal Oxidizer:

	lb/MMBtu	Source
NO _x	0.0980	AP-42 (07/98) Table 1.4-2
SO _x	0.00285	District Policy APR 1720
PM ₁₀	0.0075	AP-42 (07/98) Table 1.4-2
CO	0.084	AP-42 (07/98) Table 1.4-2
VOC	0.0055	AP-42 (07/98) Table 1.4-2

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since these are new emissions units, PE1 = 0 for all pollutants.

2. Post-Project Potential to Emit (PE2)

Permit Unit S-382-854-0

PE2 calculations are attached in Appendix B and C and are summarized below:

Process	VOC (lb/day)	VOC (lb/year)	Source
On-tank Components Fugitive Emissions	0.1	37 ¹	EPA Protocol for Equipment Leak Emission Estimates Table 5-7, Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production
Off-tank Components Fugitive Emissions	0.2	73 ¹	
18G Meter Unit #13 (for both tanks) Fugitive Emissions	0.2	73 ¹	
18G Meter Unit #14 (for both tanks) Fugitive Emissions	0.2	73 ¹	
Tank Operating Losses	35.7	3,026	TANKS 4.09d
Total	36.4	3,282	

Permit Unit S-382-855-0

PE2 calculations are attached in Appendix B and C and are summarized below:

Process	VOC (lb/day)	VOC (lb/year)	Source
On-tank Components Fugitive Emissions	0.1	37 ²	EPA Protocol for Equipment Leak Emission Estimates Table 5-7, Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production
Off-tank Components Fugitive Emissions	0.2	73 ²	
Tank Operating Losses	35.7	3,026	TANKS 4.09d
Total	36.0	3,136	

Permit Unit S-382-856-0

VOC emissions will be accounted for due to spillage during connection and disconnection between the unloading system and the delivery truck.

$$\begin{aligned}\text{Daily PE2} &= 36 \text{ disconnect/day} \times 0.00264 \text{ gal/disconnect} \times 7.21 \text{ lb/gal} \\ &= 0.7 \text{ lb-VOC/day}\end{aligned}$$

¹ Annual PE2 = Daily PE2 x 365 days

² Annual PE2 = Daily PE2 x 365 days

$$\begin{aligned}\text{Annual PE2} &= 13,140 \text{ disconnect/year} \times 0.00264 \text{ gal/disconnect} \times 7.21 \text{ lb/gal} \\ &= 251 \text{ lb-VOC/year}\end{aligned}$$

Process	VOC (lb/day)	VOC (lb/year)	Source
Truck Unloading Fugitive Emissions	0.5	183 ³	EPA Protocol for Equipment Leak Emission Estimates Table 5-7, Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production
Unloading Operation Disconnect Emissions (fugitive)	0.7	251	Calculation Above
Total	1.2	434	

Permit Unit S-382-857-0

VOC emissions will be accounted for due to spillage during connection and disconnection between the unloading system and the delivery truck.

$$\begin{aligned}\text{Daily PE2} &= 12 \text{ disconnect/day} \times 0.00264 \text{ gal/disconnect} \times 7.21 \text{ lb/gal} \\ &= 0.2 \text{ lb-VOC/day}\end{aligned}$$

$$\begin{aligned}\text{Annual PE2} &= 4,380 \text{ disconnect/year} \times 0.00264 \text{ gal/disconnect} \times 7.21 \text{ lb/gal} \\ &= 83 \text{ lb-VOC/year}\end{aligned}$$

VOC emissions will also be accounted for due to the loading of delivery trucks.

$$\begin{aligned}\text{Daily PE2} &= 85,680 \text{ gals/day} \times 1.95 \text{ lb-VOC/1000 gal} \times (1 - 0.99) \\ &= 1.7 \text{ lb-VOC/day}\end{aligned}$$

$$\begin{aligned}\text{Annual PE2} &= 85,680 \text{ gals/day} \times 1.95 \text{ lb-VOC/1000 gal} \times (1 - 0.99) \times 365 \text{ days/year} \\ &= 610 \text{ lb-VOC/year}\end{aligned}$$

³ Annual PE2 = Daily PE2 x 365 days

Process	VOC (lb/day)	VOC (lb/year)	Source
Truck Loading Fugitive Emissions	0.2	73 ⁴	EPA Protocol for Equipment Leak Emission Estimates Table 5-7, Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production
Thermal Oxidizer Fugitive Emissions	0.1	37 ⁴	
Loading Operation Disconnect Emissions (fugitive)	0.2	83	Calculation Above
Truck Loading Loss Emissions	1.7	610	Calculation Above

Thermal Oxidizer Emissions are calculated as follows:

Daily PE2 = (Emission Factor) x (3.2 MMBtu/hr) x (24 hrs/day)

Daily PE2 = (Emission Factor) x (3.2 MMBtu/hr) x (8,760 hrs/year)

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.098	3.2	24	7.5
SO _x	0.00285	3.2	24	0.2
PM ₁₀	0.0075	3.2	24	0.6
CO	0.084	3.2	24	6.5
VOC	0.0055	3.2	24	0.4

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.098	3.2	8,760	2,747
SO _x	0.00285	3.2	8,760	80
PM ₁₀	0.0075	3.2	8,760	210
CO	0.084	3.2	8,760	2,355
VOC	0.0055	3.2	8,760	154

⁴ Annual PE2 = Daily PE2 x 365 days

Total Emissions:

Total Daily Emissions for S-382-857-0					
Emission Unit	NO _x	SO _x	PM ₁₀	CO	VOC
Truck Loading Fugitive Emissions	0	0	0	0	0.2
Thermal Oxidizer Fugitive Emissions	0	0	0	0	0.1
Loading Operation Disconnect Emissions (fugitive)	0	0	0	0	0.2
Truck Loading Loss Emissions	0	0	0	0	1.7
Thermal Oxidizer	7.5	0.2	0.6	6.5	0.4
Total Daily PE2	7.5	0.2	0.6	6.5	2.6

Total Annual Emissions for S-382-857-0					
Emission Unit	NO _x	SO _x	PM ₁₀	CO	VOC
Truck Loading Fugitive Emissions	0	0	0	0	73
Thermal Oxidizer Fugitive Emissions	0	0	0	0	37
Loading Operation Disconnect Emissions (fugitive)	0	0	0	0	83
Truck Loading Loss Emissions	0	0	0	0	610
Thermal Oxidizer	2,747	80	210	2,355	154
Total Annual PE2	2,747	80	210	2,355	957

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (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 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; therefore, SSPE1 calculations are not necessary.

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

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) 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 that have occurred at the source, and which have not been used on-site.

Since facility emissions are already above the Offset and Major Source Thresholds, 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 and will remain a Major Source for all pollutants.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The facility is an existing PSD major source pursuant to Project S-1133502.

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 Section 3.7 of District Rule 2201, BE = Pre-project Potential to Emit 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 Section 3.22 of District Rule 2201.

Since these are new emissions units, $BE = PE1 = 0$ for all pollutants.

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.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	2,747	50,000	No
SO _x	80	80,000	No
PM ₁₀	210	30,000	No
VOC	7,809	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.

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the Federal Major Modification determination.

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 new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

The project's non-fugitive emission increases are summarized below and compared to the Federal Major Modification Thresholds:

Non-Fugitive Annual Emissions					
Emission Unit	NO _x	SO _x	PM ₁₀	PM _{2.5}	VOC
S-382-854-0	0	0	0	0	3,026
S-382-855-0	0	0	0	0	3,026
S-382-856-0	0	0	0	0	0
S-382-856-0	2,747	80	210	210	957
Total	2,747	80	210	210	7,009
Federal Major Modification Thresholds	0	80,000	30,000	20,000	0
Federal Major Modification?	Y	N	N	N	Y

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 any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀

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 PSD Major Source. Because the project is not located within 10 km (6.2 miles) 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. Project Emission Increase – Significance Determination

a. Evaluation of Calculated Post-project Potential to Emit for New or Modified Emissions Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the post-project potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if the total potentials to emit from all new and modified units are below the applicable thresholds, no further PSD analysis is needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO2	SO2	CO	PM	PM10
Total PE from New and Modified Units	1	0	1	0	0
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	N	N	N	N	N

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

10. Quarterly Net Emissions Change (QNEC)

The QNEC will be calculated for each pollutant, for each unit, as the difference between PE2 and PE1 divided by 4. The QNEC for each pollutant is shown in the table(s) below:

Permit Unit S-382-854-0

QNEC			
Pollutant	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM10	0	0	0
CO	0	0	0
VOC	3,282	0	820.5

Permit Unit S-382-855-0

QNEC			
Pollutant	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM10	0	0	0
CO	0	0	0
VOC	3,136	0	784

Permit Unit S-382-856-0

QNEC			
Pollutant	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM10	0	0	0
CO	0	0	0
VOC	434	0	108.5

Permit Unit S-382-857-0

QNEC			
Pollutant	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
NO _x	2,747	0	686.75
SO _x	80	0	20
PM10	210	0	52.5
CO	2,355	0	588.75
VOC	957	0	239.25

VIII. COMPLIANCE

District 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 exempted pursuant to Section 4.2, 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 SB288 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 several new emissions units associated with this project. The permit and emission units along with daily emissions are summarized below:

Permit Unit	Emission Unit	NO _x	SO _x	PM ₁₀	CO	VOC	BACT Triggered?
S-382-854-0	On-tank Components Fugitive Emissions	0.0	0.0	0.0	0.0	0.1	No
	Off-tank Components Fugitive Emissions	0.0	0.0	0.0	0.0	0.2	No
	18G Meter Unit #13 (for both tanks) Fugitive Emissions	0.0	0.0	0.0	0.0	0.2	No
	18G Meter Unit #14 (for both tanks) Fugitive Emissions	0.0	0.0	0.0	0.0	0.2	No
	Tank Operating Losses	0.0	0.0	0.0	0.0	35.7	Yes-VOC
S-382-855-0	On-tank Components Fugitive Emissions	0.0	0.0	0.0	0.0	0.1	No
	Off-tank Components Fugitive Emissions	0.0	0.0	0.0	0.0	0.2	No
	Tank Operating Losses	0.0	0.0	0.0	0.0	35.7	Yes-VOC
S-382-856-0	Truck Unloading Fugitive Emissions	0.0	0.0	0.0	0.0	0.5	No
	Unloading Operation Disconnect Emissions (fugitive)	0.0	0.0	0.0	0.0	0.7	No
S-382-857-0	Truck Loading Fugitive Emissions	0	0	0	0	0.2	No
	Thermal Oxidizer Fugitive Emissions	0	0	0	0	0.1	No
	Loading Operation Disconnect Emissions (fugitive)	0	0	0	0	0.2	No
	Truck Loading Loss Emissions	0	0	0	0	1.7	No
	Thermal Oxidizer	7.5	0.2	0.6	6.5	0.4	Yes-NO _x & CO

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

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.8 above, this project constitutes a Federal Major Modification for NO_x and VOC emissions; therefore BACT is triggered for NO_x and VOC for all emissions units in the project for which there is an emission increase.

2. BACT Guideline

BACT Guideline 7.3.3, applies to the tank operating losses. [Petroleum and Petrochemical Production - Floating Roof Organic Liquid Storage or Processing Tank, = or > 471 bbl Tank capacity, = or > 0.5 psia TVP] (See Appendix D)

BACT Guideline 7.1.14, applies to truck unloading losses. [Light Crude Oil Unloading Rack] (See Appendix D)

BACT Guideline 7.1.10, applies to truck loading losses. [Loading Rack/Switch Loading] (See 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:

Tank Operating Losses:

VOC: Primary metal shoe seal with secondary wiper seal, and with 95% VOC emissions control efficiency

Truck Unloading Losses:

VOC: Use of dry-break couplers with an average disconnect loss of no greater than 10 ml liquid per disconnect, and fugitive components subject to Rules 4409.

Truck Loading Losses and Thermal Oxidizer:

NO_x: Natural gas fired pilot

CO: Natural gas fired pilot

VOC: bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency => 99%

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 facility concedes they are above the offset threshold for NO_x, SO_x, PM₁₀, CO, and VOC.

2. Quantity of Offsets Required

As discussed above, the SSPE2 is greater than the offset thresholds for NO_x, SO_x, PM₁₀, CO, and VOC. Per District Rule 2201, Section 4.6.1, increases in carbon monoxide in attainment areas if the applicant demonstrates to the satisfaction of the APCO, that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of Ambient Air Quality Standards are exempt from offsets. Since this project meets the requirements of Section 4.6.1 of District Rule 2201, offset are not required for CO. Therefore offset calculations for NO_x, SO_x, PM₁₀, and VOC 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 = Pre-project Potential to Emit 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)

The facility is proposing to install new emissions units; therefore BE = 0. Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

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Process	VOC (lb/year)
On-tank Components Fugitive Emissions	37
Off-tank Components Fugitive Emissions	73
18G Meter Unit #13 (for both tanks) Fugitive Emissions	73
18G Meter Unit #14 (for both tanks) Fugitive Emissions	73
Tank Operating Losses	3,026
Total Quantity of Emissions to be Offset	3,282

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

Pollutant	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
VOC	820	820	821	821

$$\text{PE2 (VOC)} = 3,282 \text{ lb/year}$$

$$\text{BE (VOC)} = 0 \text{ lb/year}$$

$$\text{ICCE} = 0 \text{ lb/year}$$

The project is a Federal Major Modification and therefore the correct offset ratio for VOC and VOCs is 1.5:1.

Assuming an offset ratio of 1.5:1, the amount of VOC ERCs that need to be withdrawn is:

Pollutant	PE2 (lb/year)	BE	ICCE	DOR	Offsets Required (lb/year)
VOC	3,282	0	0	1.5	4,923

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

Pollutant	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
VOC	1,230	1,231	1,231	1,231

S-382-855-0:

Process	VOC (lb/year)
On-tank Components Fugitive Emissions	37
Off-tank Components Fugitive Emissions	73
Tank Operating Losses	3,026
Total Quantity of Emissions to be Offset	3,136

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

<u>Pollutant</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
VOC	784	784	784	784

PE2 (VOC) = 3,136 lb/year

BE (VOC) = 0 lb/year

ICCE = 0 lb/year

The project is a Federal Major Modification and therefore the correct offset ratio for VOC and VOCs is 1.5:1.

Assuming an offset ratio of 1.5:1, the amount of VOC ERCs that need to be withdrawn is:

Pollutant	PE2 (lb/year)	BE	ICCE	DOR	Offsets Required (lb/year)
VOC	3,136	0	0	1.5	4,704

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

<u>Pollutant</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
VOC	1,176	1,176	1,176	1,176

S-382-856-0:

Process	VOC (lb/year)
Truck Unloading Fugitive Emissions	183
Unloading Operation Disconnect Emissions (fugitive)	251
Total Quantity of Emissions to be Offset	434

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

Pollutant	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
VOC	108	108	109	109

PE2 (VOC) = 434 lb/year

BE (VOC) = 0 lb/year

ICCE = 0 lb/year

The project is a Federal Major Modification and therefore the correct offset ratio for VOC and VOCs is 1.5:1.

Assuming an offset ratio of 1.5:1, the amount of VOC ERCs that need to be withdrawn is:

Pollutant	PE2 (lb/year)	BE	ICCE	DOR	Offsets Required (lb/year)
VOC	434	0	0	1.5	651

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

Pollutant	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
VOC	162	163	163	163

S-382-857-0:

Process	NOx (lb/year)
Truck Loading Fugitive Emissions	0
Thermal Oxidizer Fugitive Emissions	0
Loading Operation Disconnect Emissions (fugitive)	0
Truck Loading Loss Emissions	0
Thermal Oxidizer	2,747
Total Quantity of Emissions to be Offset	2,747

Pursuant to District Policy, an IPE of less than or equal to 0.5 lb/day to be rounded to zero for the purposes of triggering NSR requirements and therefore the requirements are not triggered. Units with emissions less than or equal to 0.5 lb/day will be excluded from offset requirements.

Process	SOx (lb/day)	SOx (lb/year)
Truck Loading Fugitive Emissions	0	0
Thermal Oxidizer Fugitive Emissions	0	0
Loading Operation Disconnect Emissions (fugitive)	0	0
Truck Loading Loss Emissions	0	0
Thermal Oxidizer	0.2→0.0	0
Total Quantity of Emissions to be Offset		0

Process	PM10 (lb/year)
Truck Loading Fugitive Emissions	0
Thermal Oxidizer Fugitive Emissions	0
Loading Operation Disconnect Emissions (fugitive)	0
Truck Loading Loss Emissions	0
Thermal Oxidizer	210
Total Quantity of Emissions to be Offset	210

Process	CO (lb/year)
Truck Loading Fugitive Emissions	0
Thermal Oxidizer Fugitive Emissions	0
Loading Operation Disconnect Emissions (fugitive)	0
Truck Loading Loss Emissions	0
Thermal Oxidizer	2,355
Total Quantity of Emissions to be Offset	2,355

Process	VOC (lb/year)
Truck Loading Fugitive Emissions	73
Thermal Oxidizer Fugitive Emissions	37
Loading Operation Disconnect Emissions (fugitive)	83
Truck Loading Loss Emissions	610
Thermal Oxidizer	154
Total Quantity of Emissions to be Offset	957

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

Pollutant	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
NOx	686	687	687	687
PM10	52	52	53	53
CO	588	589	589	589
VOC	239	239	239	240

The project is a Federal Major Modification and therefore the correct offset ratio for NOx and VOCs is 1.5:1.

Assuming an offset ratio of 1.5:1, the amount of VOC ERCs that need to be withdrawn is:

Pollutant	PE2 (lb/year)	BE	ICCE	DOR	Offsets Required (lb/year)
NOx	2,747	0	0	1.5	4,121
SOx	0	0	0	1.0	0
PM10	210	0	0	1.0	210
CO	See Footnote Below ⁵				
VOC	957	0	0	1.5	1,436

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

⁵ Pursuant to District Rule 2201, Section 4.6.1, emission offsets shall not be required for the increases in carbon monoxide in attainment areas if the applicant demonstrates to the satisfaction of the APCO, that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of Ambient Air Quality Standards.

The Ambient Air Quality Analysis performed for this project (Appendix E) demonstrates that the increase in CO emissions does not result in a violation of any of the Ambient Air Quality Standards. Therefore, the facility is exempt from providing offsets for the increase in CO emissions associated with this project.

<u>Pollutant</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
NOx	1,030	1,030	1,030	1,031
PM10	52	52	53	53
VOC	3559	359	359	359

Total:

The total amounts of offsets required for this project are as follows:

<u>Pollutant</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
NOx	1,030	1,030	1,030	1,031
PM10	52	52	53	53
VOC	2,927	2,929	2,929	2,929

The applicant has stated that the facility plans to use ERC certificates listed below to offset the increases in **NOx** emissions associated with this project. The applicant owns the below certification and quantities as follows:

<u>ERC</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
S-3984-2 (NOx)	16,562	17,298	18,037	18,035

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

The applicant has stated that the facility plans to use ERC certificates listed below to offset the increases in **PM10** emissions associated with this project. The applicant owns the below certification and quantities as follows:

<u>ERC</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
S-829-4 (PM10)	68	72	85	69

As seen above, the facility has sufficient credits to fully offset the quarterly PM10 emissions increases associated with this project.

The applicant has stated that the facility plans to use ERC certificates listed below to offset the increases in **VOC** emissions associated with this project. The applicant owns the below certification and quantities as follows:

<u>ERC</u>	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
S-1713-1	1,093	2,620	3,078	1,181
S-1722-1	1,132	2,723	3,230	1,359
S-1725-1	1,169	2,764	3,251	1,348
S-1727-1	1,061	2,580	3,064	1,240
Total (VOC)	4,455	8,747	12,623	5,128

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:

S-382-854-0:

- Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 870 lb, 2nd quarter – 870 lb, 3rd quarter – 871 lb, and fourth quarter – 871 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201]
- ERC Certificate Number S-1713-1, S-1722-1, S-1725-1, S-1727-1 (or a certificate split from these certificates) 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]

S-382-854-0:

- Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 784 lb, 2nd quarter – 784 lb, 3rd quarter – 784 lb, and fourth quarter – 784 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201]
- ERC Certificate Number S-1713-1, S-1722-1, S-1725-1, S-1727-1 (or a certificate split from these certificates) 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]

S-382-856-0:

- Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 108 lb, 2nd quarter – 108 lb, 3rd quarter – 109 lb, and fourth quarter – 109 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201]
- ERC Certificate Number S-1713-1, S-1722-1, S-1725-1, S-1727-1 (or a certificate split from these certificates) 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]

S-382-857-0:

- Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter – 686 lb, 2nd quarter – 687 lb, 3rd quarter – 687 lb, and fourth quarter – 687 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201]
- ERC Certificate Number S-3984-2 (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]
- Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter – 52 lb, 2nd quarter – 52 lb, 3rd quarter – 53 lb, and fourth quarter – 53 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201]
- ERC Certificate Number S-829-4 (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]
- Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 239 lb, 2nd quarter – 239 lb, 3rd quarter – 239 lb, and fourth quarter – 240 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201]
- ERC Certificate Number S-1713-1, S-1722-1, S-1725-1, S-1727-1 (or a certificate split from these certificates) 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 SB288 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 SSPE of greater than 20,000 lb/year for any pollutant.
- e. Any project which results in a Title V significant permit modification

a. New Major Sources, Federal Major Modifications, and SB288 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.8, this project is a 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. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant; therefore public noticing for PE > 100 lb/day purposes is not required.

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	> 20,000	> 20,000	20,000 lb/year	No
SO _x	> 54,750	> 54,750	54,750 lb/year	No
PM ₁₀	> 29,200	> 29,200	29,200 lb/year	No
CO	> 200,000	> 200,000	200,000 lb/year	No
VOC	> 20,000	> 20,000	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	SSiPE (lb/year)	SSiPE Public Notice Threshold	Public Notice Required?
NO _x	2,747	20,000 lb/year	No
SO _x	80	20,000 lb/year	No
PM ₁₀	210	20,000 lb/year	No
CO	2,355	20,000 lb/year	No
VOC	7,809	20,000 lb/year	No

As demonstrated above, the SSiPEs for VOC were greater than 20,000 lb/year; therefore public noticing for SSiPE purposes is required.

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

2. Public Notice Action

As discussed above, public noticing is required for this because it is a Federal Major Modification. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATCs for this equipment.

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.

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- Crude oil throughput shall not exceed 100,000 barrels per day. [District Rule 2201]

- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than or equal to 3.0 psia under all storage conditions. [District Rules 2201 and 4623]
- Total VOC emission rate from this unit shall not exceed any of the following limits: 36.4 lb/day and 12,314 lb/year. [District Rule 2201]
- Fugitive VOC emissions rate for the on-tank and off-tank components and 18G meter units #13 and #14 shall be calculated using EPA Protocol for Equipment Leak Emission Estimates, Table 5-7, (November 1995), from the total number of components in gas/light liquid service, shall not exceed 0.7 lb-VOC/day or 256 lb-VOC/yr. [District Rule 2201]
- For the components associated with the on-tank components, other than roof components, 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. [District Rules 2201 and 4623]
- For the components associated with off-tank components comprising transfer piping and related equipment, a leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 2,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rules 2201 and 4623]

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- Crude oil throughput shall not exceed 100,000 barrels per day. [District Rule 2201]
- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than or equal to 3.0 psia under all storage conditions. [District Rule 2201]
- Total VOC emission rate from this unit shall not exceed any of the following limits: 36.0 lb/day and 12,168 lb/year. [District Rule 2201]
- Fugitive VOC emissions rate for the on-tank and off-tank components shall be calculated using EPA Protocol for Equipment Leak Emission Estimates, Table 5-7, (November 1995), from the total number of components in gas/light liquid service, shall not exceed 0.3 lb-VOC/day or 110 lb-VOC/yr. [District Rule 2201]
- For the components associated with the on-tank components, other than roof components, 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. [District Rules 2201 and 4623]

- For the components associated with off-tank components, a leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 2,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rules 2201 and 4623]

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- The maximum number of trucks disconnects shall not exceed either of the following limits: 36 disconnects/day and 13,140 disconnects/year. [District Rule 2201]
- The maximum volume of liquid spillage/leaks from each hose disconnect shall not exceed 10 milliliters. [District Rule 2201]
- VOC emissions from truck unloading disconnects shall not exceed any of the following limits: 0.7 lb/day and 251 lb/year. [District Rule 2201]
- Fugitive VOC emissions rate for the truck unloading operation shall be calculated using EPA Protocol for Equipment Leak Emission Estimates, Table 5-7, (November 1995), from the total number of components in gas/light liquid service, shall not exceed 0.5 lb-VOC/day or 183 lb-VOC/yr. [District Rule 2201]
- For the components associated with the unloading operation, a leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 1,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rules 2201 and 4624]

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- Loading VOC emissions from the loading system shall not exceed 0.0195 lb-VOC/1000 gallons⁶. [District Rule 2201]
- Loading VOC emissions from the loading system shall not exceed either of the following limits: 8.4 lb/day and 8,354 lb/year. [District Rule 2201]
- The maximum number of trucks disconnects shall not exceed either of the following limits: 12 disconnects/day or 4,380 disconnects/year. [District Rule 2201]
- The maximum volume of liquid spillage/leaks from each hose disconnect shall not exceed 10 milliliters. [District Rule 2201]
- VOC emissions from truck unloading disconnects shall not exceed any of the following limits: 0.2 lb/day and 83 lb/year. [District Rule 2201]
- Fugitive VOC emissions rate for the truck loading operation and thermal oxidizer shall be calculated using EPA Protocol for Equipment Leak Emission Estimates,

⁶ 1.95 lb-VOC/1000 gallons x (1 - 0.99)

Table 5-7, (November 1995), from the total number of components in gas/light liquid service, shall not exceed 0.3 lb-VOC/day or 110 lb-VOC/yr. [District Rule 2201]

- For the components associated with the truck loading operation and thermal oxidizer, a leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 2,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rules 2201 and 4623]
- The maximum throughput of product loaded shall not exceed 85,680 gallons per day. [District Rule 2201]
- Emissions rates from the thermal oxidizer shall not exceed any of the following limits: 0.098 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0075 lb-PM10/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201]
- The thermal oxidizer shall only be fired on PUC-quality natural gas. [District Rule 2201]
- The thermal oxidizer shall be operated with a destruction efficiency of no less than 99%. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

Permit Unit S-382-854, -855

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

Permit Unit S-382-856

Source testing of the transferring operations is required by District Rule 4624 and is discussed below.

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

Permit Unit S-382-857

Source testing pursuant to District Policy APR 1705 and District Rule 4624 is required; therefore, the following conditions will be included in the permit:

- VOC emissions from the vapor collection and control system shall be determined initially and annually thereafter to determine compliance with District Rule 4624 using 40 CFR 60.503. "Test Methods and Procedures" and EPA Reference

Methods 2A, 2B, 25A and 25B and ARB Method 422, or ARB Method 2-4.
[District Rules 2201 and 4624]

- Analysis of halogenated exempt compounds shall be by ARB Method 432.
[District Rules 2201 and 4624]

2. Monitoring

Permit Unit S-382-854, -855

No monitoring is required to demonstrate compliance with Rule 2201.

Permit Unit S-382-856, -857

Monitoring of the transferring operations is required by District Rule 4624 and is discussed below.

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Permit Unit S-382-854, -855

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following conditions, which are required by District Rule 4623, will appear on the permits:

- {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]
- {modified 2533} Permittee shall maintain the records of the external 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, 6.3.7]
- Permittee shall maintain accurate records of daily tank throughput. [District Rules 1070 and 2201]
- Permittee shall maintain accurate component count and component types for this tank and the associated tank vapor control system and resulting emissions calculated using EPA's, Protocol for Equipment Leak Emission Estimates, November 1995. Table 5-7, "Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production operation Units. Permittee shall update such records when new components are approved and installed. [District Rule 2201]

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Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following conditions will appear on the permit:

- Daily records of amount of organic liquid loaded/unloaded and number of trucks loaded/unloaded at the loading/unloading system shall be maintained. [District Rules 1070 and 2201]
- Permittee shall maintain accurate component count and component types for this tank and the associated tank vapor control system and resulting emissions calculated using EPA's, Protocol for Equipment Leak Emission Estimates, November 1995. Table 5-7, "Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production operation Units. Permittee shall update such records when new components are approved and installed. [District Rule 2201]
- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

4. Reporting

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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 PM₁₀ and PM_{2.5} emissions are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

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. OEHI's compliance certification is included in Appendix F.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install two new external floating roof tanks, one truck unloading operation and one truck loading operation served by a thermal oxidizer.

Since the project will install two new external floating roof tanks, one truck unloading operation and one truck loading operation served by a thermal oxidizer to be used at the same location, 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.

District Rule 2410 Prevention of Significant Deterioration

As shown in Section VII. C. 9. above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

District Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

Section 3.20.5 states that a minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project is a Title I modification (i.e. Federal Major Modification), the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit pursuant to Section 3.29.

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/minor modification application.

District 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.

Permit Unit S-382-854, -855

This rule incorporates the New Source Performance Standards from 40 CFR Part 60. 40 CFR Part 60, Subparts, K, Ka, Kb, and OOOO and could potentially apply to the storage tanks located at this facility.

40 CFR Part 60, Subpart OOOO—Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution (constructed, reconstructed, or modified after 8/23/11) applies to single storage vessel, located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment. The subject tanks are subject to this subpart. However, Subpart OOOO has no standards for tanks with annual VOC emissions less than 6 tons per year. Therefore, the subject tanks are not an affected facility and subpart OOOO does not apply.

40 CFR Part 60, Subparts, K, Ka, and Kb could potentially apply to the storage tanks located at this facility. However, pursuant to 40 CFR 60.110 (b), 60.110(a) (b), and 60.110(b) (b), these subparts do not apply to storage vessels used for petroleum or condensate, that is stored, processed, and/or treated at a drilling and production facility prior to custody transfer.

40 CFR 60, Subpart Kb is summarized in Appendix G. The following conditions are listed on the permit to ensure compliance.

- The tank shall be equipped with a floating roof consisting of a pontoon-type or double-deck-type cover which rests upon the surface of the liquid being stored and is equipped with a closure device between the tank shell and roof edge consisting of a primary and a secondary seal. [District Rules 2201 and 4623, 5.3.1 and 40 CFR 60.112b(a)(2) & (l)]
- The external floating roof shall float 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. 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 calendar days prior to performing the work. The tank must be in compliance with this rule before it may land on its legs. [District Rule 4623, 5.3.1.3 and 40CFR 60.112b(a)(2)(iii)]
- {2738} Primary seal (lower seal) shall be either a mechanical shoe seal or a liquid-mounted seal. [40CFR 60.112b(a)(2)(i) and 60.112b(a)(2)(i)(A)]
- Accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 sq cm per meter of tank diameter, and the width of any gap shall not exceed 3.81 cm. [40CFR 60.113b(b)(4)(i)]
- Accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 sq cm per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm (1/2 inch). [40CFR 60.113b(b)(4)(ii)(B)]
- {2741} 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, 5.3.2.1.5 and 40 CFR 60.112b(b)(4)(ii)(C)]

- {2742} Secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion. [40CFR 60.112b(a)(2)(i)(B)]
- {2749} 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, 5.5.2.2.3, 5.5.2.1.3 and 40CFR 60.112b(a)(2)(ii)]
- {2750} Rim vents shall be equipped with a gasket and shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. [District Rule 4623, 5.5.2.2.4 and 40CFR 60.112b(a)(2)(ii)]
- Operator shall perform gap measurements on primary and secondary seals within 60 days of the initial fill and at least once every year thereafter to determine compliance with the requirements of Rule 4623. The actual gap measurements of the floating roof primary and secondary seals shall be recorded. The inspection results shall be submitted to the APCO as specified in Section 6.3.5. [District Rule 4623, 6.1.3.1 and 40 CFR 60.113b(b)(1)(i) & (ii)]
- {2752} Operator shall also perform gap measurements on primary seals during hydrostatic testing of the vessel. [40CFR 60.113b(b)(1)(i)]
- {2753} If unit is out of service for a period of one year or more, subsequent refilling with volatile organic liquid shall be considered initial fill in accordance with the conditions of this permit. [40 CFR 60.113b(b)(1)(iii)]
- The permittee shall inspect the primary and secondary seals for compliance with the requirements of Rule 4623 every time this tank is emptied or degassed. Actual gap measurements shall be performed when the liquid level is static but not more than 48 hours after the tank roof is re-floated. [District Rule 4623, 6.1.3.2 and 40 CFR 60.113b(b)(6)]
- {2755} Permittee shall maintain the records of the external 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 maximum 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, 6.3.7 and 40 CFR 60.116b(c)]
- {2756} Operator shall notify the APCO 30 days in advance of any gap measurements required by this permit to afford the APCO opportunity to have an observer present. [40CFR 60.113b(b)(5)]
- {2757} If the external floating roof has defects, or the primary seal or secondary seal has holes, tears, or other openings in the seal or seal fabric, the operator shall repair the items as necessary so that none of these conditions exist before filling or refilling the storage vessel with VOL. [40CFR 60.113b(b)(6)(i)]
- {2758} For all visual inspections required by this permit, the operator shall notify the APCO in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the APCO the opportunity to inspect the storage vessel prior to refilling, except when notification is specifically allowed otherwise by this permit. [40CFR 60.113b(b)(6)(ii)]
- {2759} If a visual inspection required by this permit is not planned and the operator could not have known about the inspection 30 days in advance of refilling the tank, the operator shall notify the APCO at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written

documentation may be made in writing and sent by express mail so it is received by the APCO at least 7 days prior to the refilling. [40CFR 60.113b(b)(6)(ii)]

- {2760} Operator shall record the vessel on which the measurement was performed, date of the seal gap measurement, raw data obtained in the measurement process in accordance with the conditions of this permit. [40CFR 60.115b(b)(3)]
- {2761} Within 60 days of performing the seal gap measurements required by this permit, the operator shall furnish the APCO with a report containing the date of measurement, raw data obtained in the measurement process, and all such gap calculations as required by this permit. [40CFR 60.115b(b)(2)]
- {2532} 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, 6.3.5 and 40CFR 60.115b(b)(4)]
- {2763} If the seals do not meet the required specifications of this permit, operator shall repair or empty the storage vessel within 45 days of identification. [40CFR 60.113b(b)(4)]
- {2630} 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)]
- {2624} 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)]
- {2626} 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)(iii)]
- {2627} 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)]
- {2623} 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)]
- {2764} 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. [40CFR 60.116b(f)]

Therefore, the requirements of this subpart are not applicable to this project.

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No subparts of 40 CFR Part 60 apply to the organic liquid truck loading/unloading operations.

District Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to floating roof tanks or loading/unloading operations.

District Rule 4101 Visible Emissions

Per Section 5.0, 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). Since the only pollutant of concern from these tanks is VOC, violation of this opacity standard is unlikely. Additionally, since the thermal oxidizer is fired on natural gas, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity.

District Rule 4102 Nuisance

Section 4.0 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:

Categories	854-0 Blending/ Storage	855-0 Blending/ Storage	856-0 Unloading	857-0 Process 1 Loading	857-0 Process 2 Oxidizer	Project Totals	Facility Totals
Prioritization Score	0.0	0.0	0.0	0.0	0.0	0.0	>1
Acute Hazard Index	0.02	0.02	0.00	0.00	0.00	0.07	0.04
Chronic Hazard Index	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum Individual Cancer Risk (10 ⁻⁶)	0.08	0.08	0.0	0.0	0.0	0.2	0.4
T-BACT Required?	No	No	No	No	No		
Special Permit Conditions?	No	No	No	No	Yes		

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.

The following condition will be included on permit S-382-857-0:

- {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] N

District Rule 4201 Particulate Matter Concentration

The purpose of this rule is to protect the ambient air quality by establishing a particulate matter emission standard. This rule applies to any source operation, which emits or may emit dust, fumes, or total suspended particulate matter. This rule states that a person shall not release or discharge into the atmosphere from any single source operation, dust, fumes, or total suspended particulate matter emissions in excess of 0.1 grain/dscf, as determined by the test methods in section 4.0.

Permit Unit S-382-857-0

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
 PM10 Emission Factor: 0.0076 lb-PM10/MMBtu
 Percentage of PM as PM10 in Exhaust: 100%
 Exhaust Oxygen (O₂) Concentration: 3%
 Excess Air Correction to F Factor = $\frac{20.9}{(20.9 - 3)} = 1.17$

$$GL = \left(\frac{0.0076 \text{ lb} - \text{PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb} - \text{PM}} \right) / \left(\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)$$

$$GL = 0.0053 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

Therefore, compliance with District Rule 4201 requirements is expected and a permit condition will be listed on the permit as follows:

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration.
[District Rule 4201]

District Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 µm in diameter.

District Rule 4301 Limits			
Permit	NO ₂	Total PM	SO ₂
	lb/hr	lb/hr	lb/hr
S-382-857-0	0.3	0.025	0.008
Rule Limit (lb/hr)	140	10	200

NO₂, SO₂, and PM emissions from permit unit S-382-857-0 are less than rule limit. Therefore, compliance with rule 4301 is expected.

District Rule 4409 Components at Light Crude Oil Production Facilities, Natural Gas Facilities, and Natural Gas Processing Facilities

This rule applies to components containing or contacting VOC streams at light crude oil production facilities, natural gas production facilities, and natural gas processing facilities.

Per Section 4.1, the requirements of this rule shall not apply to components subject to Rule 4623 (Storage of Organic Liquids); to components included in the Inspection and maintenance (I&M) program implemented pursuant to Section 5.7 of Rule 4623; or to components subject to Rule 4401 (Steam Enhanced Crude Oil Production Well Vents).

The following condition will be placed on the permits to ensure compliance with applicable Rule 4409 requirements:

- Components not subject to Rule 4623 or to Rule 4401 shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409]

Therefore, compliance with this rule is expected.

District Rule 4623 Storage of Organic Liquids

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

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.

Rule 4623 – General VOC Control System Requirements			
Tank Capacity (gallon)	True Vapor Pressure (TVP) of Organic Liquid		
	0.5 psia to <1.5 psia	1.5 psia to <11 psia	≥11.0 psia
(Group A) 1,100 to 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
(Group B) >19,800 to 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
(Group C) >39,600	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

OEHL is proposing to operate its organic liquid storage tank with an external floating roof and is not proposing to store organic liquids with a TVP greater than 3.0 psia. Therefore, the tanks meet the VOC control system requirements of this section of this Rule. Therefore, the following requirement will be included as a condition on each ATC to ensure compliance with the requirements of Section 5.1.1 of this Rule:

- This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than or equal to 3.0 psia under all storage conditions. [District Rules 2201 and 4623]

Section 5.3. Requirements: Specifications for External Floating Roof Tanks

Pursuant to Section 5.3.1, an external floating roof tank shall be: Equipped with a floating roof consisting of a pan type that is installed before December 20, 2001, pontoon-type, or double-deck type cover, that rests on the surface of the liquid contents; and equipped with a closure device between the tank shell and roof edge consisting of two seals, one above the other; the one below shall be referred to as the primary seal, and the one above shall be referred to as the secondary seal. 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.

When the roof is resting on the leg supports the processes of filling or emptying and refilling the tank 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 the operator may land the roof 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 tank shall be equipped with a floating roof consisting of a pontoon-type or double-deck-type cover which rests upon the surface of the liquid being stored and is equipped with a closure device between the tank shell and roof edge consisting of a primary and a secondary seal. [District Rule 4623, 5.3.1 and 40CFR 60.112b(a)(2) & (i)]
- The external floating roof shall float 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. 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 calendar days prior to performing the work. The tank must be in compliance with this rule before it may land on its legs. [District Rule 4623, 5.3.1.3 and 40CFR 60.112b(2)(iii)]

Pursuant to Section 5.3.2.1 for welded tanks with primary metallic-shoe type seal:

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.

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.

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.

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.

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

Therefore, the following conditions will be included on each ATC:

- {2506} Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623]
- {2507} 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]
- {2508} 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]
- {2509} No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623]
- {2510} No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623]
- {2511} 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]
- {2512} 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 24 inches above the stored liquid surface. [District Rule 4623]
- {2513} 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]
- {2514} 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]
- {2515} 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]

- {2516} 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 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. The cover, seal, or lid shall at all times be in a closed position, with no visible gaps and be leak-free, except when the device or appurtenance is in use.

Therefore, the following permit condition will be listed on each ATC:

- {modified 2517} 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]
- {modified 2501} 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 4623 and shall be reported as a deviation. [District Rule 4623]

Since the tanks are external floating roof tank type, requirements from Section 5.5.2.2 is applicable to the external floating roof tanks.

Except for automatic bleeder vents and rim vents and pressure vacuum relief vents, each opening in a non-contact external floating roof shall provide a projection below the liquid surface.

Except for automatic bleeder vents and rim vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid that shall be maintained in a closed position at all times (i.e., no visible gap) except when in actual use.

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.

Rim vents shall be equipped with a gasket and shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

Each emergency roof drain shall be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening. The fabric cover must be impermeable if the liquid is drained into the contents of the tanks.

External floating roof legs shall be equipped with vapor socks or vapor barriers in order to maintain a leak-free condition so as to prevent VOC emissions from escaping through the roof leg opening.

Therefore, the following permit conditions will be listed on each ATC:

- {2518} Except for automatic bleeder vents, rim vents, and pressure relief vents, each opening in a non-contact external floating roof shall provide a projection below the liquid surface. [District Rule 4623]
- {2519} Except for automatic bleeder vents and rim vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid that shall be maintained in a closed position at all times (i.e., no visible gap) except when in actual use. [District Rule 4623]
- {2520} 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, 5.5.2.2.3, 5.5.2.1.3 and 40CFR 60.112b(a)(2)(ii)]
- {2521} Rim vents shall be equipped with a gasket and shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. [District Rule 4623]
- {2522} Each emergency roof drain shall be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening. The fabric cover must be impermeable if the liquid is drained into the contents of the tanks. [District Rule 4623]
- {modified 2523} External floating roof legs shall be equipped with vapor socks or vapor barriers in order to maintain a leak-free condition so as to prevent VOC emissions from escaping through the roof leg opening. [District Rule 4623]

Pursuant to Section 5.5.2.3, solid sampling or gauging wells shall meet the following requirements:

5.5.2.3.1 The well shall provide a projection below the liquid surface.

5.5.2.3.2 The well shall be equipped with a pole wiper and a gasketed cover, seal or lid which shall be in a closed position at all times (i.e., no visible gap) except when the well is in use.

- 5.5.2.4.3 The gap between the pole wiper and the guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed one-half (1/2) inch.

Therefore, the following permit conditions will be listed on ATCs S-382-854-0 and -855-0:

- {2524} All wells and similar fixed projections through the floating roof shall provide a projection below the liquid surface. [District Rule 4623]
- The solid guidepole well shall be equipped with a pole wiper and a gasketed cover, seal or lid which shall be in a closed position at all times (i.e., no visible gap) except when the well is in use. [District Rule 4623]
- The gap between the pole wiper and the solid guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed 1/2 inch. [District Rule 4623]

Section 6.1, Administrative Requirements: Inspection of Floating Roof Tanks

Pursuant to Section 6.1.1, the operator of external floating roof tanks shall make the primary seal envelope available for unobstructed inspection by the APCO on an annual basis at locations selected along its circumference at random by the APCO. In the case of riveted tanks with toroid-type seals, a minimum of eight (8) locations shall be made available; in all other cases, a minimum of four (4) locations shall be made available. If the APCO suspects a violation may exist the APCO may require such further unobstructed inspection of the primary seal as may be necessary to determine the seal condition for its entire circumference.

Therefore, the following permit conditions will be listed on each ATC:

- {2529} The permittee of external floating roof tanks shall make the primary seal envelope available for unobstructed inspection by the APCO on an annual basis at locations selected along its circumference at random by the APCO. In the case of riveted tanks with toroid-type seals, a minimum of eight locations shall be made available; in all other cases, a minimum of four locations shall be made available. If the APCO suspects a violation may exist the APCO may require such further unobstructed inspection of the primary seal as may be necessary to determine the seal condition for its entire circumference. [District Rule 4623]

Pursuant to Sections 6.1.3.1 and 6.1.3.2 for external floating roof tank inspections, the permittee shall inspect all floating tanks at least once every 12 months to determine compliance with the requirements of this rule. The actual gap measurements of the floating roof primary and secondary seals shall be recorded. The inspection results shall be submitted to the APCO as specified in Section 6.3.5 and inspect the primary and secondary seals for compliance with the requirements of this rule every time a tank is emptied or degassed. Actual gap measurements shall be performed when the liquid level is static but not more than 48 hours after the tank roof is re-floated.

Therefore, the following permit conditions will be listed on each ATC:

- Operator shall perform gap measurements on primary and secondary seals within 60 days of the initial fill and at least once every year thereafter to determine compliance with the requirements of Rule 4623. The actual gap measurements of the floating roof primary and secondary seals shall be recorded. The inspection results shall be submitted to the APCO as specified in Section 6.3.5. [District Rule 4623]
- {modified 2531} The permittee shall inspect the primary and secondary seals for compliance with the requirements of this rule every time a tank is emptied or degassed. Actual gap measurements shall be performed when the liquid level is static but not more than 48 hours after the tank roof is re-floated. [District Rule 4623]

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

Since the tank is an external floating roof tank, 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, unless the tanks are fixed roof tanks equipped with a vapor recovery system, external floating roof tanks, or internal floating roof tanks that meet the requirements of this rule. The tanks involved with this project are floating roof tanks. Therefore, Section 6.3.1 is not applicable to the tanks involved with this project.

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. Therefore, the following permit condition will be listed on each ATC:

- {2532} 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]

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. Therefore, the following permit condition will be listed on each ATC:

- {2533} Permittee shall maintain the records of the external 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]

District Rule 4624 Transfer of Organic Liquid

Permit Unit S-382-856-0 & -857-0

The purpose of this rule is to limit VOC emissions from the transfer of organic liquids. This rule applies to organic liquid transfer facilities as defined in this rule.

This facility has the potential to be a Class 1 organic liquid transfer facility, meaning it is capable of transferring 20,000 gallons of organic liquid or more in any one day. Therefore, the requirements of Section 5.1 (Class 1) apply.

Section 5.1 For a Class 1 organic liquid transfer facility, the emission of VOC from the transfer operation shall not exceed 0.08 pounds per 1,000 gallons of organic liquid transferred and use one of the following systems:

- 5.1.1 An organic liquid loading operation shall be bottom loaded.
- 5.1.2 The VOC from the transfer operation shall be routed to:
 - 5.1.2.1 A vapor collection and control system;
 - 5.1.2.2 A fixed roof container that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids);
 - 5.1.2.3 A floating roof container that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); or
 - 5.1.2.4 A pressure vessel equipped with an APCO-approved vapor recovery system that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids); or
 - 5.1.2.5 A closed VOC emission control system.

OEHI has proposed venting the organic liquid VOC vapors from the unloading system to a floating roof container that meets the control requirements specified in Rule 4623 and the VOC vapors from the loading system to a vapor collection and control system. OEHI has

proposed a 3.2 MMBtu/hr natural gas-fired thermal oxidizer as the control system for the loading operation.

OEHI has proposed bottom loading and venting the organic liquid VOC vapors from the loading system to the external floating roof tanks under permit units S-382-854 and S-382-855 subject to the control requirements in Rule 4623. The following condition will be included on the permit to ensure compliance with Section 5.1:

- The organic liquid shall only be bottom loaded. [District Rules 2201 and 4694]

Section 5.2 applies to Class 2 organic liquid transfer facilities. The present facility is Class 1; therefore, Section 5.2 is not applicable.

Section 5.3 states "A transfer operation utilizing a closed VOC emission control system or utilizing a container that meets the control requirements of Rule 4623 (Storage of Organic Liquids) to meet the emission control requirements of this rule shall demonstrate compliance with Sections 5.1 and 5.2 by complying with the leak inspection requirements of Section 5.9." See Section 5.9 below for leak inspection requirements.

Section 5.4 requires the vapor collection and control system to operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and six (6) inches water column vacuum. This section shall not apply to the transfer of liquefied petroleum gas.

The following condition will be included on the permit S-382-857 to ensure compliance with Section 5.4:

- The vapor collection and control system shall operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and six (6) inches water column vacuum. [District Rules 2201 and 4624]

Section 5.5 requires delivery tanks which previously contained organic liquids with a TVP of 1.5 psia or greater at the storage container's maximum organic liquid storage temperature to be filled only at transfer facilities satisfying Sections 5.1, 5.2, or 5.4, as applicable.

The displaced vapors, will be vented to either the external floating roof tanks listed under permits S-382-854 and S-382-855 or the collection and control device listed on permit S-382-857.

Section 5.6 requires the transfer rack and vapor collection equipment to be designed, installed, maintained and operated such that there are no leaks and no excess organic liquid drainage at disconnections.

- The transfer rack and vapor collection equipment shall be designed, installed, maintained and operated such that there are no leaks and no excess organic liquid drainage at disconnections. [District Rule 4624]

- A leak is defined as the dripping of VOC-containing liquid at a rate of more than three (3) drops per minute, or the detection of any gaseous or vapor emissions with a concentration of VOC greater than 1,000 ppmv as methane above a background when measured using a portable hydrocarbon detection instrument in accordance with EPA Method 21. [District Rule 4624]
- Excess organic liquid drainage is defined as an average of more than ten (10) milliliters liquid drainage per disconnect from three consecutive disconnects. [District Rule 4624]

Section 5.7 prohibits the construction of any new top loading facility or the reconstruction, as defined in 40 CFR 60.15, or the expansion of any existing top loading facility with top loading equipment.

The loading rack in this project is not top loading. Therefore, this section does not apply to this project.

Section 5.8 pertains to the transfer of liquefied petroleum gas (LPG).

This loading rack does not involve the transfer of LPG; therefore, Section 5.8 is not applicable.

Section 5.9 outlines the leak inspection requirements.

- 5.9.1 The operator of an organic liquid transfer facility shall inspect the vapor collection system, the vapor disposal system, and each transfer rack handling organic liquids for leaks during transfer at least once every calendar quarter using the test method prescribed in Section 6.3.8.
- 5.9.2 A floating roof container that meets the applicable control requirements of Section 5.0 of Rule 4623 (Storage of Organic Liquids) shall be considered not leaking for the purposes of this section.
- 5.9.3. All equipment that are found leaking shall be repaired or replaced within 72 hours. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement.
- 5.9.4 An operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually provided no leaks were found during the inspections required under provisions of Sections 5.9.1 and 5.9.2 during five consecutive quarterly inspections. Upon identification of any leak during an annual inspection the frequency would revert back to quarterly and the operator shall contact the APCO in writing within 14 days.

The following permit conditions ensure compliance of permit S-382-856 with the requirements of this section.

- The operator shall inspect the vapor collection system, the vapor disposal system, and each transfer rack handling organic liquids for leaks during transfer at least once every calendar quarter using the EPA Method 21. [District Rule 4624, 5.9]

- All leaking components shall be repaired or replaced within 72 hours of discovery. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624, 5.9]
- An operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually provided no leaks were found during five consecutive quarterly inspections. Upon identification of any leak during an annual inspection, the inspection frequency shall revert back to quarterly, and the operator shall contact the APCO in writing within 14 days. [District Rule 4624, 5.9]

Section 6.1.3 requires an operator subject to any part of Section 5.0 to keep records of daily liquid throughput and the results of any required leak inspections.

The following conditions will ensure compliance with the daily liquid throughput records requirement and results of any required leak inspections.

- Daily records of amount of organic liquid unloaded/loaded and number of trucks unloaded/loaded at the unloading/loading systems shall be maintained. [District Rules 1070, 2201, 4624]
- Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 72 hours after detection. [District Rules 1070 and 4624]

Section 6.1.4 requires records to be retained for a minimum of five years and to be made readily available to the APCO, ARB, or EPA during normal business hours and submitted upon request to the APCO, ARB, or EPA.

The following condition will ensure compliance with the recordkeeping requirements of Section 6.1.4:

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4624, 6.1.4]

Per Sections 6.2.1.3 and 6.2.1.3.2, the source testing requirements of Section 6.2.1 shall not apply to any Class 1 or Class 2 organic liquid transfer facility controlling VOC by routing vapors to a floating roof container that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids).

The unloading rack sends organic liquid from the tanker trucks to floating roof tanks. Therefore, the requirements of Section 6.2 are satisfied.

However, the loading rack sends organic liquid VOC vapors to the 3.2 MMBtu/hr thermal oxidizer; therefore, it is subject to the source testing requirements of 6.2.

- VOC emissions from the vapor collection and control system shall be determined initially and annually thereafter to determine compliance with District Rule 4624 using 40 CFR 60.503, "Test Methods and Procedures" and EPA Reference Methods 2A, 2B, 25A and 25B and ARB Method 422, or ARB Method 2-4. [District Rules 2201 and 4624]
- Analysis of halogenated exempt compounds shall be by ARB Method 432. [District Rules 2201 and 4624]

District Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{n RT}{P}$$

With:

N = moles SO₂

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

R (Universal Gas Constant) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

$$\frac{0.00285 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1.97 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 1.97 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

40 CFR Part 64:

Except for back-up utility units that are exempt under paragraph (b)(2), Section 64.2 states that the requirements of this subpart shall apply to a pollutant-specific emissions unit at a major source that is required to obtain a Part 70 or 71 permit if the unit satisfies all of the following criteria:

- 1) the unit must have an emission limit for the pollutant;
- 2) the unit must have add-on controls for the pollutant; these are devices such as flue gas recirculation (FGR), baghouses, catalytic oxidizers, etc; and

- 3) the unit must have a pre-control potential to emit of greater than the major source thresholds.

Pollutant	Major Source Threshold (lb/year)
VOC	20,000
NO _x	20,000
CO	200,000
PM ₁₀	140,000
SO _x	140,000

S-382-854-0, -855-0, 856-0:

These units do not have an add-on control device; therefore, the units are not subject to CAM.

S-382-857-0:

The permit for truck loading operation served by a thermal oxidizer contains emission limits for NO_x, CO, VOC, PM₁₀ and SO_x emissions. However, truck loading operation is not equipped with any add on control devices for NO_x, CO, PM₁₀ or SO_x emissions. Therefore, the CAM requirements of 40 CFR 64 are not applicable for these pollutants.

This truck loading operation is served by a thermal oxidizer for the control of VOC emissions. To ensure compliance with BACT requirements, the applicant proposed 99% control efficiency.

VOC Emissions:

Controlled Emissions = 610 lb/year

Control Efficiency = 99%

$$\text{Annual Uncontrolled PE} = \frac{[610 \text{ lb/year}]}{(1 - 0.99)}$$

Annual Uncontrolled PE = 61,000 lb/year

As shown above, the uncontrolled PE for VOC emissions is greater than the major source thresholds. Therefore, the truck loading operation is subject to the requirements of 40 CFR 64.

CAM Section 64.3 Monitoring Design Criteria

This section specifies the design criteria for the CAM system.

Paragraph (a) (*General criteria*) requires that the CAM system be designed to obtain data for one or more appropriate indicators of emission control system performance and requires the owner to establish appropriate ranges or designated conditions for the selected indicators such that operation within the ranges provides a reasonable

assurance of ongoing compliance with emission limitations or standards for the anticipated range of operating conditions.

Since, the controlled emission are less than the major source thresholds, only daily monitoring is required and the following conditions will be placed on ATC S-382-857-0 to satisfy the general design criteria of paragraph (a):

- The thermal oxidizer shall be permanently equipped with a temperature measurement device that detects the combustion chamber temperature. [40 CFR 64]
- The permittee shall monitor and record the chamber temperature of the thermal oxidizer at least once a day while the laden process stream is vented to the thermal oxidizer. [40 CFR 64]

Paragraph (b) (*Performance criteria*) requires the owner or operator to establish and maintain the following:

- Specifications to ensure that representative data are collected
- Verification procedures for startup of new monitoring equipment
- Quality assurance and control practices to ensure continuing validity of data
- Data collection frequency and procedures

The following conditions on ATC S-382-857-0 will satisfy the performance criteria of paragraph (b):

- The permittee shall monitor and record the chamber temperature of the thermal oxidizer at least once a day while the laden process stream is vented to the thermal oxidizer. [40 CFR 64]
- The thermal oxidizer shall be fired only on PUC-regulated natural gas. [40 CFR 64]
- The thermal oxidizer chamber temperature shall be maintained at a minimum temperature of 900 F before incinerating the vapors. [40 CFR 64]
- Records of RTO inspections and maintenance shall be maintained. These records shall include date of inspection, identification of the individual performing the inspection, and a description of the problem and the corrective action taken. [40 CFR 64]

Paragraph (c) (*Evaluation factors*) requires the owner or operator to take into account site specific factors in the design of the CAM system.

Paragraph (d) (*Special criteria for the use of continuous emission, opacity, or predictive monitoring systems*) requires the owner or operator to use a continuous emission monitoring system (CEMS), continuous opacity monitoring system (COMS), or a predictive emission monitoring system (PEMS) to satisfy CAM requirements, provided that these monitoring systems are required pursuant to other authority under the Clean Air Act or state or local law. This subsection also stipulates the following:

As shown in Section VII.C.2 above, the post-control PE for ATC S-382-857-0 are below the major source threshold; therefore, CEMS, COMS, or PEMS is not required.

The owner or operator shall design the monitoring system subject to paragraph (d) to:

The owner or operator shall design the monitoring system subject to paragraph (d) to:

(i) Allow for reporting of exceedances (or excursions if applicable to a COMS used to assure compliance with a particulate matter standard), consistent with any period for reporting of exceedances in an underlying requirement. If an underlying requirement does not contain a provision for establishing an averaging period for the reporting of exceedances or excursions, the criteria used to develop an averaging period specified in the data collection procedures required under paragraph (b) of this section shall apply; and

(ii) Provide an Indicator range consistent with paragraph (a) of this section for a COMS used to assure compliance with a particulate matter standard. If an opacity standard applies to the pollutant-specific emissions unit, such limit may be used as the appropriate indicator range unless the opacity limit fails to meet the criteria in paragraph (a) of this section after considering the type of control device and other site-specific factors applicable to the pollutant-specific emissions unit.

The following conditions on ATC S-382-857-0 provide for the reporting of exceedances as required by paragraph (d)(i):

- The owner or operator shall submit excess emission reports for any excess emissions that occurred during the reporting period. [40 CFR 64]
- The owner or operator may submit electronic quarterly reports for opacity in lieu of submitting the written reports. The format of each quarterly electronic report shall be coordinated with the permitting authority. The electronic report(s) shall be submitted no later than 30 days after the end of the calendar quarter and shall be accompanied by a certification statement from the owner or operator, indicating whether compliance with the applicable emission standards and minimum data requirements of this subpart was achieved during the reporting period. Before submitting reports in the electronic format, the owner or operator shall coordinate with the permitting authority to obtain their agreement to submit reports in this alternative format. [40 CFR 64]

Section 64.4 - Submittal Requirements

This section specifies submittal requirements for the owner or operator which ensure the CAM system will comply with the design criteria of §64.3. As shown in Section

64.3 above, the CAM proposal of Pacific Ethanol Madera LLC satisfies the design criteria of section 64.3.

Section 64.5 - Deadlines for Submittals

This section specifies required timing for submittals required under §64.4. *Large pollutant-specific emissions units* (those with controlled emissions exceeding major source thresholds) are required to make the submittals as a part of the initial Title V permit application where the application has either not been filed or has not been deemed complete. Where the initial Title V permit has been issued without implementation of 40 CFR 64, the owner or operator must make the required submittals as a part of a subsequent application for any significant permit revision. If the required information is not submitted by either of these deadlines, it must be submitted as a part of the application for the Title V permit renewal.

For other pollutant-specific emissions units, the required submittal deadline is the application for Title V permit renewal.

Oxy's ATC application for this project will be accepted as satisfying the CAM submittal deadline for this facility.

Section 64.6 - Approval of monitoring

This section stipulates the following:

- A requirement that the permitting authority act to approve the proposed monitoring by confirming that the monitoring submitted complies with the requirements of §64.3.
- An allowance for the permitting authority to condition the approval based on collecting additional data on the indicators to be monitored, including performance or compliance testing.
- The minimum conditions that must be placed on the permit in the event that the proposed monitoring is approved by the permitting authority including a milestone schedule for completion of any conditional approval actions required by the owner or operator, such as installations, testing, or verification of operational status.
- Actions required by the permitting authority in the event that the proposed monitoring is not approved.

The proposed CAM conditions for Oxy's truck loading operation vented to the thermal oxidizer comply with the design requirements of §64.3.

Section 64.7 - Operation of Approved Monitoring

This section requires the operator to:

- Commence the monitoring upon receipt of a Title V permit that includes such monitoring.
- Properly maintain the monitoring system.
- Operate the monitoring system continuously or at all times the emissions unit is operating except during repair or outage periods associated with monitor malfunction or with quality assurance and control activities.
- Upon detecting an excursion or exceedance, restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- A requirement for the owner or operator to document any need for improved monitoring based upon either an identification of a failure of the monitoring system to identify an excursion or exceedance or upon the results of compliance or performance testing that identifies a need to modify the monitoring.

The following conditions on ATC S-382-857-0 will ensure compliance with §64.7:

- The permittee shall monitor and record the chamber temperature of the thermal oxidizer at least once a day while the laden process stream is vented to the thermal oxidizer. [40 CFR 64]
- Records of thermal oxidizer inspections and maintenance shall be maintained. These records shall include date of inspection, identification of the individual performing the inspection, and a description of the problem and the corrective action taken. [40 CFR 64]
- If the District or EPA determines that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR 64. [40 CFR 64]

Section 64.8 - Quality Improvement Plan (QIP) Requirements

This section stipulates that the Administrator or the permitting authority may require that the facility develop and implement a QIP in the event of a determination of a need for improved monitoring pursuant to §64.7. §64.8 also identifies the minimum elements required in the QIP, and requires that the facility implement the QIP as expeditiously as possible, with implementation not exceeding 180 days after the date that the need for implementation was identified unless the permitting authority is notified.

The following condition on ATC S-382-857-0 will ensure compliance with §64.8:

- If the District or EPA determines that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR 64. [40 CFR 64]

Section 64.9 Reporting and Recordkeeping Requirements

This section stipulates the minimum reporting and recordkeeping requirements for facilities subject to 40 CFR 64.

The following condition on ATC S-382-857-0 addresses the requirements of this section:

- The permittee shall monitor and record the chamber temperature of the thermal oxidizer at least once a day while the laden process stream is vented to the thermal oxidizer. [40 CFR 64]

Section 64.10 Savings Provisions

This section is a caveat stating that CAM provisions do not excuse an operator from complying with existing emission standards, testing, monitoring, reporting, or recordkeeping requirements. Neither are CAM provisions intended to restrict the District from requiring additional or stricter monitoring or limit the District's ability to take enforcement action. This section does not impose additional requirements.

California Environmental Quality ACT (CEQA)

The California Environmental Quality Act (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 San Joaquin Valley Unified Air Pollution Control District (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.
- 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.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the project will not have a significant effect on the environment 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 Authorities to Construct S-382-854-0, -855-0, -856-0, -857-0 subject to the permit conditions on the attached draft Authorities to Construct in Appendix H.

X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-382-854-0	3020-05-G	4,200,000 gallons	\$382.00
S-382-855-0	3020-05-G	4,200,000 gallons	\$382.00
S-382-856-0	3020-01-B	45 electric hp	\$117.00
S-382-857-0	3020-02-F	3.2 MMBtu/hr	\$607.00

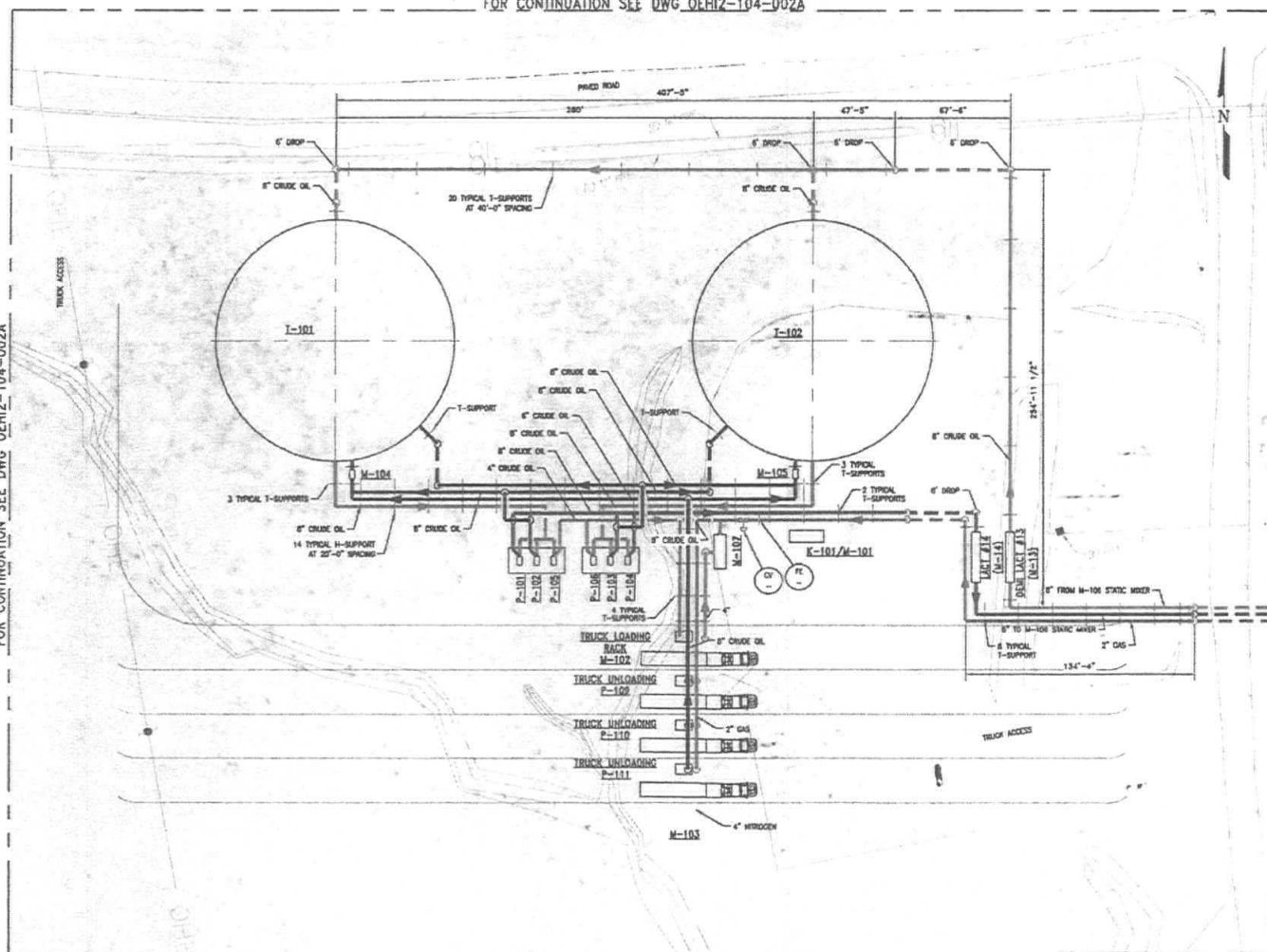
Appendices

- Appendix A: Facility Process Flow Diagram
- Appendix B: TANKS 4.0.9d Summary
- Appendix C: Fugitive Emissions Calculations
- Appendix D: BACT Guidelines and Analyses
- Appendix E: HRA and AAQA Summary
- Appendix F: Compliance Certification
- Appendix G: Summary of 40 CFR 60 Subpart Kb
- Appendix H: Draft ATCs

Appendix A

Facility Process Flow Diagram

FOR CONTINUATION SEE DWG OEH12-104-002A



FOR CONTINUATION SEE DWG OEH12-104-002A

FOR CONTINUATION SEE DWG OEH12-104-002A

DETAIL 1
SCALE: 1/32"=1'-0"
03-12-104-002A

LEGEND
 — BLENDING CRUDE
 — TO SHIPPING LACT
 — FROM TRUCK UNLOADING
 — TO TRUCK LOADING
 — TRUCK LINE
 — NITROGEN LINE

EQUIPMENT TABLE

EQUIPMENT NAME	EQUIPMENT NUMBER
PACKAGED EQUIPMENT	
INSTRUMENT AIR COMPRESSOR (SKID MOUNTED)	PA-01-R-101
LACT #13 (SKID MOUNTED)	PA-03-M-13
LACT #14 (SKID MOUNTED)	PA-04-M-14
TRUCK UNLOADING (SKID MOUNTED)	PA-05-P-109
TRUCK UNLOADING (SKID MOUNTED)	PA-06-P-110
TRUCK UNLOADING (SKID MOUNTED)	PA-07-P-111
TRUCK LOADING (SKID MOUNTED)	PA-08-M-102
THERMAL EXCHANGER	PA-03-M-107
PUMPS	
PIPELINE SHIPPING PUMP	P-101
PIPELINE SHIPPING PUMP	P-102
SPARE PIPELINE SHIPPING PUMP	P-103
SPARE PIPELINE SHIPPING PUMP	P-104
CRUC/CRUC LOADING PUMP	P-105
CRUC/CRUC LOADING PUMP	P-106
TANKS	
BLENDING STORAGE TANK	T-101
BLENDING STORAGE TANK	T-102
MISCELLANEOUS	
STATIC MIXER (ON LINE PPM)	M-104
STATIC MIXER (ON LINE PPM)	M-105

NOT FOR CONSTRUCTION

ISSUED FOR BID ONLY
1/9/2014

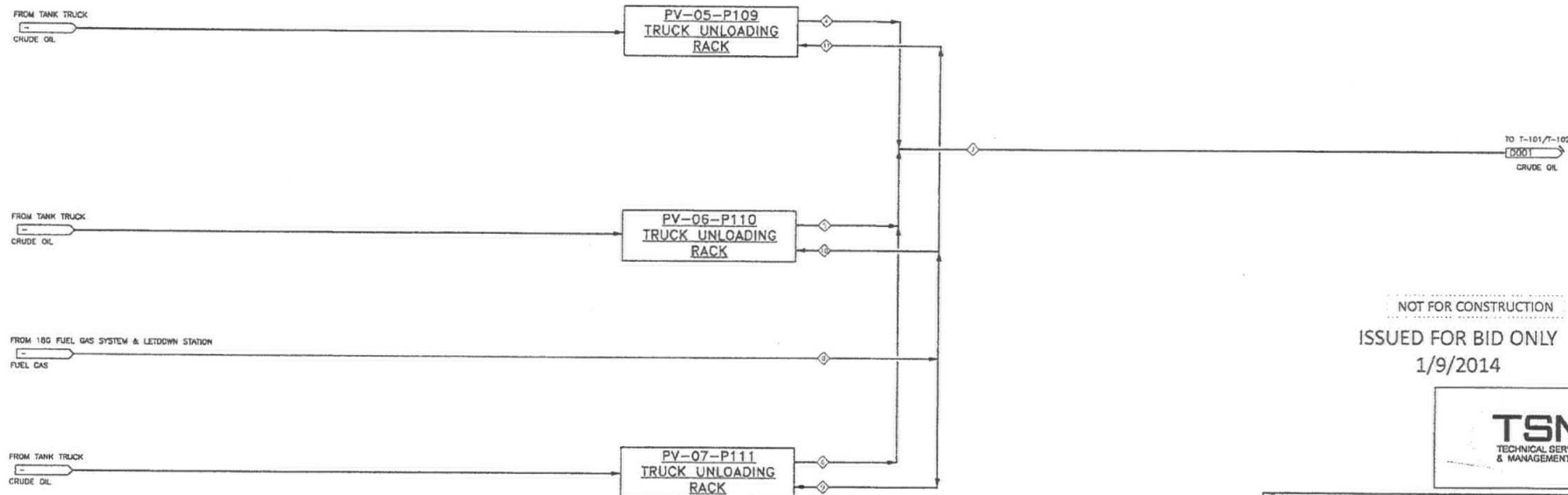
NOTES
 1. ALL DIMENSIONS, EQUIPMENT, PIPE ROUTING ARE APPROXIMATE ONLY.
 2. REFER TO ROUTING PHOTO / 3D-M DETAILS FOR PROPOSED 3D-M.



RE-DESIGNED FOR REVIEW	10/10	WCH
ISSUED FOR REVIEW	10/10	WCH
DESIGNED FOR CONSTRUCTION	10/10	WCH
DATE	DRAWN	CHECKED
DESCRIPTION	DATE	PROJECT
REVISIONS		APPROVALS
ELK HILLS FIELD		
OCCIDENTAL OF ELK HILLS, INC.		
UNIT OPERATOR		
18G		
CRUDE OIL BLENDING AND STORING FACILITY		
SECTION 18G TXX RXX		
PLOT PLAN ARRANGEMENT		
DRAWING No.	SHEET	REV.
OEH12-104-003B	D	1/31'-1'-0"





































METER TYPE = CORIOLIS
METER SIZE = 3"
PIPE SIZE = 4"
DESIGN CAP. = 200 GPM
PIPE MAT'L. = CS
METER MAT'L. = SS
SKID - PACKAGED UNIT COMPLETE
W/ PIPING, PUMP, CONTROL SYSTEM,
GROUNDING SYSTEM, BS&W MONITOR
5 GAL. SAMPLE POT
W/ AUTOMATIC SAMPLER

1. THE FLOW RATES DO NOT BALANCE BECAUSE THIS CAN BE A BATCH PROCESS.
2. THESE ARE THE OVERALL DAILY REQUIREMENTS SET BY OEMI.
3. THESE ARE THE DESIGN REQUIREMENTS FOR THE EQUIPMENT AND THE PIPING.



TSM
TECHNICAL SERVICE
& MANAGEMENT, INC.

STREAM NUMBER		4	3	2	1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1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Appendix B

Tanks 4.0.9d Summary

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

Identification

User Identification: OEHI Proposed Blend/Shipping Tanks T-101, T-102
City: Bakersfield
State: California
Company: Occidental of Elk Hills (OEHI)
Type of Tank: External Floating Roof Tank
Description: Proposed 18G Blending/Storage/Loading Facility, 100,000 Bbl EFR tanks, Maximum Daily Emission Calculation; Daily Emissions based on 100,000 BPD Throughput

Tank Dimensions

Diameter (ft): 145.00
Volume (gallons): 4,200,000.00
Turnovers: 365.00

Paint Characteristics

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

Roof Characteristics

Type: Double Deck
Fitting Category: Typical

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.	2
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/Open	2
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	52
Rim Vent (6-in. Diameter)/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

OEHI Proposed Blend/Shipping Tanks T-101, T-102 - 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 3.0) OEHI	Jan	58.62	54.46	62.78	65.42	2.0589	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Feb	61.49	56.39	66.58	65.42	2.1843	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Mar	63.85	57.94	69.77	65.42	2.2925	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Apr	66.98	60.01	73.95	65.42	2.4421	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	May	71.00	63.30	78.70	65.42	2.6459	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Jun	74.47	66.32	82.63	65.42	2.8333	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Jul	77.01	68.80	85.22	65.42	2.9767	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Aug	76.03	66.25	83.81	65.42	2.9205	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Sep	72.96	65.93	79.98	65.42	2.7502	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Oct	68.33	62.00	74.66	65.42	2.5090	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Nov	62.38	57.33	67.44	65.42	2.2249	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Dec	58.39	54.32	62.46	65.42	2.0489	N/A	N/A	50.0000			207.00	Option 4: RVP=4

TANKS 4.0.9d

Emissions Report - Detail Format

Detail Calculations (AP-42)

OEHI Proposed Blend/Shipping Tanks T-101, T-102 - External Floating Roof Tank Bakersfield, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	24.8382	28.8514	33.3242	38.3871	45.8319	49.4492	48.3854	45.1673	39.1862	32.1874	26.6112	23.9698
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)):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Exponent:	5.2000	5.8000	6.5000	7.1000	7.9000	7.9000	7.2000	6.8000	6.2000	5.5000	5.1000	5.0000
Value of Vapor Pressure Function:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Vapor Pressure at Daily Average Liquid	0.0384	0.0409	0.0431	0.0462	0.0504	0.0544	0.0575	0.0563	0.0526	0.0476	0.0417	0.0381
Surface Temperature (psia):	2.0589	2.1843	2.2925	2.4421	2.6459	2.8333	2.9787	2.9205	2.7502	2.5090	2.2249	2.0489
Tank Diameter (ft):	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
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):	855.7400	855.7400	855.7400	855.7400	855.7400	855.7400	855.7400	855.7400	855.7400	855.7400	855.7400	855.7400
Net Throughput (gal/mo.):	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000	127,750,000.0000
Shell Clingage Factor (bbl/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):	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100
Tank Diameter (ft):	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
Roof Fitting Losses (lb):	69.6029	84.8527	103.1081	123.5514	154.7285	166.9419	156.6440	142.5958	118.7178	92.4605	73.9360	66.0195
Value of Vapor Pressure Function:	0.0384	0.0409	0.0431	0.0462	0.0504	0.0544	0.0575	0.0563	0.0526	0.0476	0.0417	0.0381
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):	1,088.9533	1,245.2281	1,435.6578	1,605.4219	1,840.6097	1,840.6097	1,634.2788	1,519.8078	1,353.0109	1,166.2611	1,063.5623	1,038.3640
Average Wind Speed (mph):	5.2000	5.8000	6.5000	7.1000	7.9000	7.9000	7.2000	6.8000	6.2000	5.5000	5.1000	5.0000
Total Losses (lb):	950.1811	969.4441	992.1723	1,017.6784	1,056.3014	1,072.1311	1,060.7493	1,043.5031	1,013.6440	980.3879	956.2873	945.7292

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors		m	Losses (lb)
		KFa (lb-mole/yr)	KFb (lb-mole/(yr mph^n))		
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	1.5138
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	40.1330
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	2	6.20	1.20	0.94	21.1007
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1	31.00	150.00	1.40	1,209.9076
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	0.5264
Roof Drain (3-in. Diameter)/Open	2	1.50	0.21	1.70	8.0743
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	52	0.82	0.53	0.14	72.5025
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	1.0994

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

OEHI Proposed Blend/Shipping Tanks T-101, T-102 - 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 3.0) OEHI	436.17	10,268.88	1,353.16	0.00	12,058.21

TANKS 4.0.9d

Emissions Report - Detail Format

Tank Identification and Physical Characteristics

Identification

User Identification: OEHI Proposed Blend/Shipping Tank T-101, T-102
 City: Bakersfield
 State: California
 Company: Occidental of Elk Hills (OEHI)
 Type of Tank: External Floating Roof Tank
 Description: Proposed 18G Blending/Storage/Loading Facility, 100,000 Bbl EFR tank, Average Daily Emission Calculation; Tank emissions based on Process Flow Diagram data. 505,680 gal/day (12,040 Bbl/day) of product shipped from tank. Maximum TVP of 3.0

Tank Dimensions

Diameter (ft): 145.00
 Volume (gallons): 4,200,000.00
 Turnovers: 43.95

Paint Characteristics

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

Roof Characteristics

Type: Double Deck
 Fitting Category: Typical

Tank Construction and Rim-Seal System

Construction: Welded
 Primary Seal: Mechanical Shoe
 Secondary Seal: Rim-mounted

Deck Fitting/Status

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.	2
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Drain (3-in. Diameter)/Open	2
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs	52
Rim Vent (6-in. Diameter)/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

OEHI Proposed Blend/Shipping Tank T-101, T-102 - 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 3.0) OEHI	Jan	58.62	54.46	62.78	65.42	2.0589	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Feb	61.49	56.39	66.58	65.42	2.1843	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Mar	63.65	57.94	69.77	65.42	2.2925	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Apr	66.98	60.01	73.95	65.42	2.4421	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	May	71.00	63.30	78.70	65.42	2.6459	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Jun	74.47	68.32	82.63	65.42	2.8333	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Jul	77.01	68.80	85.22	65.42	2.9767	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Aug	76.03	68.25	83.81	65.42	2.9205	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Sep	72.96	65.93	79.98	65.42	2.7502	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Oct	68.33	62.00	74.66	65.42	2.5090	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Nov	62.38	57.33	67.44	65.42	2.2249	N/A	N/A	50.0000			207.00	Option 4: RVP=4
Crude Oil (TVP 3.0) OEHI	Dec	58.39	54.32	62.46	65.42	2.0489	N/A	N/A	50.0000			207.00	Option 4: RVP=4

TANKS 4.0.9d

Emissions Report - Detail Format

Detail Calculations (AP-42)

OEHI Proposed Blend/Shipping Tank T-101, T-102 - External Floating Roof Tank Bakersfield, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	24.8382	28.8514	33.3242	38.3871	45.8319	49.4492	48.3654	45.1673	39.1862	32.1874	26.6112	23.9698
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
Average Wind Speed (mph):	5.2000	5.8000	6.5000	7.1000	7.9000	7.9000	7.2000	6.8000	6.2000	5.5000	5.1000	5.0000
Seal-related Wind Speed Exponent:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Value of Vapor Pressure Function:	0.0384	0.0409	0.0431	0.0462	0.0504	0.0544	0.0575	0.0583	0.0528	0.0478	0.0417	0.0381
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	2.0589	2.1843	2.2925	2.4421	2.6459	2.8333	2.9767	2.9205	2.7502	2.5090	2.2249	2.0489
Tank Diameter (ft):	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
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):	103.0311	103.0311	103.0311	103.0311	103.0311	103.0311	103.0311	103.0311	103.0311	103.0311	103.0311	103.0311
Net Throughput (gal/mo.):	15,381,100.0000	15,381,100.0000	15,381,100.0000	15,381,100.0000	15,381,100.0000	15,381,100.0000	15,381,100.0000	15,381,100.0000	15,381,100.0000	15,381,100.0000	15,381,100.0000	15,381,100.0000
Shell Clingage Factor (bbl/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):	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100	7.2100
Tank Diameter (ft):	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000	145.0000
Roof Fitting Losses (lb):	69.6029	84.8527	103.1081	123.5514	154.7295	166.9419	156.6440	142.5958	118.7178	92.4605	73.9360	66.0195
Value of Vapor Pressure Function:	0.0384	0.0409	0.0431	0.0462	0.0504	0.0544	0.0575	0.0583	0.0528	0.0478	0.0417	0.0381
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):	1,088.9533	1,245.2281	1,435.6576	1,605.4219	1,840.6097	1,840.6097	1,634.2788	1,519.8078	1,353.0109	1,166.2611	1,063.5623	1,038.3640
Average Wind Speed (mph):	5.2000	5.8000	6.5000	7.1000	7.9000	7.9000	7.2000	6.8000	6.2000	5.5000	5.1000	5.0000
Total Losses (lb):	197.4722	216.7352	239.4634	264.9695	303.5825	319.4222	308.0405	290.7942	260.9351	227.6790	203.5784	193.0203
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	1.60	0.00	0.00				1.5138	
Automatic Gauge Float Well/Unbolted Cover, Ungasketed				1	14.00	5.40	1.10				40.1330	
Vacuum Breaker (10-in. Diam./Weighted Mech. Actuation, Gask.				2	6.20	1.20	0.94				21.1007	
Unslotted Guide-Pole Well/Ungasketed Sliding Cover				1	31.00	150.00	1.40				1,209.9076	
Gauge-Hatch/Sample Well (8-in. Diam./Weighted Mech. Actuation, Gask.				1	0.47	0.02	0.97				0.5264	
Roof Drain (3-in. Diameter)/Open				2	1.50	0.21	1.70				8.0743	
Roof Leg (3-in. Diameter)/Adjustable, Double-Deck Roofs				52	0.82	0.53	0.14				72.5025	
Rim Vent (8-in. Diameter)/Weighted Mech. Actuation, Gask.				1	0.71	0.10	1.00				1.0994	

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

OEHI Proposed Blend/Shipping Tank T-101, T-102 - External Floating Roof Tank
Bakersfield, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Crude Oil (TVP 3.0) OEHI	436.17	1,236.37	1,353.16	0.00	3,025.70

Appendix C

Fugitive Emissions Calculations

Fugitive VOC Emissions From Components
Calculated From Component Counts and EPA ALR Emission Factors

18G Blending, Storage And Loading Facility - Total Project Fugitive Emissions

Type of Component	Component Service	Component Counts	Ave. Leak Threshold (ppmv)	Ave. Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	34	—	—	—	0.025	0.025	0.009
	Light Crude Oil	401	—	—	—	0.300	0.300	0.113
	Heavy Crude Oil	0	—	—	—	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	—	—	—	0.000	0.000	0.000
	Light Crude Oil	24	—	—	—	0.224	0.224	0.084
	Heavy Crude Oil	0	—	—	—	0.000	0.000	0.000
Others	Gas/Light Liquid	13	—	—	—	0.031	0.031	0.012
	Light Crude Oil	146	—	—	—	0.523	0.523	0.186
	Heavy Crude Oil	0	—	—	—	0.000	0.000	0.000
Connectors	Gas/Light Liquid	102	—	—	—	0.046	0.046	0.017
	Light Crude Oil	1,333	—	—	—	0.606	0.606	0.227
	Heavy Crude Oil	0	—	—	—	0.000	0.000	0.000
Flanges	Gas/Light Liquid	24	—	—	—	0.003	0.003	0.001
	Light Crude Oil	415	—	—	—	0.034	0.034	0.013
	Heavy Crude Oil	0	—	—	—	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	—	—	—	0.000	0.000	0.000
	Light Crude Oil	6	—	—	—	0.002	0.002	0.001
	Heavy Crude Oil	0	—	—	—	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components						1.794	1.794	0.673

Fugitive VOC Emissions From Components
Calculated From Component Counts and EPA ALR Emission Factors

On-tank Component Counts - #T-101 100,000 Bbl. Blend & Storage Tank (10,000 ppmv Leak)

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	0	10,000	0.0000	1.320E-03	0.000	0.000	0.000
	Light Crude Oil	32	10,000	0.0000	1.003E-03	0.032	0.032	0.012
	Heavy Crude Oil	0	10,000	0.0000	4.435E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	10,000	0.0000	1.848E-02	0.000	0.000	0.000
	Light Crude Oil	0	10,000	0.0000	2.693E-02	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	0	10,000	0.0000	6.336E-03	0.000	0.000	0.000
	Light Crude Oil	10	10,000	0.0000	7.392E-03	0.074	0.074	0.028
	Heavy Crude Oil	0	10,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	0	10,000	0.0000	5.280E-04	0.000	0.000	0.000
	Light Crude Oil	75	10,000	0.0000	5.122E-04	0.038	0.038	0.014
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	0	10,000	0.0000	3.010E-04	0.000	0.000	0.000
	Light Crude Oil	24	10,000	0.0000	1.267E-04	0.003	0.003	0.001
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	10,000	0.0000	7.920E-04	0.000	0.000	0.000
	Light Crude Oil	0	10,000	0.0000	7.392E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	3.802E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.147	0.147	0.056
Gas	VOC content (%) of TOG		100.00	Methane content (%) of TOG				37.50
Liquid	VOC content (%) of TOG		100.00	Methane content (%) of TOG				37.70

Fugitive VOC Emissions From Components
Calculated From Component Counts and EPA ALR Emission Factors

Off-tank Component Counts - #T-101 100,000 Bbl. Blend & Storage Tank (2,000 ppmv Leak)

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	0	2,000	0.0000	7.392E-04	0.000	0.000	0.000
	Light Crude Oil	40	2,000	0.0000	7.392E-04	0.030	0.030	0.011
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000
	Light Crude Oil	4	2,000	0.0000	1.003E-02	0.040	0.040	0.015
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	0	2,000	0.0000	2.376E-03	0.000	0.000	0.000
	Light Crude Oil	18	2,000	0.0000	3.379E-03	0.061	0.061	0.023
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	0	2,000	0.0000	4.488E-04	0.000	0.000	0.000
	Light Crude Oil	69	2,000	0.0000	4.541E-04	0.031	0.031	0.012
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	0	2,000	0.0000	1.373E-04	0.000	0.000	0.000
	Light Crude Oil	48	2,000	0.0000	8.448E-05	0.004	0.004	0.001
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.166	0.166	0.062
Gas	VOC content (%) of TOG		100.00				Methane content (%) of TOG	37.50
Liquid	VOC content (%) of TOG		100.00				Methane content (%) of TOG	37.50

Fugitive VOC Emissions From Components
Calculated From Component Counts and EPA ALR Emission Factors

On-tank Component Counts - #T-102 100,000 Bbl. Blend & Storage Tank (10,000 ppmv Leak)

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	0	10,000	0.0000	1.320E-03	0.000	0.000	0.000
	Light Crude Oil	32	10,000	0.0000	1.003E-03	0.032	0.032	0.012
	Heavy Crude Oil	0	10,000	0.0000	4.435E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	10,000	0.0000	1.848E-02	0.000	0.000	0.000
	Light Crude Oil	0	10,000	0.0000	2.693E-02	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	0	10,000	0.0000	6.336E-03	0.000	0.000	0.000
	Light Crude Oil	10	10,000	0.0000	7.392E-03	0.074	0.074	0.028
	Heavy Crude Oil	0	10,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	0	10,000	0.0000	5.280E-04	0.000	0.000	0.000
	Light Crude Oil	75	10,000	0.0000	5.122E-04	0.038	0.038	0.014
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	0	10,000	0.0000	3.010E-04	0.000	0.000	0.000
	Light Crude Oil	24	10,000	0.0000	1.267E-04	0.003	0.003	0.001
	Heavy Crude Oil	0	10,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	10,000	0.0000	7.920E-04	0.000	0.000	0.000
	Light Crude Oil	0	10,000	0.0000	7.392E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	10,000	0.0000	3.802E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.147	0.147	0.056
Gas	VOC content (%) of TOG		100.00			Methane content (%) of TOG		
Liquid	VOC content (%) of TOG		100.00			Methane content (%) of TOG		
								37.50
								37.70

Fugitive VOC Emissions From Components
Calculated From Component Counts and EPA ALR Emission Factors

Off-tank Component Counts - #T-102 100,000 Bbl. Blend & Storage Tank 2,000 ppmv Leak)

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	0	2,000	0.0000	7.392E-04	0.000	0.000	0.000
	Light Crude Oil	38	2,000	0.0000	7.392E-04	0.027	0.027	0.010
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000
	Light Crude Oil	4	2,000	0.0000	1.003E-02	0.040	0.040	0.015
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	0	2,000	0.0000	2.376E-03	0.000	0.000	0.000
	Light Crude Oil	18	2,000	0.0000	3.379E-03	0.061	0.061	0.023
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	0	2,000	0.0000	4.488E-04	0.000	0.000	0.000
	Light Crude Oil	66	2,000	0.0000	4.541E-04	0.030	0.030	0.011
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	0	2,000	0.0000	1.373E-04	0.000	0.000	0.000
	Light Crude Oil	41	2,000	0.0000	8.448E-05	0.003	0.003	0.001
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.161	0.161	0.060
Gas	VOC content (%) of TOG		100.00			Methane content (%) of TOG		37.50
Liquid	VOC content (%) of TOG		100.00			Methane content (%) of TOG		37.50

Fugitive VOC Emissions From Components
Calculated From Component Counts and EPA ALR Emission Factors

Fugitive Emissions - Meter Unit #13								
Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	0	2,000	0.0000	7.392E-04	0.000	0.000	0.000
	Light Crude Oil	48	2,000	0.0000	7.392E-04	0.035	0.035	0.013
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000
	Light Crude Oil	3	2,000	0.0000	1.003E-02	0.030	0.030	0.011
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	0	2,000	0.0000	2.376E-03	0.000	0.000	0.000
	Light Crude Oil	15	2,000	0.0000	3.379E-03	0.051	0.051	0.019
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	0	2,000	0.0000	4.488E-04	0.000	0.000	0.000
	Light Crude Oil	185	2,000	0.0000	4.541E-04	0.084	0.084	0.032
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	0	2,000	0.0000	1.373E-04	0.000	0.000	0.000
	Light Crude Oil	53	2,000	0.0000	8.448E-05	0.004	0.004	0.002
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000
	Light Crude Oil	3	2,000	0.0000	3.538E-04	0.001	0.001	0.000
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.206	0.206	0.077
Gas	VOC content (%) of TOG		100.00			Methane content (%) of TOG		37.50
Liquid	VOC content (%) of TOG		100.00			Methane content (%) of TOG		37.50

Fugitive VOC Emissions From Components
Calculated From Component Counts and EPA ALR Emission Factors

Fugitive Emissions - Meter Unit #14

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	2	2,000	0.0000	7.392E-04	0.001	0.001	0.001
	Light Crude Oil	48	2,000	0.0000	7.392E-04	0.035	0.035	0.013
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000
	Light Crude Oil	3	2,000	0.0000	1.003E-02	0.030	0.030	0.011
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	0	2,000	0.0000	2.376E-03	0.000	0.000	0.000
	Light Crude Oil	15	2,000	0.0000	3.379E-03	0.051	0.051	0.019
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	0	2,000	0.0000	4.488E-04	0.000	0.000	0.000
	Light Crude Oil	185	2,000	0.0000	4.541E-04	0.084	0.084	0.032
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	8	2,000	0.0000	1.373E-04	0.001	0.001	0.000
	Light Crude Oil	54	2,000	0.0000	8.448E-05	0.005	0.005	0.002
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000
	Light Crude Oil	3	2,000	0.0000	3.538E-04	0.001	0.001	0.000
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.208	0.208	0.078
Gas	VOC content (%) of TOG	100.00	Methane content (%) of TOG			37.50		
Liquid	VOC content (%) of TOG	100.00	Methane content (%) of TOG			37.50		

Fugitive VOC Emissions From Components
Calculated From Component Counts and EPA ALR Emission Factors

Fugitive Emissions - Truck Unloading Operation (3 Bays)

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	0	1,000	0.0000	5.808E-04	0.000	0.000	0.000
	Light Crude Oil	129	1,000	0.0000	6.336E-04	0.082	0.082	0.031
	Heavy Crude Oil	0	1,000	0.0000	4.118E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	1,000	0.0000	1.214E-02	0.000	0.000	0.000
	Light Crude Oil	8	1,000	0.0000	7.920E-03	0.063	0.063	0.024
	Heavy Crude Oil	0	1,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	0	1,000	0.0000	1.637E-03	0.000	0.000	0.000
	Light Crude Oil	48	1,000	0.0000	2.323E-03	0.112	0.112	0.042
	Heavy Crude Oil	0	1,000	0.0000	1.109E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	0	1,000	0.0000	4.224E-04	0.000	0.000	0.000
	Light Crude Oil	525	1,000	0.0000	4.382E-04	0.230	0.230	0.086
	Heavy Crude Oil	0	1,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	0	1,000	0.0000	9.504E-05	0.000	0.000	0.000
	Light Crude Oil	135	1,000	0.0000	6.336E-05	0.009	0.009	0.003
	Heavy Crude Oil	0	1,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	1,000	0.0000	2.640E-04	0.000	0.000	0.000
	Light Crude Oil	0	1,000	0.0000	2.482E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	1,000	0.0000	2.587E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.495	0.495	0.186
Gas	VOC content (%) of TOG	100.00	Methane content (%) of TOG					
Liquid	VOC content (%) of TOG	100.00	Methane content (%) of TOG					

Fugitive VOC Emissions From Components
Calculated From Component Counts and EPA ALR Emission Factors

Fugitive Emissions - Truck Loading Operation (1 Bay)

Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	6	2,000	0.0000	7.392E-04	0.004	0.004	0.002
	Light Crude Oil	38	2,000	0.0000	7.392E-04	0.027	0.027	0.010
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000
	Light Crude Oil	2	2,000	0.0000	1.003E-02	0.020	0.020	0.008
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	5	2,000	0.0000	2.376E-03	0.012	0.012	0.004
	Light Crude Oil	12	2,000	0.0000	3.379E-03	0.041	0.041	0.015
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	15	2,000	0.0000	4.488E-04	0.007	0.007	0.003
	Light Crude Oil	153	2,000	0.0000	4.541E-04	0.069	0.069	0.026
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	10	2,000	0.0000	1.373E-04	0.001	0.001	0.001
	Light Crude Oil	38	2,000	0.0000	8.448E-05	0.003	0.003	0.001
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.184	0.184	0.069
Gas	VOC content (%) of TOG		100.00				Methane content (%) of TOG	37.50
Liquid	VOC content (%) of TOG		100.00				Methane content (%) of TOG	37.50

Fugitive VOC Emissions From Components
Calculated From Component Counts and EPA ALR Emission Factors

Fugitive Emissions Thermal Oxidizer (2,000 ppmv Leak)								
Type of Component	Component Service	Component Counts	Leak Threshold (ppmv)	Leak Fraction	EPA 1995 ALR TOG Factor lb/day*Component	Fugitive Emissions		
						TOG (lb/Day)	VOC (lb/Day)	Methane (lb/Day)
Valves	Gas/Light Liquid	26	2,000	0.0000	7.392E-04	0.019	0.019	0.007
	Light Crude Oil	0	2,000	0.0000	7.392E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	4.118E-04	0.000	0.000	0.000
Pump Seals	Gas/Light Liquid	0	2,000	0.0000	1.214E-02	0.000	0.000	0.000
	Light Crude Oil	0	2,000	0.0000	1.003E-02	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Others	Gas/Light Liquid	8	2,000	0.0000	2.376E-03	0.019	0.019	0.007
	Light Crude Oil	0	2,000	0.0000	3.379E-03	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	1.690E-03	0.000	0.000	0.000
Connectors	Gas/Light Liquid	87	2,000	0.0000	4.488E-04	0.039	0.039	0.015
	Light Crude Oil	0	2,000	0.0000	4.541E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Flanges	Gas/Light Liquid	8	2,000	0.0000	1.373E-04	0.001	0.001	0.000
	Light Crude Oil	0	2,000	0.0000	8.448E-05	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	0.000E+00	0.000	0.000	0.000
Open-ended Lines	Gas/Light Liquid	0	2,000	0.0000	3.960E-04	0.000	0.000	0.000
	Light Crude Oil	0	2,000	0.0000	3.538E-04	0.000	0.000	0.000
	Heavy Crude Oil	0	2,000	0.0000	3.168E-04	0.000	0.000	0.000
Total Fugitive VOC Emissions From Associated Components (lb/day)						0.078	0.078	0.029
Gas	VOC content (%) of TOG		100.00			Methane content (%) of TOG		37.50
Liquid	VOC content (%) of TOG		100.00			Methane content (%) of TOG		37.70

Appendix D
BACT Guidelines and Analyses

San Joaquin Valley
Unified Air Pollution Control District

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 contained 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 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**

Top-Down BACT Analysis

The applicable BACT requirements guideline is: BACT Clearinghouse Guideline 7.3.3, Petroleum and Petrochemical Production – Floating Roof Organic Liquid Storage or Processing Tank, ≥ 471 bbl Tank Capacity, ≥ 0.5 psia TVP.

Top-Down BACT Analysis for VOC Emissions

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse, Guideline 7.3.3 identifies the following options:

Option I: Technologically Feasible: 95% VOC Control with Dual Wiper Seal

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

Option II: Achieved in Practice: 95% VOC Control with Primary Metallic Shoe

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

Step 2 - Eliminate Technologically Infeasible Options

There is no technologically infeasible option.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Option I: Technologically Feasible: 95% VOC Control with Dual Wiper Seal.

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

Option II: Achieved in Practice: 95% VOC Control with Primary Metallic Shoe

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

Step 4 - Cost Effectiveness Analysis

The tanks associated with this project are equipped with a primary metal shoe seal with secondary wiper seal; therefore, the tanks are equipped with current BACT for this class and category of source and a top down BACT analysis is not required.

Since the applicant has chosen the most effective control technology listed in step 3 as a technologically feasible option; a cost effectiveness analysis is not required.

Step 5 - Select BACT

The proposed use of a primary metal shoe seal with secondary wiper seal, and with 95% VOC emissions control efficiency meets BACT requirements.

Therefore, BACT requirements for VOC emissions for units S-382-854-0 and -855-0 are satisfied.

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.1.14*

Last Update 9/21/2006

Light Crude Oil Unloading Rack

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	use of dry-break couplers or equivalent on unloading lines with an average disconnect loss of no greater than 10 ml liquid per disconnect, and fugitive components subject to Rules 4409 or 4455 as applicable	use of dry-break couplers or equivalent on unloading lines with an average disconnect loss of no greater than 8 ml liquid per disconnect, and fugitive components subject to Rules 4409 or 4455 as applicable	

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 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**

Top-Down BACT Analysis

The applicable BACT requirements guideline is: BACT Clearinghouse Guideline 7.1.14, Light Crude Oil Unloading Rack.

VOC

Step 1 - Identify All Possible Control Technologies

BACT guideline 7.1.14 identifies the following control technologies:

Option I: Technologically Feasible:

Use of dry-break couplers with an average disconnect loss of no greater than 8 ml liquid per disconnect, and fugitive components subject to Rules 4409 or 4455 as applicable

Option II: Achieved In Practice:

Use of dry-break couplers with an average disconnect loss of no greater than 10 ml liquid per disconnect, and fugitive components subject to Rules 4409 or 4455 as applicable

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 - Rank Remaining Control Technologies

Option I: Technologically Feasible:

Use of dry-break couplers with an average disconnect loss of no greater than 8 ml liquid per disconnect, and fugitive components subject to Rules 4409 or 4455 as applicable

Option II: Achieved in Practice:

Use of dry-break couplers with an average disconnect loss of no greater than 10 ml liquid per disconnect, and fugitive components subject to Rules 4409 or 4455 as applicable

Step 4 - Cost Effectiveness Analyses

Per District BACT Policy, a cost effectiveness analysis is not required for AIP controls since the control must be implemented.

The unloading operation uses dry break couplers on unloading lines with an average disconnect loss of no greater than 8 ml liquid per disconnect, and fugitive components subject to Rules 4409.

Since the applicant has chosen the most effective control technology listed in step 3 as a technologically feasible option; a cost effectiveness analysis is not required.

Step 5 - Select BACT

The proposed use dry break couplers on unloading lines with an average disconnect loss of no greater than 8 ml liquid per disconnect, and fugitive components subject to Rule 4409 meets BACT requirements.

Therefore, BACT requirements for VOC emissions for unit S-382-856-0 are satisfied.

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

Best Available Control Technology (BACT) Guideline 7.1.10*

Last Update 2/23/2005

Loading Rack/Switch Loading

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	natural gas fired pilot and air assist		
NOx	natural gas or LPG fired pilot and air assist		
PM10	air assisted flare with smokeless combustion		
SOx	natural gas fired flare		
VOC	bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency => 99%		

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 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**

Top-Down BACT Analysis

The applicable BACT requirements guideline is: BACT Clearinghouse Guideline 7.1.10, Loading Rack/Switch Loading.

VOC

Step 1 - Identify All Possible Control Technologies

BACT guideline 7.1.10 identifies the following control technologies:

Option 1: Achieved in Practice: Bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency $\geq 99\%$

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 - Rank Remaining Control Technologies

Rank	Control Technology	Control Efficiency	Technology Classification for BACT
1	Bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency $\geq 99\%$	99%	AIP

Step 4 - Cost Effectiveness Analyses

Per District BACT Policy, a cost effectiveness analysis is not required for AIP controls since the control must be implemented.

Step 5 - Select BACT

The remaining control not eliminated in Step 4 is considered AIP BACT for this class and category of source for VOC.

The applicant is proposing bottom loading with dry break couplers and vapor collection vented to a thermal oxidizer with destruction efficiency $\geq 99\%$.

Therefore, BACT requirements for VOC emissions for unit S-382-857-0 are satisfied.

CO

Step 1 - Identify All Possible Control Technologies

BACT guideline 7.1.10 identifies the following control technologies:

Option 1: Achieved in Practice: natural gas fired pilot

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible options.

Step 3 - Rank Remaining Control Technologies

Since there is only one technology listed, it ranks as number 1.

Step 4 - Cost Effectiveness Analyses

Per District BACT Policy, a cost effectiveness analysis is not required for AIP controls since the control must be implemented.

Step 5 - Select BACT

The remaining control not eliminated in Step 4 is considered AIP BACT for this class and category of source for CO.

The applicant is proposing a thermal oxidizer with a natural gas fired pilot.

Therefore, BACT requirements for CO emissions for unit S-382-857-0 are satisfied.

Appendix E

HRA and AAQA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Jesse A. Garcia, AQE – Permit Services
 From: Trevor Joy, AQS
 Date: July 15, 2014
 Facility Name: Occidental of Elk Hills
 Location: HOC
 Application #(s): S-382-854-0, 855-0, 856-0, and 857-0
 Project #: 1140870

A. RMR SUMMARY

Categories	854-0 Blending/ Storage	855-0 Blending/ Storage	856-0 Unloading	857-0 Process 1 Loading	857-0 Process 2 Oxidizer	Project Totals	Facility Totals
Prioritization Score	0.0	0.0	0.0	0.0	0.0	0.0	>1
Acute Hazard Index	0.02	0.02	0.00	0.00	0.00	0.07	0.04
Chronic Hazard Index	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum Individual Cancer Risk (10 ⁻⁶)	0.08	0.08	0.0	0.0	0.0	0.2	0.4
T-BACT Required?	No	No	No	No	No		
Special Permit Conditions?	No	No	No	No	Yes		

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 357 (Oxidizer)

{1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] N

B. RMR REPORT

I. Project Description

Technical Services received a revised request on April 7, 2014 to perform an Ambient Air Quality Analysis and a Risk Management Review for the proposed installation of unit 854-0, a oil Blending/Storage tank; 855-0, a oil Blending/storage tank; 856-0, a oil unloading station; and 857-0, a oil loading station with a thermal oxidizer.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Emissions were calculated using "Oilfield Equipment Fugitive - District" and "NG < 10 MMBTU/Hr External Combustion" emission factors. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for the facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined analysis was required and performed. AERMOD was used, with the parameters outlined below and concatenated meteorological data for Bakersfield 2005 to 2009 to determine the maximum dispersion factor at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameter Unit 854-0			
Closest Receptor - Business (m)	1000	Closest Receptor - Resident (m)	1000
Fugitive Oilfield Emissions (lbs/hr)	1.5	Fugitive Oilfield Emissions (lbs/yr)	12,314
Tank radius (m)	22.1	Tank Height (m)	10.4

Analysis Parameter Unit 855-0			
Closest Receptor - Business (m)	1000	Closest Receptor - Resident (m)	1000
Fugitive Oilfield Emissions (lbs/hr)	1.5	Fugitive Oilfield Emissions (lbs/yr)	12,168
Tank Radius (m)	22.1	Tank Height (m)	10.4

Analysis Parameter Unit 856-0			
Closest Receptor - Business (m)	1000	Closest Receptor - Resident (m)	1000
Fugitive Oilfield Emissions (lbs/hr)	0.05	Fugitive Oilfield Emissions (lbs/yr)	433
Loading Area (m ²)	8	Loading Height (m)	0.8

Analysis Parameter Unit 857-0 Loading			
Closest Receptor - Business (m)	1000	Closest Receptor - Resident (m)	1000
Fugitive Oilfield Emissions (lbs/hr)	0.37	Fugitive Oilfield Emissions (lbs/yr)	8547
Loading Area (m ²)	8	Loading Height (m)	0.8

Analysis Parameter Unit 857-0 Oxidizer			
Closest Receptor - Business (m)	1000	Closest Receptor - Resident (m)	1000
NG Usage (MMScf/hr)	0.0032	NG Usage (MMScf/yr)	28
Stack Height (m)	4.8	Stack diameter (m)	0.305
Temp (K)	361	Gas Exit Velocity (acfm)	15000

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀; as well as a RMR. Units 854, 855, 856, 857 (Loading) only had VOC emissions associated the the unit. The emission rates from 857 (oxidizer) used for criteria pollutant modeling were

	NO _x	Sox	CO	PM10	PM2.5
Lbs/day	7.5	0.2	6.5	0.6	0.6
Lbs/yr	2736	73	2373	219	219

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*
Values are in µg/m³

Steam Generator	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ¹	X	X	X	Pass
SO _x	Pass ²	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ³	Pass ³
PM2.5	X	X	X	Pass ³	Pass ³

*Results were taken from the attached PSD spreadsheet.

¹The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures. The criteria pollutant 1-hour value passed using TIER I NO₂ NAAQS modeling

²The project was compared to the 1-hour SO₂ National Ambient Air Quality Standard that became effective on August 23, 2010 using the District's approved procedures.

³The maximum predicted concentration for emissions of these criteria pollutants from the proposed unit are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The acute and chronic hazard indices were below 1.0; and the cancer risk is less than or equal to 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

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.

Attachments:

- A. RMR request from the project engineer
- B. Prioritization score with toxic emissions summary
- C. HEARTS – Facility Summary
- D. AAQA spreadsheet

Appendix F

Compliance Certification

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

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

☐ SIGNIFICANT PERMIT MODIFICATION
☒ MINOR PERMIT MODIFICATION

☐ ADMINISTRATIVE AMENDMENT

COMPANY NAME: Occidental of Elk Hills, Inc	FACILITY ID: S - 382
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Occidental of Elk Hills, Inc	
3. Agent to the Owner: Occidental of Elk Hills, Inc.	

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 foregoing is correct and true:



Signature of Responsible Official

03-18-2014

Date

Mike Glavin

Name of Responsible Official (please print)

Leader Environmental Team

Title of Responsible Official (please print)

Appendix G
Summary of 40 CFR 60 Subpart Kb

The following requirements are specified in 40 CFR 60.112b, 115b and 116b.

40 CFR 60.112b Standard for volatile organic compounds (VOC)

After installing the control equipment required to meet § 60.112b(a)(2) (external floating roof), the owner or operator shall:

- (1) Determine the gap areas and maximum gap widths, between the primary seal and the wall of the storage vessel and between the secondary seal and the wall of the storage vessel according to the following frequency.
 - (i) Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.
 - (ii) Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.
 - (iii) If any source ceases to store VOL for a period of 1 year or more, subsequent introduction of VOL into the vessel shall be considered an initial fill for the purposes of paragraphs (b)(1)(i) and (b)(1)(ii) of this section.
- (2) Determine gap widths and areas in the primary and secondary seals individually by the following procedures:
 - (i) Measure seal gaps, if any, at one or more floating roof levels when the roof is floating off the roof leg supports.
 - (ii) Measure seal gaps around the entire circumference of the tank in each place where a 0.32-cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the wall of the storage vessel and measure the circumferential distance of each such location.
 - (iii) The total surface area of each gap described in paragraph (b)(2)(ii) of this section shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.
- (3) Add the gap surface area of each gap location for the primary seal and the secondary seal individually and divide the sum for each seal by the nominal diameter of the tank and compare each ratio to the respective standards in paragraph (b)(4) of this section.
- (4) Make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in (b)(4) (i) and (ii) of this section:
 - (i) The accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 3.81 cm.
 - (A) One end of the mechanical shoe is to extend into the stored liquid, and the other end is to extend a minimum vertical distance of 61 cm above the stored liquid surface.
 - (B) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.
 - (ii) The secondary seal is to meet the following requirements:
 - (A) The secondary seal is to be installed above the primary seal so that it completely covers the space between the roof edge and the tank wall except as provided in paragraph (b)(2)(iii) of this section.

(B) The accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm.

(C) There are to be no holes, tears, or other openings in the seal or seal fabric.

(iii) If a failure that is detected during inspections required in paragraph (b)(1) of § 60.113b(b) cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in § 60.115b(b)(4). Such extension request must include a demonstration of unavailability of alternate storage capacity and a specification of a schedule that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(5) Notify the Administrator 30 days in advance of any gap measurements required by paragraph (b)(1) of this section to afford the Administrator the opportunity to have an observer present.

(6) Visually inspect the external floating roof, the primary seal, secondary seal, and fittings each time the vessel is emptied and degassed.

(i) If the external floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, the owner or operator shall repair the items as necessary so that none of the conditions specified in this paragraph exist before filling or refilling the storage vessel with VOL.

(ii) For all the inspections required by paragraph (b)(6) of this section, the owner or operator shall notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the Administrator the opportunity to inspect the storage vessel prior to refilling. If the inspection required by paragraph (b)(6) of this section is not planned and the owner or operator could not have known about the inspection 30 days in advance of refilling the tank, the owner or operator shall notify the Administrator at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Administrator at least 7 days prior to the refilling.

60.115b Reporting and recordkeeping requirements.

The owner or operator of each storage vessel as specified in § 60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of § 60.112b.

The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least 2 years. The record required by (c)(1) will be kept for the life of the control equipment.

(a) After installing control equipment in accordance with § 60.112b(a)(1) (fixed roof and internal floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(1) and § 60.113b(a)(1). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Keep a record of each inspection performed as required by § 60.113b (a)(1), (a)(2), (a)(3), and (a)(4). 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).

(3) If any of the conditions described in § 60.113b(a)(2) are detected during the annual visual inspection required by § 60.113b(a)(2), a report shall be furnished to the Administrator within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.

(4) After each inspection required by § 60.113b(a)(3) that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in § 60.113b(a)(3)(ii), a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of § 60.112b(a)(1) or § 60.113b(a)(3) and list each repair made.

(b) After installing control equipment in accordance with § 60.112b(a)(2) (external floating roof), the owner or operator shall meet the following requirements.

(1) Furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of § 60.112b(a)(2) and § 60.113b(b)(2), (b)(3), and (b)(4). This report shall be an attachment to the notification required by § 60.7(a)(3).

(2) Within 60 days of performing the seal gap measurements required by § 60.113b(b)(1), furnish the Administrator with a report that contains:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(3) Keep a record of each gap measurement performed as required by § 60.113b(b). Each record shall identify the storage vessel in which the measurement was performed and shall contain:

(i) The date of measurement.

(ii) The raw data obtained in the measurement.

(iii) The calculations described in § 60.113b (b)(2) and (b)(3).

(4) After each seal gap measurement that detects gaps exceeding the limitations specified by § 60.113b(b)(4), submit a report to the Administrator within 30 days of the inspection. The report will identify the vessel and contain the information specified in paragraph (b)(2) of this section and the date the vessel was emptied or the repairs made and date of repair.

60.116b Monitoring of operations

- (a) The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least 2 years. The record required by paragraph (b) of this section will be kept for the life of the source.
- (b) The owner or operator of each storage vessel as specified in § 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.
- (c) Except as provided in paragraphs (f) and (g) of this section, the owner or 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 greater than or equal to 3.5 kPa 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 greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.
- (d) Except as provided in paragraph (g) of this section, the owner or 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 5.2 kPa 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 that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.
- (e) Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.
 - (1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated 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.
 - (2) For crude oil or refined petroleum products the vapor pressure may be obtained by the following:
 - (i) Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see § 60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).
 - (ii) The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.
 - (3) For other liquids, the vapor pressure:
 - (i) May be obtained from standard reference texts, or
 - (ii) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17); or
 - (iii) Measured by an appropriate method approved by the Administrator; or
 - (iv) Calculated by an appropriate method approved by the Administrator.

(f) The owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements.

(1) Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in paragraph (e) of this section.

(2) For vessels in which the vapor pressure of the anticipated liquid composition is above the cutoff for monitoring but below the cutoff for controls as defined in § 60.112b(a), an initial physical test of the vapor pressure is required; and a physical test at least once every 6 months thereafter is required as determined by the following methods:

(i) ASTM D2879-83, 96, or 97 (incorporated by reference—see § 60.17); or

(ii) ASTM D323-82 or 94 (incorporated by reference—see § 60.17); or

(iii) As measured by an appropriate method as approved by the Administrator.

(g) The owner or operator of each vessel equipped with a closed vent system and control device meeting the specification of § 60.112b or with emissions reductions equipment as specified in 40 CFR 65.42(b)(4), (b)(5), (b)(6), or (c) is exempt from the requirements of paragraphs (c) and (d) of this section.

The following conditions are listed on the permit to ensure compliance.

- The tank shall be equipped with a floating roof consisting of a pontoon-type or double-deck-type cover which rests upon the surface of the liquid being stored and is equipped with a closure device between the tank shell and roof edge consisting of a primary and a secondary seal. [District Rules 2201 and 4623, 5.3.1 and 40 CFR 60.112b(a)(2) & (i)]
- The external floating roof shall float 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. 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 calendar days prior to performing the work. The tank must be in compliance with this rule before it may land on its legs. [District Rule 4623, 5.3.1.3 and 40 CFR 60.112b(a)(2)(iii)]
- {2738} Primary seal (lower seal) shall be either a mechanical shoe seal or a liquid-mounted seal. [40 CFR 60.112b(a)(2)(i) and 60.112b(a)(2)(i)(A)]
- Accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 sq cm per meter of tank diameter, and the width of any gap shall not exceed 3.81 cm. [40 CFR 60.113b(b)(4)(i)]
- Accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 sq cm per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm (1/2 inch). [40 CFR 60.113b(b)(4)(ii)(B)]
- {2741} 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, 5.3.2.1.5 and 40 CFR 60.112b(b)(4)(ii)(C)]
- {2742} Secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion. [40 CFR 60.112b(a)(2)(i)(B)]
- {2749} 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, 5.5.2.2.3, 5.5.2.1.3 and 40 CFR 60.112b(a)(2)(ii)]

- {2750} Rim vents shall be equipped with a gasket and shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. [District Rule 4623, 5.5.2.2.4 and 40CFR 60.112b(a)(2)(ii)]
- Operator shall perform gap measurements on primary and secondary seals within 60 days of the initial fill and at least once every year thereafter to determine compliance with the requirements of Rule 4623. The actual gap measurements of the floating roof primary and secondary seals shall be recorded. The inspection results shall be submitted to the APCO as specified in Section 6.3.5. [District Rule 4623, 6.1.3.1 and 40 CFR 60.113b(b)(1)(I) & (II)]
- {2752} Operator shall also perform gap measurements on primary seals during hydrostatic testing of the vessel. [40 CFR 60.113b(b)(1)(i)]
- {2753} If unit is out of service for a period of one year or more, subsequent refilling with volatile organic liquid shall be considered initial fill in accordance with the conditions of this permit. [40 CFR 60.113b(b)(1)(iii)]
- The permittee shall inspect the primary and secondary seals for compliance with the requirements of Rule 4623 every time this tank is emptied or degassed. Actual gap measurements shall be performed when the liquid level is static but not more than 24 hours after the tank roof is re-floated. [District Rule 4623, 6.1.3.2 and 40 CFR 60.113b(b)(6)]
- {2755} Permittee shall maintain the records of the external 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 maximum 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, 6.3.7 and 40 CFR 60.116b(c)]
- {2756} Operator shall notify the APCO 30 days in advance of any gap measurements required by this permit to afford the APCO opportunity to have an observer present. [40 CFR 60.113b(b)(5)]
- {2757} If the external floating roof has defects, or the primary seal or secondary seal has holes, tears, or other openings in the seal or seal fabric, the operator shall repair the items as necessary so that none of these conditions exist before filling or refilling the storage vessel with VOL. [40CFR 60.113b(b)(6)(I)]
- {2758} For all visual inspections required by this permit, the operator shall notify the APCO in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the APCO the opportunity to inspect the storage vessel prior to refilling, except when notification is specifically allowed otherwise by this permit. [40 CFR 60.113b(b)(6)(II)]
- {2759} If a visual inspection required by this permit is not planned and the operator could not have known about the inspection 30 days in advance of refilling the tank, the operator shall notify the APCO at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so it is received by the APCO at least 7 days prior to the refilling. [40 CFR 60.113b(b)(6)(II)]
- {2760} Operator shall record the vessel on which the measurement was performed, date of the seal gap measurement, raw data obtained in the measurement process in accordance with the conditions of this permit. [40 CFR 60.115b(b)(3)]

- {2761} Within 60 days of performing the seal gap measurements required by this permit, the operator shall furnish the APCO with a report containing the date of measurement, raw data obtained in the measurement process, and all such gap calculations as required by this permit. [40 CFR 60.115b(b)(2)]
- An operator 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 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, 6.3.5 and 40CFR 60.115b(b)(4)]
- {2763} If the seals do not meet the required specifications of this permit, operator shall repair or empty the storage vessel within 45 days of identification. [40 CFR 60.113b(b)(4)]
- {2630} 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)]
- {2624} 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)]
- {2626} 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)(iii)]
- {2627} 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)]
- {2623} 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)]
- {2764} 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)]

Appendix H

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-382-854-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: OCCIDENTAL OF ELK HILLS INC
MAILING ADDRESS: ATTN: DENNIS CHAMPION
PO BOX 1001
TUPMAN, CA 93276

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NE18 **TOWNSHIP:** 31S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

ONE 100,000 BBL (4,200,000 GALLON) WELDED EXTERNAL FLOATING ROOF ORGANIC LIQUID BLEND STORAGE TANK (T-101) WITH PRIMARY METAL SHOE SEAL AND SECONDARY WIPER SEAL

CONDITIONS

1. {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
2. {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
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 870 lb, 2nd quarter - 870 lb, 3rd quarter - 871 lb, and fourth quarter - 871 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-1713-1, S-1722-1, S-1725-1, S-1727-1 (or a certificate split from these certificates) 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

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (881) 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-382-854-0 - Sep 24 2014 2:42PM - GARCIAJ - Joint Inspection NOT Required

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5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. Tank throughput shall not exceed 100,000 bbl/day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than or equal to 3.0 psia under all storage conditions. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
8. Total VOC emission rate from this unit shall not exceed any of the following limits: 36.4 lb/day and 12,314 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Fugitive VOC emissions rate for the on-tank and off-tank components and 18G meter units #13 and #14 shall be calculated using EPA Protocol for Equipment Leak Emission Estimates, Table 5-7, (November 1995), from the total number of components in gas/light liquid service, shall not exceed 0.7 lb-VOC/day or 256 lb-VOC/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Permittee shall maintain accurate component count and component types for this tank and the associated tank vapor control system and resulting emissions calculated using EPA's, Protocol for Equipment Leak Emission Estimates, November 1995. Table 5-7, "Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production operation Units. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For the components associated with the on-tank components, other than roof components, 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. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
12. Components not subject to Rule 4623 or to Rule 4401 shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
13. For the components associated with off-tank components comprising transfer piping and related equipment, a leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 2,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
14. Permittee shall conduct API gravity and True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at actual storage temperature of the organic liquid in the tank within 30 days of tank filling and annually thereafter 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
15. As used in this permit, the term "source or type" shall mean liquids with similar characteristics. The operator shall maintain records of API gravity of petroleum liquids stored in this unit to determine which are from common source. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The API gravity of crude oil or petroleum distillate shall be determine by using ASTM Method D 287 e1 "Standard Test Method for API gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)". Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products". [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
17. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
18. For any organic liquid, except crude oil with an API gravity of 26 degrees or less, the true vapor pressure (TVP) shall be determined by measuring Reid Vapor Pressure (RVP) with ASTM Method D 323 and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance with the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulation for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

19. The tank shall be equipped with a floating roof consisting of a pontoon-type or double-deck-type cover which rests upon the surface of the liquid being stored and is equipped with a closure device between the tank shell and roof edge consisting of a primary and a secondary seal. [District Rule 4623, 5.3.1 and 40CFR 60.112b(a)(2) & (i)] Federally Enforceable Through Title V Permit
20. The external floating roof shall float 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. 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 calendar days prior to performing the work. The tank must be in compliance with this rule before it may land on its legs. [District Rule 4623, 5.3.1.3 and 40CFR 60.112b(2)(iii)] Federally Enforceable Through Title V Permit
21. The primary seal (lower seal) shall be either a mechanical shoe seal or a liquid-mounted seal. [40CFR 60.112b(a)(2)(i) and 60.112b(a)(2)(i)(A)] Federally Enforceable Through Title V Permit
22. 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
23. Accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 cm² per meter of tank diameter, and the width of any gap shall not exceed 3.81 cm. [40CFR 60.113b(b)(4)(i)] Federally Enforceable Through Title V Permit
24. Accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm (1/2 inch). [District Rule 4623, 5.3.2.1.2 and 40CFR 60.113b(b)(4)(ii)(B)] Federally Enforceable Through Title V Permit
25. 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
26. 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
27. 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
28. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
29. 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
30. 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 24 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
31. 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
32. 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, 5.3.2.1.5 and 40CFR 60.112b(b)(4)(ii)(C)] Federally Enforceable Through Title V Permit
33. 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
34. 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
35. Secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion. [40CFR 60.112b(a)(2)(i)(B)] Federally Enforceable Through Title V Permit

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36. 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, 5.5.1] Federally Enforceable Through Title V Permit
37. Except for automatic bleeder vents, rim vents, and pressure relief vents, each opening in a non-contact external floating roof shall provide a projection below the liquid surface. [District Rule 4623, 5.5.2.2.1 and 40CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
38. Except for automatic bleeder vents and rim vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid that shall be maintained in a closed position at all times (i.e., no visible gap) except when in actual use. [District Rule 4623, 5.5.2.2.1 and 40CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
39. 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, 5.5.2.2.3 and 40CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
40. Rim vents shall be equipped with a gasket and shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. [District Rule 4623, 5.5.2.2.4 and 40CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
41. Each emergency roof drain shall be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening. The fabric cover must be impermeable if the liquid is drained into the contents of the tanks. [District Rule 4623, 5.5.2.2.5 and 40CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
42. External floating roof legs shall be equipped with vapor socks or vapor barriers in order to maintain a leak-free condition so as to prevent VOC emissions from escaping through the roof leg opening. [District Rule 4623, 5.5.2.2.6] Federally Enforceable Through Title V Permit
43. All wells and similar fixed projections through the floating roof shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
44. If the tank is equipped with a solid guidepole, the solid guidepole well shall be equipped with a pole wiper and a gasketed cover, seal or lid which shall be in a closed position at all times (i.e., no visible gap) except when the well is in use. [District Rule 4623] Federally Enforceable Through Title V Permit
45. If the tank is equipped with a solid guidepole, the gap between the pole wiper and the solid guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
46. If the tank is equipped with a slotted guidepole, the slotted guidepole well on an external floating roof shall be equipped with the following: a sliding cover, a well gasket, a pole sleeve, a pole wiper, and an internal float and float wiper designed to minimize the gap between the float and the well, and provided the gap shall not exceed 1/8 inch; or shall be equipped with a well gasket, a zero gap pole wiper seal and a pole sleeve that projects below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
47. If the tank is equipped with a slotted guidepole, the gap between the pole wiper and the slotted guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed 1/8 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
48. The permittee of external floating roof tanks shall make the primary seal envelope available for unobstructed inspection by the APCO on an annual basis at locations selected along its circumference at random by the APCO. In the case of riveted tanks with toroid-type seals, a minimum of eight locations shall be made available; in all other cases, a minimum of four locations shall be made available. If the APCO suspects a violation may exist the APCO may require such further unobstructed inspection of the primary seal as may be necessary to determine the seal condition for its entire circumference. [District Rule 4623] Federally Enforceable Through Title V Permit

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49. The permittee shall inspect the primary and secondary seals for compliance with the requirements of Rule 4623 every time a tank is emptied or degassed. Actual gap measurements shall be performed when the liquid level is static but not more than 48 hours after the tank roof is re-floated. [District Rule 4623 and 40 CFR 60.113b(b)(6)] Federally Enforceable Through Title V Permit
50. Operator shall perform gap measurements on primary and secondary seals within 60 days of the initial fill and at least once every year thereafter to determine compliance with the requirements of Rule 4623. The actual gap measurements of the floating roof primary and secondary seals shall be recorded. The inspection results shall be submitted to the APCO as specified in Section 6.3.5. [District Rule 4623, 6.1.3.1.1 and 40CFR 60.113b(b)(1)(i) & (ii)] Federally Enforceable Through Title V Permit
51. Operator shall also perform gap measurements on primary seals during hydrostatic testing of the vessel. [40CFR 60.113b(b)(1)(i)] Federally Enforceable Through Title V Permit
52. If unit is out of service for a period of one year or more, subsequent refilling with volatile organic liquid shall be considered initial fill in accordance with the conditions of this permit. [40CFR 60.113b(b)(1)(iii)] Federally Enforceable Through Title V Permit
53. If the external floating roof has defects, or the primary seal or secondary seal has holes, tears, or other openings in the seal or seal fabric, the operator shall repair the items as necessary so that none of these conditions exist before filling or refilling the storage vessel with VOL. [40CFR 60.113b(b)(6)(i)] Federally Enforceable Through Title V Permit
54. If the seals do not meet the required specifications of this permit, operator shall repair or empty the storage vessel within 45 days of identification. [40CFR 60.113b(b)(4)] Federally Enforceable Through Title V Permit
55. 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. [40CFR 60.116b(e)(3)] Federally Enforceable Through Title V Permit
56. For storage vessels operated above or below ambient temperatures, the operator shall determine the maximum true vapor pressure as calculated based upon highest expected calendar month average of the storage temperature. For vessels operated at ambient temperature, the maximum true vapor pressure shall be calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. [40CFR 60.116b(e)(1)] Federally Enforceable Through Title V Permit
57. 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). [40CFR 60.116b(e)(2)(i)] Federally Enforceable Through Title V Permit
58. 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. [40CFR 60.116b(f)] Federally Enforceable Through Title V Permit
59. 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 and 40CFR 60.115b(b)(4)] Federally Enforceable Through Title V Permit
60. Permittee shall submit the records of TVP and API gravity 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 and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
61. Operator shall notify the APCO 30 days in advance of any gap measurements required by this permit to afford the APCO opportunity to have an observer present. [40CFR 60.113b(b)(5)] Federally Enforceable Through Title V Permit

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62. For all visual inspections required by this permit, the operator shall notify the APCO in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the APCO the opportunity to inspect the storage vessel prior to refilling, except when notification is specifically allowed otherwise by this permit. [40CFR 60.113b(b)(6)(ii)]
Federally Enforceable Through Title V Permit
63. If a visual inspection required by this permit is not planned and the operator could not have known about the inspection 30 days in advance of refilling the tank, the operator shall notify the APCO at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so it is received by the APCO at least 7 days prior to the refilling. [40CFR 60.113b(b)(6)(ii)] Federally Enforceable Through Title V Permit
64. Operator shall record the vessel on which the measurement was performed, date of the seal gap measurement, raw data obtained in the measurement process in accordance with the conditions of this permit. [40CFR 60.115b(b)(3)]
Federally Enforceable Through Title V Permit
65. Within 60 days of performing the seal gap measurements required by this permit, the operator shall furnish the APCO with a report containing the date of measurement, raw data obtained in the measurement process, and all such gap calculations as required by this permit, [40CFR 60.115b(b)(2)] Federally Enforceable Through Title V Permit
66. After each seal gap measurement that detects gaps exceeding any limit of this permit, the operator shall submit a report to the APCO within 30 days of the inspection. The report will identify the vessel and contain the date of measurement, raw data obtained in the measurement process, all such gap calculations as required by this permit, and the date the vessel was emptied or the repairs made and the date of repair. [40CFR 60.115b(b)(4)] Federally Enforceable Through Title V Permit
67. Operator shall maintain, for the life of the source, a record showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40CFR 60.116b(a) and (b)] Federally Enforceable Through Title V Permit
68. 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, using available data and record if the estimated maximum true vapor pressure is greater than 0.5 psia. [40CFR 60.116b(e)(2)] Federally Enforceable Through Title V Permit
69. 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
70. Operators of floating roof tanks shall submit a tank inspection plan to the APCO for approval. The plan shall include an inventory of the tanks subject to this rule and a tank inspection schedule. A copy of the operator's tank safety procedures shall be made available to the APCO upon request. The tank inventory shall include tank's identification number, PTO number, maximum tank capacity, dimensions of tank (height and diameter), organic liquid stored, type of primary and secondary seal, type of floating roof (internal or external floating roof), construction date of tank, and location of tank. Any revision to a previously approved tank inspection schedule shall be submitted to the APCO for approval prior to conducting an inspection. [District Rule 4623, 6.1.2] Federally Enforceable Through Title V Permit
71. Permittee shall maintain the records of the external 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 maximum 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, 6.3.7 and 40CFR 60.116b(c)] Federally Enforceable Through Title V Permit
72. Permittee shall maintain accurate records of true vapor pressure (TVP), storage temperature, type of liquids stored, and daily tank throughput. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
73. 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] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-382-855-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: OCCIDENTAL OF ELK HILLS INC
MAILING ADDRESS: ATTN: DENNIS CHAMPION
PO BOX 1001
TUPMAN, CA 93276

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NE18 **TOWNSHIP:** 31S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

ONE 100,000 BBL (4,200,000 GALLON) WELDED EXTERNAL FLOATING ROOF ORGANIC LIQUID BLEND STORAGE TANK (T-102) WITH PRIMARY METAL SHOE SEAL AND SECONDARY WIPER SEAL

CONDITIONS

1. {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
2. {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
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 784 lb, 2nd quarter - 784 lb, 3rd quarter - 784 lb, and fourth quarter - 784 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-1713-1, S-1722-1, S-1725-1, S-1727-1 (or a certificate split from these certificates) 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

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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 Sadredini, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services
S-382-855-0 Sep 24 2014 2:42PM - GARCIAJ - Joint Inspection NOT Required

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

5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
6. Tank throughput shall not exceed 100,000 bbl/day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than or equal to 3.0 psia under all storage conditions. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
8. Total VOC emission rate from this unit shall not exceed any of the following limits: 36.0 lb/day and 12,168 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Fugitive VOC emissions rate for the on-tank and off-tank components shall be calculated using EPA Protocol for Equipment Leak Emission Estimates, Table 5-7, (November 1995), from the total number of components in gas/light liquid service, shall not exceed 0.3 lb-VOC/day or 110 lb-VOC/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Permittee shall maintain accurate component count and component types for this tank and the associated tank vapor control system and resulting emissions calculated using EPA's, Protocol for Equipment Leak Emission Estimates, November 1995. Table 5-7, "Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production operation Units. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
11. For the components associated with the on-tank components, other than roof components, 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. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
12. For the components associated with off-tank components comprising transfer piping and related equipment, a leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 2,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
13. Components not subject to Rule 4623 or to Rule 4401 shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
14. Permittee shall conduct API gravity and True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at actual storage temperature of the organic liquid in the tank within 30 days of tank filling and annually thereafter 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
15. As used in this permit, the term "source or type" shall mean liquids with similar characteristics. The operator shall maintain records of API gravity of petroleum liquids stored in this unit to determine which are from common source. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)". Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products". [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
17. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
18. For any organic liquid, except crude oil with an API gravity of 26 degrees or less, the true vapor pressure (TVP) shall be determined by measuring Reid Vapor Pressure (RVP) with ASTM Method D 323 and converting the RVP to TVP at the tank's maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance with the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulation for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

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19. The tank shall be equipped with a floating roof consisting of a pontoon-type or double-deck-type cover which rests upon the surface of the liquid being stored and is equipped with a closure device between the tank shell and roof edge consisting of a primary and a secondary seal. [District Rule 4623, 5.3.1 and 40CFR 60.112b(a)(2) & (i)] Federally Enforceable Through Title V Permit
20. The external floating roof shall float 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. 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 calendar days prior to performing the work. The tank must be in compliance with this rule before it may land on its legs. [District Rule 4623, 5.3.1.3 and 40CFR 60.112b(2)(ii)] Federally Enforceable Through Title V Permit
21. The primary seal (lower seal) shall be either a mechanical shoe seal or a liquid-mounted seal. [40CFR 60.112b(a)(2)(i) and 60.112b(a)(2)(i)(A)] Federally Enforceable Through Title V Permit
22. 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
23. Accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 cm² per meter of tank diameter, and the width of any gap shall not exceed 3.81 cm. [40CFR 60.113b(b)(4)(i)] Federally Enforceable Through Title V Permit
24. Accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm² per meter of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm (1/2 inch). [District Rule 4623, 5.3.2.1.2 and 40CFR 60.113b(b)(4)(ii)(B)] Federally Enforceable Through Title V Permit
25. 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
26. 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
27. 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
28. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
29. 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
30. 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 24 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
31. 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
32. 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, 5.3.2.1.5 and 40CFR 60.112b(b)(4)(ii)(C)] Federally Enforceable Through Title V Permit
33. 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
34. 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
35. Secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion. [40CFR 60.112b(a)(2)(i)(B)] Federally Enforceable Through Title V Permit

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36. 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, 5.5.1] Federally Enforceable Through Title V Permit
37. Except for automatic bleeder vents, rim vents, and pressure relief vents, each opening in a non-contact external floating roof shall provide a projection below the liquid surface. [District Rule 4623, 5.5.2.2.1 and 40CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
38. Except for automatic bleeder vents and rim vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid that shall be maintained in a closed position at all times (i.e., no visible gap) except when in actual use. [District Rule 4623, 5.5.2.2.1 and 40CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
39. 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, 5.5.2.2.3 and 40CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
40. Rim vents shall be equipped with a gasket and shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. [District Rule 4623, 5.5.2.2.4 and 40CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
41. Each emergency roof drain shall be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening. The fabric cover must be impermeable if the liquid is drained into the contents of the tanks. [District Rule 4623, 5.5.2.2.5 and 40CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
42. External floating roof legs shall be equipped with vapor socks or vapor barriers in order to maintain a leak-free condition so as to prevent VOC emissions from escaping through the roof leg opening. [District Rule 4623, 5.5.2.2.6] Federally Enforceable Through Title V Permit
43. All wells and similar fixed projections through the floating roof shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
44. If the tank is equipped with a solid guidepole, the solid guidepole well shall be equipped with a pole wiper and a gasketed cover, seal or lid which shall be in a closed position at all times (i.e., no visible gap) except when the well is in use. [District Rule 4623] Federally Enforceable Through Title V Permit
45. If the tank is equipped with a solid guidepole, the gap between the pole wiper and the solid guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
46. If the tank is equipped with a slotted guidepole, the slotted guidepole well on a external floating roof shall be equipped with the following: a sliding cover, a well gasket, a pole sleeve, a pole wiper, and an internal float and float wiper designed to minimize the gap between the float and the well, and provided the gap shall not exceed 1/8 inch; or shall be equipped with a well gasket, a zero gap pole wiper seal and a pole sleeve that projects below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit
47. If the tank is equipped with a slotted guidepole, the gap between the pole wiper and the slotted guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed 1/8 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
48. The permittee of external floating roof tanks shall make the primary seal envelope available for unobstructed inspection by the APCO on an annual basis at locations selected along its circumference at random by the APCO. In the case of riveted tanks with toroid-type seals, a minimum of eight locations shall be made available; in all other cases, a minimum of four locations shall be made available. If the APCO suspects a violation may exist the APCO may require such further unobstructed inspection of the primary seal as may be necessary to determine the seal condition for its entire circumference. [District Rule 4623] Federally Enforceable Through Title V Permit

49. The permittee shall inspect the primary and secondary seals for compliance with the requirements of Rule 4623 every time a tank is emptied or degassed. Actual gap measurements shall be performed when the liquid level is static but not more than 48 hours after the tank roof is re-floated. [District Rule 4623 and 40 CFR 60.113b(b)(6)] Federally Enforceable Through Title V Permit
50. Operator shall perform gap measurements on primary and secondary seals within 60 days of the initial fill and at least once every year thereafter to determine compliance with the requirements of Rule 4623. The actual gap measurements of the floating roof primary and secondary seals shall be recorded. The inspection results shall be submitted to the APCO as specified in Section 6.3.5. [District Rule 4623, 6.1.3.1.1 and 40CFR 60.113b(b)(1)(i) & (ii)] Federally Enforceable Through Title V Permit
51. Operator shall also perform gap measurements on primary seals during hydrostatic testing of the vessel. [40CFR 60.113b(b)(1)(i)] Federally Enforceable Through Title V Permit
52. If unit is out of service for a period of one year or more, subsequent refilling with volatile organic liquid shall be considered initial fill in accordance with the conditions of this permit. [40CFR 60.113b(b)(1)(iii)] Federally Enforceable Through Title V Permit
53. If the external floating roof has defects, or the primary seal or secondary seal has holes, tears, or other openings in the seal or seal fabric, the operator shall repair the items as necessary so that none of these conditions exist before filling or refilling the storage vessel with VOL. [40CFR 60.113b(b)(6)(i)] Federally Enforceable Through Title V Permit
54. If the seals do not meet the required specifications of this permit, operator shall repair or empty the storage vessel within 45 days of identification. [40CFR 60.113b(b)(4)] Federally Enforceable Through Title V Permit
55. 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. [40CFR 60.116b(e)(3)] Federally Enforceable Through Title V Permit
56. For storage vessels operated above or below ambient temperatures, the operator shall determine the maximum true vapor pressure as calculated based upon highest expected calendar month average of the storage temperature. For vessels operated at ambient temperature, the maximum true vapor pressure shall be calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service. [40CFR 60.116b(e)(1)] Federally Enforceable Through Title V Permit
57. 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). [40CFR 60.116b(e)(2)(i)] Federally Enforceable Through Title V Permit
58. 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. [40CFR 60.116b(f)] Federally Enforceable Through Title V Permit
59. 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 and 40CFR 60.115b(b)(4)] Federally Enforceable Through Title V Permit
60. Permittee shall submit the records of TVP and API gravity 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 and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
61. Operator shall notify the APCO 30 days in advance of any gap measurements required by this permit to afford the APCO opportunity to have an observer present. [40CFR 60.113b(b)(5)] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

62. For all visual inspections required by this permit, the operator shall notify the APCO in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the APCO the opportunity to inspect the storage vessel prior to refilling, except when notification is specifically allowed otherwise by this permit. [40CFR 60.113b(b)(6)(ii)]
Federally Enforceable Through Title V Permit
63. If a visual inspection required by this permit is not planned and the operator could not have known about the inspection 30 days in advance of refilling the tank, the operator shall notify the APCO at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so it is received by the APCO at least 7 days prior to the refilling. [40CFR 60.113b(b)(6)(ii)] Federally Enforceable Through Title V Permit
64. Operator shall record the vessel on which the measurement was performed, date of the seal gap measurement, raw data obtained in the measurement process in accordance with the conditions of this permit. [40CFR 60.115b(b)(3)]
Federally Enforceable Through Title V Permit
65. Within 60 days of performing the seal gap measurements required by this permit, the operator shall furnish the APCO with a report containing the date of measurement, raw data obtained in the measurement process, and all such gap calculations as required by this permit. [40CFR 60.115b(b)(2)] Federally Enforceable Through Title V Permit
66. After each seal gap measurement that detects gaps exceeding any limit of this permit, the operator shall submit a report to the APCO within 30 days of the inspection. The report will identify the vessel and contain the date of measurement, raw data obtained in the measurement process, all such gap calculations as required by this permit, and the date the vessel was emptied or the repairs made and the date of repair. [40CFR 60.115b(b)(4)] Federally Enforceable Through Title V Permit
67. Operator shall maintain, for the life of the source, a record showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40CFR 60.116b(a) and (b)] Federally Enforceable Through Title V Permit
68. 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, using available data and record if the estimated maximum true vapor pressure is greater than 0.5 psia. [40CFR 60.116b(e)(2)] Federally Enforceable Through Title V Permit
69. 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
70. Operators of floating roof tanks shall submit a tank inspection plan to the APCO for approval. The plan shall include an inventory of the tanks subject to this rule and a tank inspection schedule. A copy of the operator's tank safety procedures shall be made available to the APCO upon request. The tank inventory shall include tank's identification number, PTO number, maximum tank capacity, dimensions of tank (height and diameter), organic liquid stored, type of primary and secondary seal, type of floating roof (internal or external floating roof), construction date of tank, and location of tank. Any revision to a previously approved tank inspection schedule shall be submitted to the APCO for approval prior to conducting an inspection. [District Rule 4623, 6.1.2] Federally Enforceable Through Title V Permit
71. Permittee shall maintain the records of the external 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 maximum 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, 6.3.7 and 40CFR 60.116b(c)] Federally Enforceable Through Title V Permit
72. Permittee shall maintain accurate records of true vapor pressure (TVP), storage temperature, type of liquids stored, and daily tank throughput. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
73. 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] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-382-856-0

LEGAL OWNER OR OPERATOR: OCCIDENTAL OF ELK HILLS INC

MAILING ADDRESS: ATTN: DENNIS CHAMPION
PO BOX 1001
TUPMAN, CA 93276

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NE18 TOWNSHIP: 31S RANGE: 24E

EQUIPMENT DESCRIPTION:

ORGANIC LIQUID TRUCK UNLOADING OPERATION WITH ONE UNLOADING RACK CONSISTING OF THREE UNLOADING BAYS, EACH EQUIPPED WITH ONE TRANSFER PUMP AND DRY-BREAK COUPLER CONNECTIONS

CONDITIONS

1. {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
2. {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
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantities of emissions: 1st quarter - 108 lb, 2nd quarter - 108 lb, 3rd quarter - 109 lb, and fourth quarter - 109 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 04/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-1713-1, S-1722-1, S-1725-1, S-1727-1 (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

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

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

5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
8. VOC from the transfer shall be routed to the external floating roof tanks listed under permits S-382-854 or -855. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit
9. The organic liquid shall only be bottom loaded. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit
10. The transfer rack and vapor collection equipment shall be designed, installed, maintained and operated such that there are no leaks and no excess organic liquid drainage at disconnections. [District Rule 4624] Federally Enforceable Through Title V Permit
11. Components not subject to Rule 4623 or to Rule 4401 shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
12. An operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually provided no leaks were found during five consecutive quarterly inspections. Upon identification of any leak during an annual inspection, the inspection frequency shall revert back to quarterly, and the operator shall contact the APCO in writing within 14 days. [District Rule 4624, 5.9] Federally Enforceable Through Title V Permit
13. VOC emissions from the organic liquid transfer facility shall not exceed 0.08 lb-VOC/1000 gallons. [District Rule 4624] Federally Enforceable Through Title V Permit
14. The maximum number of unloading events shall not exceed either of the following limits: 36 events/day or 13,140 events/year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. VOC emissions from truck unloading disconnects shall not exceed any of the following limits: 0.7 lb/day and 251 lbs/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Fugitive VOC emissions rate for the truck unloading operation shall be calculated using EPA Protocol for Equipment Leak Emission Estimates, Table 5-7, (November 1995), from the total number of components in gas/light liquid service, shall not exceed 0.5 lb-VOC/day or 183 lb-VOC/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
17. For the components associated with the unloading operation, a leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 1,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rule 4624] Federally Enforceable Through Title V Permit
18. Excess organic liquid drainage is defined as an average of more than ten (10) milliliters liquid drainage per disconnect from three consecutive disconnects. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit
19. The operator shall inspect the vapor collection system, the vapor disposal system, and each transfer rack handling organic liquids for leaks during transfer at least once every calendar quarter using the EPA Method 21. [District Rule 4624, 5.9] Federally Enforceable Through Title V Permit
20. All leaking components shall be repaired or replaced within 72 hours of discovery. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624, 5.9] Federally Enforceable Through Title V Permit
21. Permittee shall maintain accurate component count and component types for this tank and the associated tank vapor control system and resulting emissions calculated using EPA's Protocol for Equipment Leak Emission Estimates, November 1995, Table 5-7, "Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production operation Units. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. Daily records of amount of organic liquid unloaded and number of trucks unloaded at the unloading system shall be maintained. [District Rules 1070, 2201, 4624] Federally Enforceable Through Title V Permit
23. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 72 hours after detection. [District Rules 1070 and 4624] Federally Enforceable Through Title V Permit
24. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4624, 6.1.4] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-382-857-0

LEGAL OWNER OR OPERATOR: OCCIDENTAL OF ELK HILLS INC

MAILING ADDRESS: ATTN: DENNIS CHAMPION
PO BOX 1001
TUPMAN, CA 93276

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NE18 **TOWNSHIP:** 31S **RANGE:** 24E

EQUIPMENT DESCRIPTION:

ORGANIC LIQUID TRUCK LOADING OPERATION WITH ONE LOADING RACK CONSISTING OF ONE LOADING BAY WITH TWO TRANSFER PUMPS AND DRY-BREAK COUPLER CONNECTIONS, SERVED BY A 3.2 MMBTU/HR NATURAL GAS-FIRED THERMAL OXIDIZER

CONDITIONS

1. {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
2. {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
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 686 lb, 2nd quarter - 687 lb, 3rd quarter - 687 lb, and fourth quarter - 687 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-3984-2 (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

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 Marjolei, Director of Permit Services
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5. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 52 lb, 2nd quarter - 52 lb, 3rd quarter - 53 lb, and fourth quarter - 53 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Number S-829-4 (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
7. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 239 lb, 2nd quarter - 239 lb, 3rd quarter - 239 lb, and fourth quarter - 240 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
8. ERC Certificate Number S-1713-1, S-1722-1, S-1725-1, S-1727-1 (or a certificate split from these certificates) 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
9. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
10. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
11. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
12. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
13. The exhaust stack of the thermal oxidizer shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
14. Components not subject to Rule 4623 or to Rule 4401 shall comply with all Rule 4409 requirements listed in the facility wide permit. [District Rule 4409] Federally Enforceable Through Title V Permit
15. The organic liquid shall only be bottom loaded. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
16. The thermal oxidizer shall only be fired on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The thermal oxidizer shall be operated with a destruction efficiency of no less than 99%. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The vapor collection and control system shall operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and six (6) inches water column vacuum. [District Rule 4624] Federally Enforceable Through Title V Permit
19. The transfer rack and vapor collection equipment shall be designed, installed, maintained and operated such that there are no leaks and no excess organic liquid drainage at disconnections. [District Rule 4624] Federally Enforceable Through Title V Permit
20. The maximum throughput of product loaded shall not exceed 85,680 gallons per day. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Emissions rates from the thermal oxidizer shall not exceed any of the following limits: 0.098 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0075 lb-PM10/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. VOC emissions from the organic liquid transfer facility shall not exceed 0.0195 lb-VOC/1000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Loading VOC emissions from the loading system shall not exceed either of the following limits: 8.4 lb/day and 8,354 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
24. The maximum number of unloading events shall not exceed either of the following limits: 12 events/day or 4,380 events/year. [District Rule 2201] Federally Enforceable Through Title V Permit
25. VOC emissions from truck unloading disconnects shall not exceed any of the following limits: 0.2 lb/day and 83 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Fugitive VOC emissions rate for the truck loading operation and thermal oxidizer shall be calculated using EPA Protocol for Equipment Leak Emission Estimates, Table 5-7, (November 1995), from the total number of components in gas/light liquid service, shall not exceed 0.3 lb-VOC/day or 110 lb-VOC/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Permittee shall maintain accurate component count and component types for this tank and the associated tank vapor control system and resulting emissions calculated using EPA's, Protocol for Equipment Leak Emission Estimates, November 1995. Table 5-7, "Equations relating Average Leak Rate to Fraction Leaking at Oil and Gas Production operation Units. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
28. For the components associated with the truck loading operation and thermal oxidizer, a leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 2,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
29. A leak is defined as the dripping of VOC-containing liquid at a rate of more than three (3) drops per minute, or the detection of any gaseous or vapor emissions with a concentration of VOC greater than 1,000 ppmv as methane above a background when measured using a portable hydrocarbon detection instrument in accordance with EPA Method 21. [District Rule 4624] Federally Enforceable Through Title V Permit
30. Excess organic liquid drainage is defined as an average of more than ten (10) milliliters liquid drainage per disconnect from three consecutive disconnects. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
31. VOC emissions from the vapor collection and control system shall be determined initially and annually thereafter to determine compliance with District Rule 4624 using 40 CFR 60.503. "Test Methods and Procedures" and EPA Reference Methods 2A, 2B, 25A and 25B and ARB Method 422, or ARB Method 2-4. [District Rule 4624] Federally Enforceable Through Title V Permit
32. Analysis of halogenated exempt compounds shall be by ARB Method 432. [District Rule 4624] Federally Enforceable Through Title V Permit
33. Daily records of amount of organic liquid loaded and number of trucks loaded at the loading system shall be maintained. [District Rules 1070, 2201, 4624] Federally Enforceable Through Title V Permit
34. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 72 hours after detection. [District Rules 1070 and 4624] Federally Enforceable Through Title V Permit
35. The thermal oxidizer shall be permanently equipped with a temperature measurement device that detects the combustion chamber temperature. [40 CFR 64] Federally Enforceable Through Title V Permit
36. The permittee shall monitor and record the chamber temperature of the thermal oxidizer at least once a day while the laden process stream is vented to the thermal oxidizer. [40 CFR 64] Federally Enforceable Through Title V Permit
37. The thermal oxidizer shall be fired only on PUC-regulated natural gas. [40 CFR 64] Federally Enforceable Through Title V Permit
38. The thermal oxidizer chamber temperature shall be maintained at a minimum temperature of 900 degrees F before incinerating the vapors. [40 CFR 64] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

39. Records of thermal oxidizer inspections and maintenance shall be maintained. These records shall include date of inspection, identification of the individual performing the inspection, and a description of the problem and the corrective action taken. [40 CFR 64] Federally Enforceable Through Title V Permit
40. The owner or operator shall submit excess emission reports for any excess emissions that occurred during the reporting period. [40 CFR 64] Federally Enforceable Through Title V Permit
41. If the District or EPA determines that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR 64. [40 CFR 64] Federally Enforceable Through Title V Permit
42. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 2201 and 4624, 6.1.4] Federally Enforceable Through Title V Permit

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