



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

MAR 20 2014

Mr. Kawika Tupou
Shell Pipeline Company LP
20945 S Wilmington
Carson, CA 90810-1039

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-83
Project # S-1140301

Dear Mr. Tupou:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The proposed modification involves assigning a maximum throughput of an external floating roof petroleum storage tank to 100,000 barrels per day and allowing a maximum true vapor pressure of products stored of 11.0 psia.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate 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 Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

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

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW:SL/st

Enclosures

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

Sayed Sadredin
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

External Floating Roof Storage Tank

Facility Name: Shell Pipeline Company LP
Mailing Address: 20945 S Wilmington Ave
Carson, CA 90810-1039
Contact Person: Kawika Tupou
Telephone: 310-816-2250
Fax: 310-816-2147
E-Mail: Kawika.Tupou@shell.com
Application #(s): S-83-12-6
Project #: S-1140301
Deemed Complete: January 31, 2014

Date: March 14, 2014
Engineer: Stephen Leonard
Lead Engineer: Allan Phillips *APW AE*
MAR 17 2014

I. Proposal

Shell Pipeline Company LP (Shell) has applied to modify the permit for one 80,000 barrel capacity internal floating roof tank at their Emidio Pump Station which is part of a crude oil and petroleum products pipeline configuration. The modification involves removing multiple throughput limits, depending on tank content vapor pressures, to be replaced with a single maximum throughput limit and single maximum true vapor pressure (TVP) limit. This action results in a net increase in permitted emissions.

Shell received their Title V Permit on June 16, 2005. 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. Shell must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4102	Nuisance (12/17/92)
Rule 4623	Storage of Organic Liquids (5/19/05)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)	
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines	

III. Project Location

The storage tank is located at the Emidio Pump Station SE Section 7, T11N, R20W in Mettler, CA. The District has verified that the equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The Emidio Pump Station facility receives crude oil and petroleum products from other pumping stations located in the Southern San Joaquin Valley. The large tanks at the facility provide surge capacity for normal pipeline operations and storage capacity during upset conditions. Pipeline heaters heat the crude oils to reduce the viscosity for pipeline shipping.

V. Equipment Listing

S-83-12-6: 4,200,000 GALLON (100,000 BBL) WELDED EXTERNAL FLOATING ROOF PETROLEUM STORAGE TANK # 100GK6 WITH METALLIC SHOE PRIMARY SEAL AND ROOF MOUNTED WIPER TYPE SECONDARY SEAL

Proposed Modification:

S-83-12-8: MODIFICATION OF 4,200,000 GALLON (100,000 BBL) WELDED EXTERNAL FLOATING ROOF PETROLEUM STORAGE TANK # 100GK6 WITH METALLIC SHOE PRIMARY SEAL AND ROOF MOUNTED WIPER TYPE SECONDARY SEAL: AUTHORIZE THROUGHPUT OF 100,000 BBL/DAY AND MAXIMUM TVP OF 11 PSIA

Post Project Equipment Description:

S-83-12-8 4,200,000 GALLON (100,000 BBL) WELDED EXTERNAL FLOATING ROOF PETROLEUM STORAGE TANK # 100GK6 WITH METALLIC SHOE PRIMARY SEAL AND ROOF MOUNTED WIPER TYPE SECONDARY SEAL

VI. Emission Control Technology Evaluation

The external floating roof tank is fitted with mechanical shoe primary seals and secondary wiper seals to minimize VOC emissions due to evaporation by reducing the air space above the surface of the stored organic liquid.

VII. General Calculations

A. Assumptions

- The equipment's operating schedule is 24 hours/day and 365 days/year.

- Volatile Organic Compounds (VOCs) are the only pollutants emitted from the internal floating roof tank.
- Pre-project emissions are based on permitted emission limits.
- Post-project emissions calculated using Tanks 4.0.9d are based on a throughput of 100,000 bbl/day and a TVP = ≤ 11.0 psia
- The San Emidio Pumping Station has over 300,000 bbls of storage capacity and, therefore, fugitive VOC emissions are counted towards calculations for the determination of major source status, pursuant to 40 CFR 51.165 and PSD status per 40 CFR 52.21

B. Emission Factors

Annual post-project potential VOC emissions from the external floating roof organic liquid storage tank are calculated using the U.S. Environmental Protection Agency Tanks 4.0.9d computer program. The input parameters for the tank calculations are listed in the emissions reports from the Tanks 4.0.9d computer program contained in Appendix C.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The potential to emit for the operation is shown below. Annual VOC emissions are calculated by multiplying the daily emission limit (DEL) by 365 days/yr.

PE1		
Permit Unit	VOC (lb/day)	VOC (lb/year)
S-83-12-6	46.7	17,046

2. Post Project Potential to Emit (PE2)

The potential to emit for the operation is shown below. Annual VOC emissions are calculated by multiplying the daily emission limit (DEL) by 365 days/yr.

PE2		
Permit Unit (ATC)	VOC (lb/day)	VOC (lb/year)
S-83-12-8	84.1	30,693

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

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since

September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

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

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER 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 for VOC emissions, SSPE2 calculations are not necessary.

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

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

Rule 2410 Major Source Determination:

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

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Estimated Facility PE before Project Increase	3	46	1	92	3	3	37,283
PSD Major Source Thresholds	100	100	100	100	100	100	100,000
PSD Major Source ? (Y/N)	N	N	N	N	N	N	N

As shown above, the facility is not an existing major source for PSD for at least one pollutant. Therefore the facility is not an existing major source for PSD.

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

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

This emissions unit is equipped with a primary metallic shoe seal and secondary wiper seal which satisfy the District's BACT Guideline 7.3.3, Achieved-in-Practice BACT. Therefore, BE=PE1.

BE (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
S-83-12-6	0	0	0	0	17,046

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 for VOC, 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?
VOC	30,693	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.

As demonstrated in the preceding table, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

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

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

Step 1

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

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
VOC*	13,647	0	Yes

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

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

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

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

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

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

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

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

I. Potential to Emit for New or Modified Emission Units vs PSD Major Source Thresholds

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

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

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	52	0	0	0	0	322
PSD Major Source threshold	100	100	100	100	100	100	100,000
New PSD Major Source?	N	N	N	N	N	N	N

As shown in the table above, the project potential to emit, by itself, does not exceed any of the PSD major source thresholds. Therefore Rule 2410 is not applicable and no further discussion is required.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

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

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

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

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

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

Where,

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

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

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

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

Where,

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

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

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

$$\text{AIPE} = \text{PE2} - (\text{PE1} \times (\text{EF2} / \text{EF1}))$$

For floating roof tanks without physical modifications:

$$\text{EF1} = \text{EF2}$$

S-83-12-8:

External Floating Roof Tank (VOC):

$$\text{AIPE} = 84.1 - (46.7 \times (1/1))$$

$$= 84.1 - 46.7 \times 1$$

$$= 37.4 \text{ lb-VOC/day}$$

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

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute an SB 288 and/or Federal Major Modification for VOC emissions. Therefore BACT is triggered for 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 100,000 bbl external floating roof tank. [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**)

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 (**Appendix E**), BACT has been satisfied with the following:

VOC: Metallic shoe primary seal and roof mounted wiper-type secondary seal

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	--	--	--	--	> 20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for VOC. Therefore, offset calculations will be required for this project.

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

The facility is proposing to modify an existing clean emissions unit; therefore BE = PE1. Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

PE2 (VOC) = 30,693 lb/year

BE (VOC) = 17,046 lb/year

ICCE = 0 lb/year

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

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

Offsets Required (lb/year) = $([30,693 - 17,046] + 0) \times 1.5$
 $= 13,647 \times 1.5$
 $= 20,471 \text{ lb VOC/year}$

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

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
5,118	5,118	5,118	5,118

The applicant has stated that the facility plans to use a combination of ERC certificates N-474-1, S-1807-1, S-3158-1, S-4222-1, S-4225-1, and S-4226-1 to offset the increases in VOC emissions associated with this project. The above mentioned certificates have available quarterly VOC credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #N-471-1	400	400	400	400
ERC #S-1807-1	86	58	26	26
ERC #S-3158-1	98	98	97	97
ERC #S-4222-1	4,447	4,320	4,214	4,207
ERC #S-4225-1	25	218	260	388
ERC #S-4226-1	123	57	121	0
TOTAL	5,179	5,151	5,118	5,118

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

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, Permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 5,118 lb, 2nd quarter - 5,118 lb, 3rd quarter - 5,118 lb, and fourth quarter - 5,118 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC Certificate Numbers N-474-1, S-1807-1, S-3158-1, S-4222-1, S-4225-1, and S-4226-1 (or a certificate split from the listed certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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

As demonstrated in Section 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. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
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	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
VOC	>20,000	>20,000	13,647	20,000 lb/year	No

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

2. Public Notice Action

As discussed above, public noticing is required for this project for VOC emissions increases resulting in a federal major modification. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA). In addition, a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC 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.

For this external floating roof petroleum storage tank, the DELs are stated in the form of maximum petroleum throughput, the maximum true vapor pressure of products contained in the tank, and because the VOC emissions are considered fugitive emissions, a stated pound per day VOC limit.

Proposed Rule 2201 (DEL) Conditions:

- Throughput shall not exceed 100,000 bbl/day. [District Rule 2201]
- The True Vapor Pressure (TVP) of any liquid introduced, placed, or stored shall be less than 11.0 psia. [District Rule 2201]
- VOC emission rate shall not exceed 84.1 lb/day on a monthly average daily basis. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

Periodic sampling of the tanks contents is required as described in the following permit condition:

- Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months and/or whenever there is a change in the source or type of organic liquid stored in the tank. The TVP of any organic liquid shall be determined by measuring the Reid Vapor Pressure (RVP) using ASTM D 323 (Test Method for Vapor Pressure for Petroleum Products), 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 procedures in Appendix B of District Rule 4623. Records of TVP testing shall be maintained. [District Rules 2520, 9.3.2 and 4623, 6.2]

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

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

- Permittee shall maintain records of average daily throughput. [District Rule 2201 and District Rule 2520, 9.4.2]
- Permittee shall maintain a record of the liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period. [District Rule 2201 and 40 CFR 60.116b(c)]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. There is no ambient air quality standard for VOC. Because this project only involves VOC emissions increases, an AAQA is not performed.

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 project does constitute a Title I modification, therefore this requirement is applicable. Shell Pipeline's compliance certification is included in Appendix G.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to modify an existing 100,000 bbl petroleum storage tank.

Since the project will provide pipeline product flexibility 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.

Rule 2520 Federally Mandated Operating Permits

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

Minor permit modifications are not Title I modifications as defined in this rule, or modifications as defined in section 111 or 112 of the Federal Clean Air Act, or major modifications under the prevention of significant deterioration (PSD) provisions of Title I of the CAA or under EPA PSD regulations. This project results in a federal major modification which is a Title I modification. Therefore, this project is considered a "Significant Modification" for Title V purposes.

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 shall not implement the changes requested until the final permit is issued.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR Part 60, Subpart Kb applies to "Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984".

40 CFR Part 60, Subpart A, Section 14, defines the meaning of modification as "*...any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted*". The modification to the floating roof tank permit increases the allowable potential to emit VOC emissions and can be considered a change in the method of operation resulting in a "modification" as defined in 40 CFR Part 60.

This external floating roof tank permit currently contains conditions addressing the applicable requirements of NSPS Subpart Kb. This project will not result in additional requirements being imposed as the tank already complies with the requirements of Subpart Kb.

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of this operation, 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 or equal to one. According to the Technical Services Memo for this project (**Appendix F**), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

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 F of this report, the emissions increases for this project was determined to be less than significant.

Rule 4623 Storage of Organic Liquids

This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored. The crude oil storage tank S-82-12 is subject to the rule. The rule provides the following exemption from the vapor control requirements of the rule if the tank exclusively receives and/or stores an organic liquid with a TVP less than 0.5 psia. However the following testing and recordkeeping provisions (with Section number) of the rule are applicable:

- 4.4.1 TVP and API Gravity Testing provisions pursuant to Section 6.2,
- 4.4.2 Recordkeeping provisions pursuant to Section 6.3.6,
- 4.4.3 Test Methods provisions pursuant to Section 6.4, and SJVUAPCD 4623-6 5/19/05
- 4.4.4 Compliance schedules pursuant to Section 7.2.

The tank is currently operating in compliance with the rule and no changes affecting the compliance status are proposed and therefore continued compliance is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

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

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

Per District Policy, project specific greenhouse gas emissions less than or equal to 230 metric tons-CO₂e/year are considered to be zero for District permitting purposes and are exempt from further environmental review.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which

have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATC S-83-12-8 subject to the permit conditions on the attached draft ATC in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-83-12-8	3020-5-G	4,200,000 gallons	\$382.00

Appendices

- A: Draft ATC
- B: Current PTO
- C: Tanks 4.0.9d Emissions Calculations
- D: BACT Guideline 7.3.3
- E: BACT Analysis
- F: HRA Summary
- G: Compliance Certification

APPENDIX A

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-83-12-8

LEGAL OWNER OR OPERATOR: SHELL PIPELINE COMPANY LP
MAILING ADDRESS: 20945 S WILMINGTON AVE
CARSON, CA 90810-1039

LOCATION: EMIDIO STATION
METTLER, CA

SECTION: SE 7 **TOWNSHIP:** 11N **RANGE:** 20W

EQUIPMENT DESCRIPTION:

MODIFICATION OF 4,200,000 GALLON (100,000 BBL) WELDED EXTERNAL FLOATING ROOF PETROLEUM STORAGE TANK # 100GK6 WITH METALLIC SHOE PRIMARY SEAL AND ROOF MOUNTED WIPER TYPE SECONDARY SEAL: AUTHORIZE THROUGHPUT OF 100,000 BBL/DAY AND MAXIMUM TVP OF 11 PSIA

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 - 5,118 lb, 2nd quarter - 5,118 lb, 3rd quarter - 5,118 lb, and fourth quarter - 5,118 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERCs specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-474-1, S-1807-1, S-3158-1, S-4222-1, S-4225-1, and S-4226-1 (or a certificate split from the listed 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

DAVID WARNER, Director of Permit Services

S-83-12-8: Mar 14 2014 2:01PM - LEONARDS : Joint Inspection NOT Required

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

5. Vapor control requirements of NSPS Subpart Kb and Rule 4623, included in Conditions #10 through #43 below, are not applicable when the tank stores, places, or holds organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4001 and 4623] Federally Enforceable Through Title V Permit
6. Before switching to the storage of organic liquids with true vapor pressure greater than or equal to 0.5 psia, all covers, seals, and lids shall be inspected by the facility operator to ensure compliance with the provisions of this permit. This includes all conditions containing District Rule 4623 or 40 CFR 60 Subpart Kb references. [District Rule 2080] Federally Enforceable Through Title V Permit
7. Within one week after switching from storage of organic liquids with TVP greater than or equal to 0.5 psia to storage of organic liquids with TVP less than 0.5 psia, the TVP of the organic liquid shall be determined in accordance with the test methods of District Rule 4623 Section 6.4 (Amended May 19, 2005) or an equivalent method approved by the APCO, ARB, and EPA. [District Rule 4623, 6.4] Federally Enforceable Through Title V Permit
8. Tank shall be equipped with operational temperature indicator. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Throughput shall not exceed 100,000 bbl/day. [District Rule 2201] Federally Enforceable Through Title V Permit
10. VOC emission rate shall not exceed 84.1 lb/day on a monthly average daily basis. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The True Vapor Pressure (TVP) of any liquid introduced, placed, or stored shall be less than 11.0 psia. [District Rule 2201] Federally Enforceable Through Title V Permit
12. This tank shall be equipped with a closure device between the tank shell and roof edge consisting of two seals mounted 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. [District Rule 2201; District Rule 4623, 5.3.1.2 and 40 CFR 60.112b(a)(2)(i)] Federally Enforceable Through Title V Permit
13. 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)] Federally Enforceable Through Title V Permit
14. Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623, 5.3.2.1.1 and 40 CFR 60.113b(b)(4)(i)] Federally Enforceable Through Title V Permit
15. 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, 5.3.2.1.1 and 40 CFR 60.113b(b)(4)(i)] Federally Enforceable Through Title V Permit
16. 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, 5.3.2.1.1 and 40 CFR 60.113b(b)(4)(i)] Federally Enforceable Through Title V Permit
17. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623, 5.3.2.1.1 and 40 CFR 60.113b(b)(4)(i)] Federally Enforceable Through Title V Permit
18. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623, 5.3.2.1.2, 6.1 and 40 CFR 60.113b(b)(4)(ii)(B)] Federally Enforceable Through Title V Permit
19. 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, 5.3.2.1.2 and 40 CFR 60.113b(b)(4)(ii)(B)] Federally Enforceable Through Title V Permit
20. 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, 5.3.2.1.3 and 40 CFR 60.113b(b)(4)(i)(A)] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. 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, 5.3.2.1.4] Federally Enforceable Through Title V Permit
22. 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. Except for gaps meeting permit requirements, the primary seal shall completely cover the annular space between the edge of the floating roof and tank wall. [District Rule 4623, 5.3.2.1.5; 40 CFR 60.112b(a)(2)(i)(A), 40 CFR 60.113b(b)(4)(i)(B) and 60.113b(b)(4)(ii)(C)] Federally Enforceable Through Title V Permit
23. 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, 5.3.2.1.6] Federally Enforceable Through Title V Permit
24. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. Except for gaps meeting permit requirements, the secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion. [District Rule 4623, 5.3.2.1.7; 40 CFR 60.112b(a)(2)(i)(B) and 40 CFR 60.113b(b)(4)(ii)(A)] Federally Enforceable Through Title V Permit
25. All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623, 5.2 & 5.5.1] Federally Enforceable Through Title V Permit
26. A gas-tight 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, 3.10 and 6.4.8] Federally Enforceable Through Title V Permit
27. 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 40 CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
28. 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, 5.5.2.2.2, and 40 CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
29. 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 40 CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
30. 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 40 CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
31. 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 40 CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
32. External floating roof legs shall be equipped with vapor socks or vapor barriers in order to maintain a gas-tight 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
33. All wells and similar fixed projections through the floating roof shall provide a projection below the liquid surface. [District Rule 4623, 5.5.2.3.1] Federally Enforceable Through Title V Permit
34. 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, 5.5.2.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. 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, 5.5.2.3.3] Federally Enforceable Through Title V Permit
36. 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, 5.5.2.4.2] Federally Enforceable Through Title V Permit
37. 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, 5.5.2.4.3] Federally Enforceable Through Title V Permit
38. 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, 6.1] Federally Enforceable Through Title V Permit
39. Measurements of gaps between the tank wall and the primary and secondary seal shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with a volatile organic liquid. [40 CFR 60.113b(b)(1)(i)] Federally Enforceable Through Title V Permit
40. If any source ceases to store volatile organic liquid for a period of 1 year or more, subsequent introduction of volatile organic liquid into the vessel shall be considered an initial fill. [40 CFR 60.113b(b)(1)(iii)] Federally Enforceable Through Title V Permit
41. The permittee shall inspect all floating roof 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. Permittee shall measure seal gaps, at one or more floating roof levels when the roof is floating off the roof leg supports, 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. The inspection results shall be submitted to the APCO as specified in Section 6.3.5. [District Rule 4623, 6.1.3.1; 40 CFR 60.113b(b)(1)(i) & (ii); and 40 CFR 60.113b(b)(2)(i) & (ii)] Federally Enforceable Through Title V Permit
42. 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. 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 before filling or refilling the storage vessel. The owner or 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. [District Rule 4623, 6.1.3.2 and 40 CFR 60.113b(b)(6)] Federally Enforceable Through Title V Permit
43. 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 40 CFR 60.115b(b)] Federally Enforceable Through Title V Permit
44. Permittee shall notify District at least 30 days prior to the date when unobstructed primary and secondary seal/gap measurements will occur to afford the APCO the opportunity to have an observer present. [40 CFR 60.113b(b)(5)] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

45. Permittee shall make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in 40 CFR 60.113b(b)(4)(i) and (ii). If necessary repairs cannot be made within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO. Such an 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. [40 CFR 60.113b(b)(4)] Federally Enforceable Through Title V Permit
46. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months and/or whenever there is a change in the source or type of organic liquid stored in the tank. The TVP of any organic liquid shall be determined by measuring the Reid Vapor Pressure (RVP) using ASTM D 323 (Test Method for Vapor Pressure for Petroleum Products), 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 procedures in appendix B of District Rule 4623. Records of TVP testing shall be maintained. [District Rules 2520, 9.3.2 and 4623, 6.2] Federally Enforceable Through Title V Permit
47. The owner or operator of each storage vessel shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Such records shall be retained for the life of the source. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit
48. Permittee shall maintain records of average daily throughput. [District Rule 2201 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
49. 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] Federally Enforceable Through Title V Permit
50. Permittee shall maintain a record of the liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period. [District Rule 2201 and 40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit
51. 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, 6.3 and 40 CFR 60.116b(a)] Federally Enforceable Through Title V Permit
52. Compliance with permit conditions in the Title V permit shall be deemed compliance with District Rule 4623 (amended may 19, 2005) and 40CFR60 Subpart Kb. A permit shield is granted from this requirement. [District Rule 2520, 13.2]

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APPENDIX B

Current PTO

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-83-12-6

EXPIRATION DATE: 08/31/2016

SECTION: SE 7 **TOWNSHIP:** 11N **RANGE:** 20W

EQUIPMENT DESCRIPTION:

4,200,000 GALLON (100,000 BBL) WELDED EXTERNAL FLOATING ROOF PETROLEUM STORAGE TANK # 100GK6 WITH METALLIC SHOE PRIMARY SEAL AND ROOF MOUNTED WIPER TYPE SECONDARY SEAL

PERMIT UNIT REQUIREMENTS

1. Vapor control requirements of NSPS Subpart Kb and Rule 4623, included in Conditions #10 through #43 below, are not applicable when the tank stores, places, or holds organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4001 and 4623] Federally Enforceable Through Title V Permit
2. Before switching to the storage of organic liquids with true vapor pressure greater than or equal to 0.5 psia, all covers, seals, and lids shall be inspected by the facility operator to ensure compliance with the provisions of this permit. This includes all conditions containing District Rule 4623 or 40 CFR 60 Subpart Kb references. [District Rule 2080] Federally Enforceable Through Title V Permit
3. Within one week after switching from storage of organic liquids with TVP greater than or equal to 0.5 psia to storage of organic liquids with TVP less than 0.5 psia, the TVP of the organic liquid shall be determined in accordance with the test methods of District Rule 4623 Section 6.4 (Amended May 19, 2005) or an equivalent method approved by the APCO, ARB, and EPA. [District Rule 4623,6.4] Federally Enforceable Through Title V Permit
4. Tank shall be equipped with operational temperature indicator. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Throughput shall not exceed 25,000 bbl/day when (TVP), at storage conditions, of the organic liquid stored in the internal floating roof tank is equal to or greater than 5.1 psia and less than 11.0 psia . [District Rule 2201] Federally Enforceable Through Title V Permit
6. Throughput shall not exceed 100,000 bbl/day when (TVP), at storage conditions, of the organic liquid stored in the internal floating roof tank is equal to or less than 5.0 psia . [District Rule 2201] Federally Enforceable Through Title V Permit
7. VOC emission rate shall not exceed 46.7 lb/day on a monthly average daily basis. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The True Vapor Pressure (TVP) of any liquid introduced, placed, or stored shall be less than 11.0 psia. [District NSR Rule] Federally Enforceable Through Title V Permit
9. This tank shall be equipped with a closure device between the tank shell and roof edge consisting of two seals mounted one above the other; the one below shall be referred to as the primary seal, and the one above shall be referred as the secondary seal. [District NSR Rule; District Rule 4623, 5.3.1.2 and 40 CFR 60.112b(a)(2)(i)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

10. 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)] Federally Enforceable Through Title V Permit
11. Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623, 5.3.2.1.1 and 40 CFR 60.113b(b)(4)(i)] Federally Enforceable Through Title V Permit
12. 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, 5.3.2.1.1 and 40 CFR 60.113b(b)(4)(i)] Federally Enforceable Through Title V Permit
13. 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, 5.3.2.1.1 and 40 CFR 60.113b(b)(4)(i)] Federally Enforceable Through Title V Permit
14. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623, 5.3.2.1.1 and 40 CFR 60.113b(b)(4)(i)] Federally Enforceable Through Title V Permit
15. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623, 5.3.2.1.2, 6.1 and 40 CFR 60.113b(b)(4)(ii)(B)] Federally Enforceable Through Title V Permit
16. 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, 5.3.2.1.2 and 40 CFR 60.113b(b)(4)(ii)(B)] Federally Enforceable Through Title V Permit
17. 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, 5.3.2.1.3 and 40 CFR 60.113b(b)(4)(i)(A)] Federally Enforceable Through Title V Permit
18. 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, 5.3.2.1.4] Federally Enforceable Through Title V Permit
19. 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. Except for gaps meeting permit requirements, the primary seal shall completely cover the annular space between the edge of the floating roof and tank wall. [District Rule 4623, 5.3.2.1.5; 40 CFR 60.112b(a)(2)(i)(A), 40 CFR 60.113b(b)(4)(i)(B) and 60.113b(b)(4)(ii)(C)] Federally Enforceable Through Title V Permit
20. 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, 5.3.2.1.6] Federally Enforceable Through Title V Permit
21. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. Except for gaps meeting permit requirements, the secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion. [District Rule 4623, 5.3.2.1.7; 40 CFR 60.112b(a)(2)(i)(B) and 40 CFR 60.113b(b)(4)(ii)(A)] Federally Enforceable Through Title V Permit
22. All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623, 5.2 & 5.5.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

23. A gas-tight 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, 3.10 and 6.4.8] Federally Enforceable Through Title V Permit
24. 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 40 CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
25. 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, 5.5.2.2.2, and 40 CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
26. 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 40 CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
27. 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 40 CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
28. 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 40 CFR 60.112b(a)(2)(ii)] Federally Enforceable Through Title V Permit
29. External floating roof legs shall be equipped with vapor socks or vapor barriers in order to maintain a gas-tight 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
30. All wells and similar fixed projections through the floating roof shall provide a projection below the liquid surface. [District Rule 4623, 5.5.2.3.1] Federally Enforceable Through Title V Permit
31. 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, 5.5.2.3.2] Federally Enforceable Through Title V Permit
32. 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, 5.5.2.3.3] Federally Enforceable Through Title V Permit
33. 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, 5.5.2.4.2] Federally Enforceable Through Title V Permit
34. 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, 5.5.2.4.3] Federally Enforceable Through Title V Permit
35. 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, 6.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

36. Measurements of gaps between the tank wall and the primary and secondary seal shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with a volatile organic liquid. [40 CFR 60.113b(b)(1)(i)] Federally Enforceable Through Title V Permit
37. If any source ceases to store volatile organic liquid for a period of 1 year or more, subsequent introduction of volatile organic liquid into the vessel shall be considered an initial fill. [40 CFR 60.113b(b)(1)(iii)] Federally Enforceable Through Title V Permit
38. The permittee shall inspect all floating roof 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. Permittee shall measure seal gaps, at one or more floating roof levels when the roof is floating off the roof leg supports, 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. The inspection results shall be submitted to the APCO as specified in Section 6.3.5. [District Rule 4623, 6.1.3.1; 40 CFR 60.113b(b)(1)(i) & (ii); and 40 CFR 60.113b(b)(2)(i) & (ii)] Federally Enforceable Through Title V Permit
39. 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. 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 before filling or refilling the storage vessel. The owner or 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. [District Rule 4623, 6.1.3.2 and 40 CFR 60.113b(b)(6)] Federally Enforceable Through Title V Permit
40. 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 40 CFR 60.115b(b)] Federally Enforceable Through Title V Permit
41. Permittee shall notify District at least 30 days prior to the date when unobstructed primary and secondary seal/gap measurements will occur to afford the APCO the opportunity to have an observer present. [40 CFR 60.113b(b)(5)] Federally Enforceable Through Title V Permit
42. Permittee shall make necessary repairs or empty the storage vessel within 45 days of identification in any inspection for seals not meeting the requirements listed in 40 CFR 60.113b(b)(4)(i) and (ii). If necessary repairs cannot be made within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO. Such an 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. [40 CFR 60.113b(b)(4)] Federally Enforceable Through Title V Permit
43. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months and/or whenever there is a change in the source or type of organic liquid stored in the tank. The TVP of any organic liquid shall be determined by measuring the Reid Vapor Pressure (RVP) using ASTM D 323 (Test Method for Vapor Pressure for Petroleum Products), 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 procedures in appendix B of District Rule 4623. Records of TVP testing shall be maintained. [District Rules 2520, 9.3.2 and 4623, 6.2] Federally Enforceable Through Title V Permit
44. The owner or operator of each storage vessel shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Such records shall be retained for the life of the source. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

45. Permittee shall maintain records of average daily throughput. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
46. 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] Federally Enforceable Through Title V Permit
47. Permittee shall maintain a record of the liquid stored, the period of storage, and the maximum true vapor pressure of that liquid during the respective storage period. [40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit
48. 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, 6.3 and 40 CFR 60.116b(a)] Federally Enforceable Through Title V Permit
49. Compliance with permit conditions in the Title V permit shall be deemed compliance with District Rule 4623 (amended May 19, 2005) and 40CFR60 Subpart Kb. A permit shield is granted from this requirement. [District Rule 2520, 13.2]

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

APPENDIX C

Tanks 4.0.9d Emissions Calculations

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

Identification

User Identification: S-83-12-7 (100GK6) Shell Emidio
City: Mettler
State: Ca
Company: Shell Pipeline
Type of Tank: External Floating Roof Tank
Description: 100,000 BBL

Tank Dimensions

Diameter (ft): 135.00
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: Pontoon
Fitting Category: Detail

Tank Construction and Rim-Seal System

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

Deck Fitting/Status**Quantity**

Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	2
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	21
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	33
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

S-83-12-7 (100GK6) Shell Emidio - External Floating Roof Tank
Mettler, Ca

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 11)-a	Jan	58.62	54.46	62.78	65.42	8.1185	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	Feb	61.49	56.39	66.58	65.42	8.5032	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	Mar	63.85	57.94	69.77	65.42	8.8311	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	Apr	66.98	60.01	73.95	65.42	9.2792	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	May	71.00	63.30	78.70	65.42	9.8804	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	Jun	74.47	66.32	82.63	65.42	10.4240	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	Jul	77.01	68.80	85.22	65.42	10.8349	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	Aug	76.03	68.25	83.81	65.42	10.6745	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	Sep	72.96	65.93	79.98	65.42	10.1839	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	Oct	68.33	62.00	74.66	65.42	9.4778	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	Nov	62.38	57.33	67.44	65.42	8.8265	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818
Crude Oil (TVP 11)-a	Dec	58.39	54.32	62.46	65.42	8.0874	N/A	N/A	100.0000			207.00	Option 4: RVP=10.818

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

S-83-12-7 (100GK6) Shell Emidio - External Floating Roof Tank
Mettler, Ca

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	244.7757	288.3095	333.0810	388.2367	472.7480	521.4544	520.2353	481.9236	408.9932	327.4923	264.7570	236.1005
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) ^{0.5}):	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:	0.2030	0.2179	0.2313	0.2508	0.2794	0.3082	0.3322	0.3226	0.2951	0.2599	0.2229	0.2018
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	8.1185	8.5032	8.8311	9.2792	9.8804	10.4240	10.8349	10.6745	10.1839	9.4778	8.6265	8.0874
Tank Diameter (ft):	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000
Vapor Molecular Weight (lb/lb-mole):	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
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):	905.1054	905.1054	905.1054	905.1054	905.1054	905.1054	905.1054	905.1054	905.1054	905.1054	905.1054	905.1054
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 (bb/1000 sq ft):	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060	0.0060
Average Organic Liquid Density (lb/gal):	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000
Tank Diameter (ft):	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000	135.0000
Roof Fitting Losses (lb):	758.8913	929.4215	1,134.9088	1,373.7529	1,751.2768	1,931.7080	1,851.8941	1,874.0235	1,365.7886	1,039.5379	814.2032	720.1036
Value of Vapor Pressure Function:	0.2030	0.2179	0.2313	0.2508	0.2794	0.3082	0.3322	0.3226	0.2951	0.2599	0.2229	0.2018
Vapor Molecular Weight (lb/lb-mole):	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
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):	1,121.7081	1,279.6571	1,471.9559	1,643.2523	1,880.3847	1,880.3847	1,872.3583	1,556.8802	1,388.5190	1,199.8613	1,096.0315	1,070.5457
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):	1,908.7724	2,120.8364	2,373.0952	2,867.0949	3,129.1301	3,358.2678	3,277.2348	3,061.0525	2,679.8872	2,272.1358	1,984.0655	1,861.3095

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors		m	Losses (lb)
		KFa (lb-mole/yr)	KFb (lb-mole/(yr mph ^{0.5} n))		
Access Hatch (24-in. Diam.) Bolted Cover, Gasketed	1	1.60	0.00	0.00	16.8828
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	443.3338
Vacuum Breaker (10-in. Diam.) Weighted Mech. Actuation, Gask.	2	6.20	1.20	0.94	232.8545
Unslotted Guide-Pole Well/Ungasketed Sliding Cover	1	31.00	150.00	1.40	13,391.5727
Gauge-Hatch/Sample Well (8-in. Diam.) Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	5.8039
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	21	2.00	0.37	0.91	758.2455
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	33	0.82	0.53	0.14	507.1709
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Gask.	1	0.71	0.10	1.00	12.1309

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
S-83-12-7 (100GK6) Shell Emidio - External Floating Roof Tank
Mettler, Ca

Components	Losses (lbs)				Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss	
Crude Oil (TVP 11)-a	4,486.11	10,861.26	15,345.51	0.00	30,692.88

Greenhouse Gas Emissions Increase Calculations

Fuel Rates for Stationary Combustion – Natural Gas						
Device	MMBtu/hr	Hr/day	MMBtu/day	Day/yr	MMBtu/year	MTon CO ₂ e/yr
External Combustion						
Direct Emissions – Fugitive						
Device	US Pounds/Year	US Tons/Year	kg/Year	MTon/Year	GWP or % CO ₂ e	MTon CO ₂ e/yr
Fugitive Sources						
Increase due to -12-7	13,647	6.8	6,190.2	6.2	21	130.0
Fugitive emissions are assuming all emissions from the above sources are CH ₄ , a gross overestimation.						
Facility total					Ca	22,561

US Short Ton CO ₂ e/yr
143
143

Emission Factors for Stationary Combustion – Natural Gas		
	kg/MMBtu	Source
CO ₂	53.02	Appendix A Table 4
CH ₄	0.0009	Appendix A Table 6
N ₂ O	0.0001	Appendix A Table 6

GWP Multiplier	MTon/kg
1	0.001
21	
310	

APPENDIX D

BACT Guideline 7.3.3

Per » B A C T » Bact Guideline.asp?category Level1=7&category Level2=3&category Level3=3&last Update=10 » 1 :

Back

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

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

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

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

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

APPENDIX E

BACT Analysis

Top-Down BACT Analysis for VOC Emissions:

Step 1 - Identify All Possible Control Technologies

The SJVAPCD BACT Clearinghouse guideline 7.3.3, (Last Updated 10/01/2002), identifies technologically feasible and achieved in practice BACT control technologies for floating roof organic liquid storage or processing tanks = or > 471 Bbl tank capacity, = or > 0.5 psia TVP as follows:

- 1) 95% Control (Dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal)
- 2) 95% control (Primary metal shoe seal with secondary wiper seal, or equal)

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed control technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. 95% Control (Dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal)
2. 95% control (Primary metal shoe seal with secondary wiper seal, or equal)

Step 4 - Cost Effectiveness Analysis

The applicant is utilizing a primary metal shoe seal with secondary wiper seal which is listed in the top ranking control technology. Therefore, a cost effective analysis is not necessary.

Step 5 - Select BACT

A primary metal shoe seal with secondary wiper seal is selected as BACT for this category and class of source.

APPENDIX F

HRA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Steve Leonard – Permit Services
From: Kyle Melching – Technical Services
Date: March 13, 2014
Facility Name: Shell Pipeline Company LP
Location: SE Section 7/T11N/R20W
Application #(s): S-83-12-8
Project #: S-1140301

A. RMR SUMMARY

RMR Summary			
Categories	Crude Oil Tank (Unit 12-8)	Project Totals	Facility Totals
Prioritization Score	0.74*	0.74	<1
Acute Hazard Index	N/A	N/A	N/A
Chronic Hazard Index	N/A	N/A	N/A
Maximum Individual Cancer Risk	N/A	N/A	N/A
T-BACT Required?	No		
Special Permit Conditions?	No		

*The project passed on prioritization with a score less than 1; therefore, no further analysis was required.

I. Project Description

Technical Services received a request on March 12, 2014, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review for raising an external floating roof tank's throughput limit to 100,000 bbl/day and true vapor pressure limit to 11.0 psia. There will be an increase of permitted VOC emissions of 37.4 lbs/day

II. Analysis

Toxic emissions from the project were calculated using emission factors for toxic fugitive emissions from oilfield equipment, along with VOC fugitive emission rates calculated and supplied by the processing engineer. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the proposed project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the proposed project was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

Analysis Parameters (Units 12-8)			
Type of Receptor	Business	Closest Receptor (m)	198
VOC Emission Rates (lbs/hr)	1.56	VOC Emission Rates (lbs/yr)	13,651

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

III. Conclusion

The prioritization score for this project is not above 1.0. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

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

IV. Attachments

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

APPENDIX G

Compliance Certification

RECEIVED
JAN 30 2014
SJVAPCD
Southern Region

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 ☐ ADMINISTRATIVE AMENDMENT
☐ MINOR PERMIT MODIFICATION

COMPANY NAME: Shell Pipeline Company LP		FACILITY ID: S-83
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:		
3. Agent to the Owner:		

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

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

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



Signature of Responsible Official

December 19, 2013

Date

Michael W. Bringham

Name of Responsible Official (please print)

Operations Manager

Title of Responsible Official (please print)

ATC Application S-83-12-7 (100GK6)

CERTIFICATION

Shell Pipeline Company LP hereby certifies as follows:

1. Shell Pipeline Company LP owns or operates certain major stationary sources in the State of California. Such sources are comprised of a vast number of emission points. As used in this certification, the term "major stationary source" shall, with respect to Shell Pipeline Company LP stationary sources in the SJVUAPCD, have the meaning ascribed thereto in SJVUAPCD Rule 2201, Section 3.23, and shall, with respect to all of Shell Pipeline Company LP's other stationary sources in the State of California, have the meaning ascribed thereto in section 302(J) of the Clean Air Act (42 U.S.C. Section 7602 (J)).
2. Subject to paragraphs 3 and 4 below, all major stationary sources owned or operated by Shell Pipeline Company LP in the State of California are either in compliance, or on an approved schedule of compliance, with all applicable emission limitations and standards under the Clean Air Act and all of the State Implementation Plan approved by the Environmental Protection Agency.
3. This certification is made on information and belief and is based upon a review of Shell Pipeline Company LP major stationary sources in the State of California by those employees of Shell Pipeline Company LP who have operational responsibility for compliance. In conducting such reviews, Shell Pipeline Company LP and its employees have acted in good faith and have exercised best efforts to identify any exceedance of the emission limitations and standards referred to in paragraph 2 thereof.
4. This certification shall speak as of the time and date of its execution.

CERTIFICATION

By:


MICHAEL W. BRINGHAM

Title: OPERATIONS MANAGER

Date:

12/19/13