



NOV 1 4 2017

Mr. Gregory Pritchett Chevron USA Inc. PO Box 1392 Bakersfield, CA 93302

Proposed ATC / Certificate of Conformity (Significant Mod)

District Facility # S-1128

Project # 1173082

Dear Mr. Pritchett:

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 project authorizes modification to a tank.

After addressing all comments made during the 30-day public notice and the 45day 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,

Arnaud Mariollet

Director of Permit Services

Burcard Mayoles

Enclosures

CC:

Tung Le, CARB (w/enclosure) via email

CC:

Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin

Executive Director/Air Pollution Control Officer

Authority to Construct Application Review

Fixed Roof Oil Field Production Tank < 5000 BBLs Uncontrolled Emissions Less than 6 tons/year Heavy Oil

Facility Name:

Chevron USA, Inc.

Date:

10/2/17

Mailing Address:

P O Box 1392

Engineer:

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Bakersfield, CA 93302-1392

Lead Engineer:

Steve Davidson

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Application #:

S-1128-974-6

Project #: 1173082

Deemed Complete: September 6, 2017

I. **Proposal**

Chevron USA Inc (CUSA) is requesting an Authority to Construct (ATC) to increase the annual throughput of a 500 bbl fixed roof (Baker style) transportable tank from 91,250 bbl/yr to 300,000 bbl/yr. The daily throughput will be increased from 750 bbl/day to 1,000 bbl/day (monthly daily average).

The project is a Federal Major Modification. BACT, offsets, and public notice are required.

The current PTO S-1128-974-3 is included in **Attachment I**.

CUSA has a Title V Permit. This modification can be classified as a Title V Significant Modification pursuant to Rule 2520, Section 3.20, 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. CUSA must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC(s) issued with this project.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (2/08/16)

Rule 2520 Federally Mandated Operating Permits (6/21/01)

Rule 2410 Prevention of Significant Deterioration (Adopted 6/16/11, effective

11/26/12)

Rule 4001 New Source Performance Standards,

Subpart Kb (Amended 4/14/99) - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) Is not applicable. This subpart does not apply to vessels with a design capacity \leq 1,589.874 m³ (\leq 420,000 gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer. The capacity of this tank is \leq 420,000 gallons, and it stores crude oil prior to custody transfer; therefore, this subpart does not apply to the tank in this project.

Subpart OOOO (Adopted 8/16/2012) - Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution.

Rule 4101 Visible Emissions (04/20/05)

Rule 4102 Nuisance (12/17/92)

Rule 4623 Storage of Organic Liquids (05/19/05)

CH&SC 41700 Health Risk Assessment

CH&SC 42301.6 School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)

California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The tank is authorized to operate at various unspecified locations, SJVAPCD. It is not authorized to operate within 1,000 feet of the outer boundary of any K-12 school. Therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification is not required.

IV. Process Description

The tank receives production prior to custody transfer. Applicant has requested an increaase in annual throughput from 91,250 bbl/yr to 300,000 bbl/yr and from 750 bbl/day to 1,000 bbl/day.

V. Equipment Listing

Pre-Project Equipment Description:

S-1128-974-3: UP TO 500 BBL FIXED ROOF CRUDE OIL TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE HEAVY OIL WESTERN STATIONARY

SOURCE (CAN BE OWNED BY PERMITTEE OR RENTED ON AN AS-NEEDED BASIS)

Proposed Modification:

S-1128-974-6: MODIFICATION OF UP TO 500 BBL FIXED ROOF CRUDE OIL TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE HEAVY OIL WESTERN STATIONARY SOURCE (CAN BE OWNED BY PERMITTEE OR RENTED ON AN AS-NEEDED BASIS): INCREASE DAILY AND ANNUAL THROUGHPUT LIMITS TO 1000 BBL/DAY AND 300,000 BBL/YR

Post Project Equipment Description:

S-1128-974-6: UP TO 500 BBL FIXED ROOF CRUDE OIL TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE HEAVY OIL WESTERN STATIONARY SOURCE (CAN BE OWNED BY PERMITTEE OR RENTED ON AN AS-NEEDED BASIS)

VI. <u>Emission Control Technology Evaluation</u>

The tank will be equipped with a pressure-vacuum (PV) relief vent valve set to within 10% of the maximum allowable working pressure of the tank. The PV-valve will reduce VOC wind induced emissions from the tank vent.

VII. General Calculations

A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year.
- The tank emits only volatile organic compounds (VOCs),
- TVP of oil = 0.49 psia (Applicant)
- Tank temperature, 195° F
- Post-project throughputs of 1,000 bbl/day (monthly daily average), 300,000 bbl/yr
- Pre-project throughput is 750 bbl/day, 91,250 bbl/yr (current PTO)
- For PAE in Federal Major Modification calculation, throughput is 530 bbl/day (applicant email 9/19/17).

VOCs molecular weight, 100 lb/lbmol

B. Emission Factors

Both the daily and annual PE will be based on the results from the District's Microsoft Excel spreadsheets for Tank Emissions - Fixed Roof Crude Oil less than 26° API located in **Attachment II**. The spreadsheet for tanks was developed using

the equations for fixed-roof tanks from EPA AP-42, Chapter 7.1. See Calculations **Attachment II**.

C. Calculations

1. Pre-Project Potential to Emit, (PE₁)

Permit unit	VOC - Daily PE1 (lb/day)	VOC- Annual PE1 (lb/Year)
PTO S-1128-974-3	37.6	4,770

2. Post Project Potential to Emit, (PE2)

Permit unit	VOC - Daily PE1 (lb/day)	VOC- Annual PE1 (lb/Year)
PTO S-1128-974-5	49.8	14,999

The emissions profiles are included in **Attachment III**.

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.

The facility is an existing Major Source for VOC's, and the facility-wide VOC emissions already exceed the offset threshold for VOC's. The facility is therefore not becoming a Major Source for VOC's as a result of this project. No other pollutants are emitted by this project; therefore, no SSPE1 calculations for these pollutants are 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.

The facility is an existing Major Source for VOC's, and the facility-wide VOC emissions already exceed the offset threshold for VOC's. The facility is therefore not becoming a Major Source for VOC's as a result of

this project. No other pollutants are emitted by this project; therefore, no SSPE2 calculations for these pollutants are 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 not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
NO ₂ VOC SO ₂ CO PM PM ₁₀						
Estimated Facility PE before Project Increase	375*					
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	Υ	Y/N	Y/N	Y/N	Y/N	Y/N

^{*}SSPE Calculator emissions from PTOs only

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

6. Baseline Emissions (BE)

a. Annual 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.

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.23

Since tank S-1128-974 has a PV Vent, it is considered a Clean Emissions Unit.

Therefore, the BE is equal to the pre-project potential to emit (PE1).

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 VOCs, 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 Threshold SB 288 Major Modification (lb/year) Calculation Required?						
NO _x	0	50,000	No			
SO _x	0	80,000	No			
PM ₁₀	0	30,000	No			
VOC	14,999	50,000	No			

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

8. Federal Major Modification

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

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

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

Step 1

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

Emission Increase (EI) = PAE - BAE - UBC

Where:

PAE = Projected Actual Emissions, and

BAE = Baseline Actual Emissions UBC = Unused baseline capacity

UBC: Portion of PAE that the emission units could have accommodated during the baseline period.

The tank is a rental tank which has not been in use in the last two years. Because it was located at the rental company during this time it was incabable of emitting VOCs i.e. UBC = 0. PAE emissions are 9,778 lb/yr (Attachment II).

Therefore,

This project constitutes a Federal Major Modification.

Federal Offset Quantities:

The Federal offset quantity is only calculated only for the pollutants for which the project is a Federal Major Modification. The Federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) during the baseline period for each emission unit times the applicable federal offset ratio. There are no special calculations performed for units covered by an SLC.

VOC		Federal Offset Ratio	1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-1128-974	0	14,999	14,999
			0
			0
			0
	Net	t Emission Change (lb/year):	14,999
	Federal	Offset Quantity: (NEC * 1.5)	22,499

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

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

I. Project Location Relative to Class 1 Area

As demonstrated in the "PSD Major Source Determination" Section above, the facility was determined to be a existing PSD Major Source. Because the project is not located within 10 km (6.2 miles) of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Project Emission Increase – Significance Determination

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

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
NO ₂ SO ₂ CO PM PM ₁₀					
Total PE from New and Modified Units	0	0	0	0	0
PSD Significant Emission Increase Thresholds	40	100	25	15	
PSD Significant Emission Increase?	N	N	N	N	N

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

10. Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - BE, where:

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

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

BE = Baseline Emissions (per Rule 2201) for each emissions unit, lb/qtr.

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

 $PE2_{quarterly} = PE2_{annual} \div 4 quarters/year$

= 14,999 lb/year ÷ 4 qtr/year = 3,749.75 lb VOC/qtr

BEquarterly = BEannual ÷ 4 quarters/year

= 4,770 lb/year ÷ 4 qtr/year

= 1192.5 lb VOC/qtr

QNEC = 3,749.75 - 1192.5

= 2,557.25

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,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. 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.

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

The applicant is not proposing to install a new emissions unit. BACT will not be 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.

^{*}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.

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

AIPE = PE2 - HAPE where,

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

PE2 = the emission unit's post project Potential to Emit, lb/day.

HAPE = the emission unit's Historically Adjusted Potential to

Emit, lb/day.

Historically Adjusted Potential to Emit (HAPE) Calculations:

 $HAPE = PE1 \times (EF2 / EF1)$ where,

PE1 = The emission unit's Potential to Emit prior to modification or relocation.

EF2 = The emission 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 emission unit's permitted emission factor for the pollutant before the modification or relocation.

AIPE (lb/day) = PE2 (lb/day) – [PE1 (lb/day) x (EF2 / EF1)]

EF2 = EF1

AIPE (lb/day) = 49.8 (lb/day) - 37.6 (lb/day) x (1) = 12.2 lb/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 Section VII.C.7 and VII.C.8 above, this project constitutes a Federal Major Modification for VOC emissions. Therefore, BACT is triggered for VOCs.

2. BACT Guidance

Per District Policy APR 1305, Section IX, "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 for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis."

BACT Guideline 7.3.1, applies to Petroleum and Petrochemical Production – Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl tank capacity (see **Attachment IV**)

3. Top-Down BACT Analysis

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

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

VOC: pressure and vacuum (PV) relief valve on tank vent set to within 10% of maximum allowable pressure

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 Applicability					
Pollutant SSPE2 (Ib/yr) Offset Threshold Levels (Ib/yr) Offsets Calculations Required?					
VOC	>20,000	20,000	Yes		

2. Quantity of Offsets Required

As shown in the table above, the SSPE2 meets or exceeds the offset threshold levels for VOCs. Therefore, offsets calculation will be required.

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 tank is a 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) x DOR

PE2 (VOC) = 14,999 lb/year BE (VOC) = 4,770 lb/year ICCE = 0 lb/year

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

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

Offsets Required (lb/year) =
$$([14,999 - 4,770] + 0) \times 1.5$$

= $10,229 \times 1.5$
= $15,344$ lb VOC/year

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

Therefore, the appropriate quarterly emissions to be offset are as follows:

1st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	Total Annual
3,836	3,836	3,836	3,836	15,344

The applicant has stated that the facility plans to use ERC certificates S-4729-1 and S-4379-1 to offset the increases in VOC emissions associated with this project. The above certificates has available quarterly VOC credits as follows:

Certificate	Pollutant	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Facility
5-4379-1	VOC	4,124	4,209	4,295	3,637	1127
S-4729-1	VOC	3,353	3,449	3,544	3,542	1128

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 3,836 lb, 2nd quarter 3,836 lb, 3rd quarter 3,836 lb, and fourth quarter 3,836 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 certificates S-4729-1 and S-4379-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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

As demonstrated in VII.C.7 and C.8, this project constitutes a Federal Major Modification; therefore, public noticing for SB 288 or 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 following table compares the pre-project SSPE1 with the post-project SSPE2 in order to determine if any offset thresholds have been surpassed.

	Offset Threshold				
Pollutant SSPE1 SSPE2 Offset Levels Public Notice (lb/yr) (lb/yr) Required?					
VOC	> 20,000	> 20,000	20,000	No	

Since the SSPE2 does not surpass the offset threshold levels, public noticing [is/is not] triggered for this project.

d) SSIPE > 20,000 lb/yr

The SSIPE (NEC) is calculated and shown as follows:

SSIPE= SSPE2 - SSPE1

Stationary Source Increase in Permitted Emissions (SSIPE)				
Pollutant Project Project SSPE2 (lb/yr) SSPE1 (lb/yr) SSPE1 (lb/yr)				
VOC	14,999	4,770	10,299	

As shown in the above table, the SSIPE for this project [exceeds/does not exceed] the 20,000 lb/yr public notice threshold.

Therefore, public noticing [is/is not] required for SSIPE purposes.

2. Public Notice Action

As discussed above, public noticing pursuant to District Rule 2201 is required for this project which is a Federal Major Modification. Public notice documents will be submitted to the California Air Resources Board (CARB) and 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 Emissions Limits (DEL)

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

DELs for the tank is expressed as throughput and True Vapor Pressure (TVP) as stated in the ATC conditions below.

This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rules 2201 and 4623] Y

Tank liquid throughput shall not exceed 1,000 barrels per day (monthly daily average) and 300,000 barrels per year. [District Rule 2201] Y

E. Compliance Assurance

The following measures shall be taken to ensure continued compliance with District Rules:

1. Source Testing

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

2. Monitoring

Monitoring is not required to demonstrate compliance with Rule 2201.

3. Record Keeping

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

The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, API gravity and throughput. [District Rules 2201and 4623] Y

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 Rules 2520 and 4623] Y

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 AAQ standard for VOC which is the only affected pollutant. Therefore, an AAQA is not required.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Federal Major 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 Federal Major Modification, therefore this requirement is applicable. CUSA's Statewide Compliance Statement is included in **Attachment VI**.

H. Alternate Siting Analysis

The current project occurs at an existing facility. Since the applicant proposes to increase the throughput of an existing tank, 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 2410 Prevention of Significant Deterioration

Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the increases in fugitive emissions are not included in the Rule 2410 Major Source Determination. All post project emissions associated with this project are fugitive emissions; therefore, Rule 2410 does not apply.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this rule, and has received their Title V Operating Permit. The proposed modification is a Significant Modification to the Title V Permit pursuant to Section 3.20 of this rule. 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 Title V Compliance Certification form is included in Attachnment

Rule 4001 New Source Performance Standards

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

40 CFR Part 60, Subparts, K, Ka, and Kb could potentially apply to the storage tanks located at this facility. However, pursuant to 40 CFR 60.110 (b), 60.110(a) (b), and 60.110(b) (b), these subparts do not apply to storage vessels less than 10,000 bbls, used for petroleum or condensate, that is stored, processed, and/or treated at a drilling and production facility prior to custody transfer.

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

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

Rule 4101 - Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity.

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

Rule 4102 - Public Nuisance

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

CH&SC 41700 - California Health and Safety Code

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

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

The cancer risk for this project is shown below:

HRA Summary					
Unit Cancer Risk T-BACT Required					
S-1128-974-6 1.35 per million Yes					

Discussion of T-BACT

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

For this project T-BACT is triggered for VOC. T-BACT is satisfied with BACT for VOC (see **Attachment V**), which is the use of a P/V valve; therefore, compliance with the District's Risk Management Policy is expected.

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 tank will store crude oil with a

TVP < 0.5 psia. Therefore, the vapor control requirements of the rule are not applicable. The tank is equipped with a P/V vent.

According to Section 4.4, tanks exclusively receiving and or storing organic liquids with a TVP less than 0.5 psia are exempt from this Rule except for complying with Sections 6.2, 6.3.6, 6.4 and 7.2. These requirements are expressed as the following ATC conditions:

This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rules 2201 and 4623] Y

Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rules 2201 and 4623] Y

As used in this permit, the term "source or type" shall mean liquids with similar characteristics. The operator shall maintain records of API gravity of petroleum liquids stored in this unit to determine which are from common source. [District Rule 2520, 9.3.2] Y

For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Y

For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, 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 of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Y

Compliance with the requirements of this rule is expected.

CH&SC 42301.6 California Health & Safety Code (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

Oil and gas operations in Kern County must comply with the *Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting*. In 2015, Kern County revised the Kern County Zoning Ordinance Focused on Oil and Gas Activities (Kern Oil and Gas Zoning Ordinance) in regards to future oil and gas exploration, and drilling and production of hydrocarbon resource projects occurring within Kern County.

Kern County served as lead agency for the revision to their ordinance under the California Environmental Quality Act (CEQA), and prepared an Environmental Impact Report (EIR) that was certified on November 9, 2015. The EIR evaluated and disclosed to the public the environmental impacts associated with the growth of oil and gas exploration in Kern County, and determined that such growth will result in significant GHG impacts in the San Joaquin Valley. As such, the EIR included mitigation measures for GHG.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating GHGs. The District has determined that the applicant is responsible for implementing GHG mitigation measures imposed in the EIR by the Kern County for the Kern County Zoning Ordinance.

District CEQA Findings

The proposed project is located in Kern County and is thus subject to the Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting. The Kern County Zoning Ordinance was developed by the Kern County Planning Agency as a comprehensive set of goals, objectives, policies, and standards to guide development, expansion, and operation of oil and gas exploration within Kern County.

In 2015, Kern County revised their Kern County Zoning Ordinance in regards to exploration, drilling and production of hydrocarbon resources projects. Kern County, as the lead agency, is the agency that will enforce the mitigation measures identified the EIR, including the mitigation requirements of the Oil and Gas ERA. As a responsible agency the District complies with CEQA by considering the EIR prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project involved (CCR §15096). The District has reviewed the EIR prepared by Kern County, the Lead Agency for the project, and finds it to be adequate. The District also prepared a full findings document. The full findings document, California Environmental Quality Act (CEQA) Statement of Findings for the Kern County Zoning Ordinance EIR contains the details of the District's findings regarding the Project. The District's implementation of the Kern Zoning Ordinance and its EIR applies to ATC applications received for any new/modified equipment used in oil/gas production in Kern County, including new wells. The full findings applies to the Project and the Project's related activity equipment(s) is covered under the Kern Zoning Ordinance. To reduce project related impacts on air quality, the District evaluates emission controls for the project such as Best Available Control Technology (BACT) under District Rule 2201 (New and Modified Stationary Source Review). In addition, the District is requiring the applicant to surrender emission reduction credits (ERC) for stationary source emissions above the offset threshold.

Thus, the District concludes that through a combination of project design elements, permit conditions, and the Oil and Gas ERA, the project will be fully mitigated to result in no net increase in emissions. Pursuant to CCR §15096, prior to project approval and issuance of ATCs the District prepared findings.

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its

potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

The revision to the *Kern County Zoning Ordinance* went through an extensive public process that included a Notice of Preparation, a preparation of an EIR, scoping meetings, and public hearings. The process led to the certification of the final EIR and approval of the revised *Kern County Zoning Ordinance* in November 2015 by the Kern County Board of Supervisors. As mentioned above, the proposed project will be fully mitigated and will result in no net increase in emissions. In addition, the proposed project is not located at a facility of concern; therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendations

Compliance with all applicable rules and regulations is expected. Pending a successful EPA/NSR Public Noticing period, issue Authority to Construct S-1128-974-6 subject to the permit conditions on the attached draft Authority to Construct in **Attachment VIII**.

X. Billing Information

Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1128-974-6	3020-05-C	21,000 gallons	\$ 149.00

ATTACHMENT I: PTO S-1128-974-3
ATTACHMENT II: Emissions Calculations
ATTACHMENT III: Emissions Profiles

ATTACHMENT III: Emissions Profile ATTACHMENT IV: BACT Guideline

ATTACHMENT V: Top down BACT Analysis

ATTACHMENT VI: Title V Compliance Certification Form and Statewide

Compliance Statement

ATTACHMENT VII: Health Risk Assessment

ATTACHMENT VIII: Draft ATC(s)

ATTACHMENT I Current PTO S-1128-974-3

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1128-974-3

EXPIRATION DATE: 02/28/2021

EQUIPMENT DESCRIPTION:

UP TO 500 BBL FIXED ROOF CRUDE OIL TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE HEAVY OIL WESTERN STATIONARY SOURCE (CAN BE OWNED BY PERMITTEE OR RENTED ON AN AS-NEEDED BASIS)

PERMIT UNIT REQUIREMENTS

- 1. This tank is authorized to operate at CUSA's heavy oil western stationary source (HOWSS) which includes facilities S-1128, S-1129 and S-1141. [District Rule 2201] Federally Enforceable Through Title V Permit
- 2. The equipment shall not be located within 1,000 feet of the outer boundary of any K-12 school, [CH&SC 42301.6]
- 3. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location, [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. The tank shall be equipped with a fixed roof with no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
- 5. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings and properly maintained in good operating order in accordance with the manufacturer's instructions. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
- 6. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
- 7. Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
- 8. As used in this permit, the term "source or type" shall mean liquids with similar characteristics. The operator shall maintain records of API gravity of petroleum liquids stored in this unit to determine which are from common source. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
- 9. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- 10. For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, 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 of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] 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.

Facility Name: CHEVRON USA INC

Location: HEAVY OIL WESTERN STATIONARY SOURCE, KERN COUNTY S-1128-974-3 Sep 25 2017 1:14PM -- EDGEHILR

- 11. Tank liquid throughput shall not exceed 750 barrels per day and 91,250 barrels per year. [District Rule 2201] Federally Enforceable Through Title V Permit
- 12. This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rule 2020] Federally Enforceable Through Title V Permit
- 13. Permittee shall notify the APCO in writing at least three (3) days prior to performing the first interior tank cleaning activity at a particular location; no notification is required for subsequent cleaning activities at that location. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank, 2) the date and time that tank cleaning activities will begin, and 3) the method to be used to clean the tank, including any solvents to be used. [District Rule 2080] Federally Enforceable Through Title V Permit
- 14. This tank shall not be required to de-gas before commencing cleaning activities. All other applicable requirements shall be complied with before, during, and after tank cleaning activities. [District Rule 2080] Federally Enforceable Through Title V Permit
- 15. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 2080] Federally Enforceable Through Title V Permit
- 16. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 2080] Federally Enforceable Through Title V Permit
- 17. Permittee shall maintain records of dates of start and completion dates/times of vessel cleaning activities, and methods of cleaning used. [District Rule 2520] Federally Enforceable Through Title V Permit
- 18. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, API gravity and throughput. [District Rules 2201and 4623] Federally Enforceable Through Title V Permit
- 19. 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 Rules 2520 and 4623] Federally Enforceable Through Title V Permit

ATTACHMENT II Emissions Calculations

PAE

Tank Input Data	
permit number (S-xxxx-xx-xx)	-974
facility tank I.D.	
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.49
liquid bulk storage temperature, Tb (°F)	195
is this a constant-level tank? {yes, no}	no
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	1
diameter of tank (feet)	18
capacity of tank (bbl)	500
conical or dome roof? {c, d}	C
shell height of tank (feet)	11
average liquid height (feet)	5.5
are the roof and shell the same color? {yes,no}	yes
For roof:	
color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
This row only used if shell is different color from roof	3
This row only used if shell is different color from roof	

Liquid Input Data	A	В
maximum daily fluid throughput (bbl)		530
maximum annual fluid throughput (bbl)	193,450	193,450
This row only used if flashing losses occur in this tank		100
This row only used if flashing losses occur in this tank		36,500
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	В
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	152.2	3.9495
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	141.4	3.0118
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	146.8	3.4592
roof outage, Hro (feet)		0.1875
vapor space volume, Vv (cubic feet)		1447.29
paint factor, alpha		0.68
vapor density, Wv (lb/cubic foot)		0.0075
daily vapor temperature range, delta Tv (degrees Rankine)		49.04
vapor space expansion factor, Ke		0.0751

Results	lb/year	lb/day
Standing Storage Loss	299	0.82
Working Loss	9,479	25.97
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	9,778	26.8

Summary Table	
Permit Number	-974
Facility Tank I.D.	ar të
Tank capacity (bbl)	500
Tank diameter (ft)	18
Tank shell height (ft)	11
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	530
Maximum Annual Fluid Throughput (bbl/year)	193,450
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	26.8
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	9,778

PEZ

Tank Input Data	
permit number (S-xxxx-xx-xx)	-974
facility tank I.D.	
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.49
liquid bulk storage temperature, Tb (°F)	195
is this a constant-level tank? {yes, no}	no
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	1
diameter of tank (feet)	18
capacity of tank (bbl)	500
conical or dome roof? {c, d}	C
shell height of tank (feet)	11
average liquid height (feet)	5.5
are the roof and shell the same color? {yes,no}	yes
For roof;	
color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
This row only used if shell is different color from roof	3
This row only used if shell is different color from roof	1

Liquid Input Data	A	В
maximum daily fluid throughput (bbl)		1,000
maximum annual fluid throughput (bbl) *	300,000	300,000
This row only used if flashing losses occur in this tank		100
This row only used if flashing losses occur in this tank		36,500
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	Α	В
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	152.2	3.9495
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	141.4	3.0118
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	146.8	3.4592
roof outage, Hro (feet)		0.1875
vapor space volume, Vv (cubic feet)		1447.29
paint factor, alpha		0.68
vapor density, Wv (lb/cubic foot)		0.0075
daily vapor temperature range, delta Tv (degrees Rankine)		49.04
vapor space expansion factor, Ke		0.0751

Results	lb/year	lb/day
Standing Storage Loss	299	0.82
Working Loss	14,700	49.00
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	14,999	49.8

Summary Table	对自己的
Permit Number	-974
Facility Tank I.D.	
Tank capacity (bbl)	500
Tank diameter (ft)	18
Tank shell height (ft)	11
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	1,000
Maximum Annual Fluid Throughput (bbl/year)	300,000
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	49.8
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	14,999

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Tank Input Data	
permit number (S-xxxx-xx-xx)	-974
facility tank I.D.	•
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.49
liquid bulk storage temperature, Tb(°F)	195
is this a constant-level tank? {yes, no}	no
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	1
diameter of tank (feet)	18
capacity of tank (bbl)	500
conical or dome roof? {c, d}	(
shell height of tank (feet)	11
average liquid height (feet)	5.5
are the roof and shell the same color? {yes,no}	yes
For roof:	
color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
This row only used if shell is different color from roof	3
This row only used if shell is different color from roof	3

Liquid Input Data		В	
maximum daily fluid throughput (bbl)		750	
maximum annual fluid throughput (bbl)	91,250	91,250	
This row only used if flashing losses occur in this tank		100	
This row only used if flashing losses occur in this tank		36,500	
molecular weight, Mw (lb/lb-mol)		100	

Calculated Values	A	В
daily maximum ambient temperature, Tax (°F)		77.65
daily minimum ambient temperature, Tan (°F)		53.15
daily total solar insulation factor, I (Btu/ft^2-day)		1648.9
atmospheric pressure, Pa (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (Tlx), Pvx (psia	152.2	3.9495
water vapor pressure at daily minimum liquid surface temperature (Tln), Pvn (psia	141.4	3.0118
water vapor pressure at average liquid surface temperature (Tla), Pva (psia)	146.8	3.4592
roof outage, Hro (feet)		0.1875
vapor space volume, Vv (cubic feet)		1447.29
paint factor, alpha		0.68
vapor density, Wv (lb/cubic foot)		0.0075
daily vapor temperature range, delta Tv (degrees Rankine)		49.04
vapor space expansion factor, Ke		0.0751

Results	lb/year	lb/day
Standing Storage Loss	299	0.82
Working Loss	4,471	36.75
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	4,770	37.6

Summary Table	C.E.
Permit Number	-974
Facility Tank I.D.	***
Tank capacity (bbl)	500
Tank diameter (ft)	18
Tank shell height (ft)	11
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	750
Maximum Annual Fluid Throughput (bbl/year)	91,250
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N\A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	37.6
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	4,770

ATTACHMENT III Emissions Profiles

Permit #: S-1128-974-6

Last Updated

Facility: CHEVRON USA INC

09/25/2017 EDGEHILR

ripment Pre-Baselined: NO	<u>NOX</u>	SOX	PM10	CO	voc
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	14999.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	37.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	2557.0
Q2;	0.0	0.0	0.0	0.0	2557.0
Q3:	0.0	0.0	0.0	0.0	2557.0
Q4:	0.0	0.0	0.0	0.0	2558.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					3836.0
Q2:					3836.0
Q3;					3836.0
Q4:					3836.0

ATTACHMENT IV BACT Guideline

San Joaquin Valley Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.3.1*

Last Update 10/1/2002

Petroleum and Petrochemical Production - Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl Tank capacity **

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	PV-vent set to within 10% of maximum allowable pressure	99% control (Waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal).	

^{**} Converted from Determinations 7.1.11 (10/01/02).

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

*This is a Summary Page for this Class of Source

ATTACHMENT V BACT Analysis

Vapor Controlled Tanks/Vessels

Step 1 - Identify All Possible Control Technologies

BACT Guideline 7.3.1 lists the controls that are considered potentially applicable to fixed-roof organic liquid storage or processing tank <5,000 bbl tank capacity. The VOC control measures are summarized below.

Current District BACT Guideline 7.3.1

	Achieved in Practice	Technologically Feasible	Alternate Basic
	BACT	BACT	Equipment
VOC	PV relief valve set to within 10% of maximum allowable pressure.	99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).	None Identified

Step 2 - Eliminate Technologically Infeasible Options

The technologically feasible control measures of re-injecting the vapors into the formation and transfer of non-condensable vapors to gas pipeline are not feasible because neither gas injection wells nor a gas pipeline currently exist at the project site. Further, no candidate geologic formations are available for gas re-injection at the project site. All of the above remaining control options identified above are technologically feasible for the proposed equipment and are not eliminated.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

- 1. 99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of uncondensed vapors to gas pipeline or reinjection to formation (if appropriate wells are available).
- 2. PV relief valve set to within 10% of maximum allowable pressure.

Step 4 - Cost Effectiveness Analysis

Activated carbon control (not fixed piping) is feasible with a transportable tank.

Annual Operating Costs:

Assuming the carbon would be able to capture 20% of its weight in VOC and all post-project emissions from the tank are captured and adsorbed by the carbon, the annual carbon requirement would be 74,995 pounds (14,999/0.2).

Per cost estimate provided by Calgon, the cost is \$2.0/lb-carbon. Therefore, the cost of carbon is calculated to:

The cost of carbon = 74,995 lb-carbon/year x \$2.0/lb-carbon = \$149,990/year

PE2 = 14,999 lb/yr (7.5 tons/yr)

Cost effectiveness = \$ 149,990/year/[7.5 tons/yr] = \$20,000/ton > \$17,500/ton cost ineffective

Activated carbon control is not cost effective for the transportable tank.

Step 5 - Select BACT

PV vent set to within 10% of maximum allowable pressure.

ATTACHMENT VI Title V Compliance Certification Form and Statewide Compliance Statement



Donald Puckett General Manager - Operations

San Joaquin Valley SBU Chevron North America Exploration and Production P. O. Box 1392

January 13, 2015

Mr. Seyed Sadredin
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308

RE: Statewide Compliance Certification

Dear Mr. Sadredin:

As required under District Rule 2201, Subsection 4.15.2 and Section 173(a)(3) of the Clean Air Act, 42 U.S.C. Section 7503, Chevron U.S.A. Inc. hereby submits this letter of certification regarding statewide compliance as of this date.

Based on reasonable inquiry and to the best of my knowledge and belief, the major stationary sources, as defined in the jurisdiction where the facilities are located, that are owned or operated by Chevron U.S.A. Inc. in the State of California as listed below are subject to emission limitations and are in compliance or on a schedule for compliance with all applicable emission limitations and standards under the Clean Air Act:

- El Segundo Refinery
- El Segundo Marketing Terminal
- Richmond Refinery
- Banta Marketing Terminal
- Huntington Beach Marketing Terminal
- Montebello Marketing Terminal
- Sacramento Marketing Terminal
- Van Nuys Marketing Terminal
- Cross Valley Carneras Gas Compressor Facility (Kern County)
- Kettleman City Pump Station (Kings County)
- 27G Pump Station (Kern County)
- San Joaquin Valley Business Unit:
 - Fresno County Heavy Oil Source (Coalinga)
 - Fresno County Natural Gas Source (Coalinga)
 - Kern County Central Heavy Oil Source (Kern River)
 - Kern County Western Heavy Oil Source (Midway Sunset & Cymric)
 - Kern County Western Light Oil Source (Midway Sunset, Cymric & Lost Hills)
 - Kern County Western Gas Source (Cymric & Lost Hills)
 - San Ardo (Monterey County)

Mr. Seyed Sadredin Statewide Compliance Certification January 13, 2015 Page 2

- San Luis Obispo (San Luis Obispo County)
- Global Power (Joint Venture Facilities):
 - Coalinga Cogeneration Company in Fresno County
 - Kern River Cogeneration Company in Kern County
 - Mid-Set Cogeneration Company in Kern County
 - Salinas River Cogeneration Company in Monterey County
 - Sargent Canyon Cogeneration Company in Monterey County
 - Sycamore Cogeneration Company in Kern County

Please telephone Ashley Dahlstrom at (661) 654-7293 or Dave Bone at (661) 654-7150 if there are questions.

Sincerely,

Donald Puckett

General Manager - Operations



San Joaquin Valley Air Pollution Control District



TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I.	TYPE OF PERMIT ACTION (Check appropriate box)	
	ADMINISTRATIVE AMENDMENT	☐ MINOR MODIFICATION	SIGNIFICANT MODIFICATION
1	MPANY NAME: Chevron U.S.A., Inc.		FACILITY ID: S-1128
1. 1	ype of Organization: Corporation	🗌 Sole Ownership 🔲 Govern	ment Partnership Utility
2. 0	Owner's Name: Chevron U.S.A., Inc.		
3. A	Agent to the Owner: N/A		1
Solg Sign	Based on information and belief for to comply with the applicable feder Based on information and belief for with applicable federal requirement Corrected information will be provided been submitted. Based on information and belief for package, including all accompanying	rmed after reasonable inquiry, the al requirement(s). rmed after reasonable inquiry, the t(s) that will become effective durided to the District when I become after reasonable inquiry, informed after reasonable inquiry, informed after seasonable inquiry, infor	initial applicable circles for confirmation): equipment identified in this application will conting the permit term, on a timely basis. e aware that incorrect or incomplete information has committed application on a are true, accurate, and complete. f minor permit modification procedures pursuant to the forgoing is correct and true:
_(PLEATIONS Superviso	5	8
Tit	le of Responsible Official (please print)		

ATTACHMENT VII HRA

San Joaquin Valley Air Pollution Control District Risk Management Review

To:

Richard Edgehill - Permit Services

From:

Georgia Stewart - Technical Services

Date:

September 21, 2017

Facility Name:

Chevron USA, Inc.

Location:

Various Unspecified Locations within the Heavy Oil Western Stationary

Source

Application #(s);

S-1128-974-6

Project #:

S-1173082

A. RMR SUMMARY

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 974-6 500 bbl Fixed Roof Crude Oil Tank	0.32	0.035	0.006	1.35E-06	Yes	Yes
Project Totals	0.32	0.035	0.006	1.35E-06		
Facility Totals ¹	>1.0	0.653	0.043	5.606E-06		

¹ Facilities S-1128, S-1129, and S-1141 are part of the same stationary source. The facility totals in this summary represent the combined score for these facilities.

Proposed Permit Requirements

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Unit # 974-6

1. The unit may not operate within 1,000 feet (305 meters) of a receptor.

B. RMR REPORT

I. Project Description

Technical Services received a request on September 20, 2017 to perform an Ambient Air Quality Analysis and a Risk Management Review for a modification to the throughput of a 500 bbl fixed roof (Baker style) crude oil tank. The throughput limit will be increased 91,250 bbl/year. The daily throughput will be increased to 1,000 bbl/day (monthly daily average).

Facilities S-1128, S-1129, and S-1141 are part of the same stationary source.

II. Analysis

Toxic emissions from Oilfield Fugitives were calculated using emission factors derived from 1991 source tests of Central Valley sites with VOC emission rates supplied by the processing engineer. Emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for the facility is greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required. The AERMOD model was used with the parameters outlined below and meteorological data for 2004-2008 from Fellows to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project. Additionally, due to the nature of the project, a conservative method for aggregating components with a non-uniform spatial distribution according to District policy APR 1965 was utilized. This placed the aggregated source at the location of the nearest source receptor combination.

The following parameters were used for the review:

Analysis Parameters Unit 974-6 ¹				
Source Type	Circular Area	Location Type	Rural	
X-Length (m)	2.286	Closest Receptor (m)	305	
Y-Length (m)	N/A	Type of Receptor	Business or Resident	
Release Height (m)	5.486	Pollutant Type	VOC	
Fugitive VOC Emissions (lbs/hr)	0.508	Fugitive VOC Emissions (Ibs/yr)	10,229	

¹Typical API 650 Tank Sizes for a 500 bbl capacity tank were used as default values for the radius and height of the tank.

AAQA.

An AAQA is modeled for the criteria pollutants CO, NOx, SOx and PM10. However, there are no State or Federal standards for VOC. Therefore, an AAQA was not performed.

III. Conclusions

The acute and chronic indices are below 1.0 and the cancer risk associated with the project is greater than 1.0 in a million, but less than 20 in a million. In accordance with the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT).

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

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

ATTACHMENT VIII Draft ATC

San Joaquin Valley Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1128-974-6

LEGAL OWNER OR OPERATOR: CHEVRON USA INC

MAILING ADDRESS:

DO DOY 1000

PO BOX 1392

BAKERSFIELD, CA 93302

LOCATION:

HEAVY OIL WESTERN STATIONARY SOURCE

ISSU

KERN COUNTY

EQUIPMENT DESCRIPTION:

MODIFICATION OF UP TO 500 BBL FIXED ROOF CRUDE OIL TANK WITH PV VALVE AUTHORIZED TO OPERATE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE HEAVY OIL WESTERN STATIONARY SOURCE (CAN BE OWNED BY PERMITTEE OR RENTED ON AN AS-NEEDED BASIS): INCREASE DAILY AND ANNUAL THROUGHPUT LIMITS TO 1000 BBL/DAY AND 300,000 BBL/YR

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 3,836 lb, 2nd quarter 3,836 lb, 3rd quarter 3,836 lb, and fourth quarter 3,836 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
- 4. ERC certificates S-4729-1 and S-4379-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Directory APCO

Arnaud Marjollet Director of Permit Services

- 5. This tank is authorized to operate at CUSA's heavy oil western stationary source (HOWSS) which includes facilities S-1128, S-1129 and S-1141. [District Rule 2201] Federally Enforceable Through Title V Permit
- 6. The equipment shall not be located within 1,000 feet of the outer boundary of any K-12 school. [CH&SC 42301.6]
- 7. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201] Federally Enforceable Through Title V Permit
- 8. The tank shall be equipped with a fixed roof with no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
- 9. This tank shall be equipped with a pressure-vacuum (PV) relief valve set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings and properly maintained in good operating order in accordance with the manufacturer's instructions. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
- 10. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
- 11. Permittee shall conduct True Vapor Pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
- 12. As used in this permit, the term "source or type" shall mean liquids with similar characteristics. The operator shall maintain records of API gravity of petroleum liquids stored in this unit to determine which are from common source. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
- 13. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623, 6.4.4] Federally Enforceable Through Title V Permit
- 14. For other organic liquids, the true vapor pressure (TVP) shall be measured using Reid vapor pressure ASTM Method D323, 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 of the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulations for AB 2588", dated August 1989. As an alternative to using ASTM D 323, the TVP of crude oil with an API gravity range of greater than 26 degrees up to 30 degrees may be determined by using other equivalent test methods approved by APCO, ARB and EPA. [District Rule 4623, 6.4.3] Federally Enforceable Through Title V Permit
- 15. Tank liquid throughput shall not exceed 1,000 barrels per day (monthly daily average) and 300,000 barrels per year. [District Rule 2201] Federally Enforceable Through Title V Permit
- 16. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, API gravity and throughput. [District Rules 2201and 4623] Federally Enforceable Through Title V Permit
- 17. 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 Rules 2520 and 4623] Federally Enforceable Through Title V Permit

