

May 2, 2022

Mr. Shamim Reza
Berry Petroleum Company LLC
11117 River Run Blvd
Bakersfield, CA 93311

Re: Notice of Preliminary Decision – Title V Permit Renewal
Facility Number: S-3585
Project Number: S-1203954

Dear Mr. Reza:

Enclosed for your review and comment is the District's analysis of the application to renew the Federally Mandated Operating Permit for Berry Petroleum Company LLC at Kern County Heavy Oil Central Stationary Source, California.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the renewed Federally Mandated Operating Permit. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Errol Villegas, Permit Services Manager, at (559) 230-5900.

Sincerely,



Brian Clements
Director of Permit Services

Enclosures

cc: Courtney Graham, CARB (w/enclosure) via email
cc: Gerardo Rios, EPA (w/enclosure) via EPS

Samir Sheikh
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SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

Proposed Title V Permit Renewal Evaluation Berry Petroleum Company LLC S-3585

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TITLE V PERMIT RENEWAL EVALUATION

Heavy Oil Production

Engineer: Gurpreet Brar
Date: May 2, 2022

Facility Number: S-3585
Facility Name: Berry Petroleum Company LLC
Mailing Address: 11117 River Run Blvd
Bakersfield, CA 93311

Contact Name: Shamim Reza
Title: EH&S Representative, Sr.
Phone: (661) 616-3889

Responsible Official: Joseph Cobb
Title: Regulatory and Environmental Manager

Project # : S-1203954
Deemed Complete: October 15, 2020

I. PROPOSAL

Berry Petroleum Company LLC was issued its initial Title V permit on November 30, 2011. The Title V permit was previously renewed in 2016. As required by District Rule 2520, the applicant is requesting a permit renewal. The existing Title V permit shall be reviewed and modified to reflect all applicable District and federal rules updated, removed, or added since the issuance of latest Title V permit.

The purpose of this evaluation is to provide the legal and factual basis for all updated applicable requirements and to determine if the facility will comply with these updated requirements. It also specifically identifies all additions, deletions, and/or changes made to permit conditions or equipment descriptions.

II. FACILITY LOCATION

Berry Petroleum Company LLC is located in the Kern County Heavy Oil Central Stationary Source, CA.

III. EQUIPMENT LISTING

A detailed facility printout listing all permitted equipment at the facility is included as Attachment C.

IV. GENERAL PERMIT TEMPLATE USAGE

The applicant does not propose to use any model general permit templates.

V. SCOPE OF EPA AND PUBLIC REVIEW

The applicant is not requesting any model general permit templates. Therefore, all federally enforceable conditions in this current Title V permit will be subject to EPA and public review.

VI. FEDERALLY ENFORCEABLE REQUIREMENTS

A. Rules Updated or Evaluated

- District Rule 2201, New and Modified Stationary Source Review Rule (amended April 21, 2011 – SIP version ⇒ amended August 15, 2019 – non-SIP version)
- District Rule 2520, Federally Mandated Operating Permits (amended June 21, 2001 – SIP version ⇒ amended August 15, 2019 – non-SIP version)
- District Rule 4306, Boilers, Steam Generators, and Process Heaters - Phase 3 (amended October 16, 2008 – SIP version ⇒ amended December 17, 2020 – non-SIP version)
- District Rule 4311, Flares, (amended June 18, 2009 – SIP version ⇒ amended December 17, 2020 – non-SIP version)

- District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater Than 5.0 MMBtu/hr (amended October 16, 2008 – SIP version ⇒ last amended December 17, 2020 – non-SIP version)
- District Rule 4601, Architectural Coatings (amended December 17, 2009 – SIP version ⇒ amended April 16, 2020 – Non-SIP version)
- 40 CFR Part 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (amended January 19, 2021)
- 40 CFR Part 60, Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution (amended September 14, 2020)
- 40 CFR Part 64, Compliance Assurance Monitoring (CAM) (adopted October 22, 1997)
- 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners (amended March 24, 2021)
- 40 CFR Part 82, Subpart F, Recycling and Emission Reduction (amended April 10, 2020)

B. Rules Removed

- Merced County Rule 109, Equipment Breakdown (SIP approved June 18, 1982)
- San Joaquin County Rule 110, Equipment Breakdown (SIP approved December 5, 1984)
- Fresno County Rule 110, Equipment Breakdown (SIP approved August 22, 1977 ⇒ District resolution to rescind from SIP February 17, 2022)
- Kern County Rule 111, Equipment Breakdown (SIP approved October 24, 1980 ⇒ District resolution to rescind from SIP February 17, 2022)

- Kings County Rule 111, Equipment Breakdown (SIP approved, last amended June 18, 1982 ⇒ District resolution to rescind from SIP February 17, 2022)
- Madera County Rule 113, Equipment Breakdown (SIP approved November 18, 1983 ⇒ District resolution to rescind from SIP February 17, 2022)
- Stanislaus County Rule 110, Equipment Breakdown (SIP approved June 1, 1983 ⇒ District resolution to rescind from SIP February 17, 2022)
- Tulare County Rule 111, Equipment Breakdown (SIP approved August 22, 1977 ⇒ District resolution to rescind from SIP February 17, 2022)

C. Rules Added

There are no applicable rules that were added since the previous Title V was issued.

D. Rules Not Updated

- District Rule 1070, Inspections (amended December 17, 1992)
- District Rule 1080, Stack Monitoring (amended December 17, 1992)
- District Rule 1081, Source Sampling (amended December 16, 1993)
- District Rule 2010, Permits Required (amended December 17, 1992)
- District Rule 2020, Exemptions (amended December 18, 2014)
- District Rule 2031, Transfer of Permits (amended December 17, 1992)
- District Rule 2070, Standards for Granting Applications (amended December 17, 1992)
- District Rule 2080, Conditional Approval (amended December 17, 1992)
- District Rule 2410, Prevention of Significant Deterioration (adopted June 16, 2011)
- District Rule 4101, Visible Emissions (amended February 17, 2005)

- District Rule 4201, Particulate Matter Concentration (amended December 17, 1992)
- District Rule 4202, Particulate Matter - Emission Rate (amended December 17, 1992)
- District Rule 4301, Fuel Burning Equipment (amended December 17, 1992)
- District Rule 4304, Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (adopted October 19, 1995)
- District Rule 4305, Boilers, Steam Generators, and Process Heaters - Phase 2 (amended August 21, 2003)
- District Rule 4351, Boilers, Steam Generators, and Process Heaters - Phase 1 (amended August 21, 2003)
- District Rule 4401, Steam-Enhanced Crude Oil Production Wells (amended June 16, 2011)
- District Rule 4406, Sulfur Compounds from Oil-Field Steam Generators - Kern County (amended December 17, 1992)
- District Rule 4623, Storage of Organic Liquids (amended August 21, 2003)
- District Rule 4801, Sulfur Compounds (amended December 17, 1992)
- District Rule 8011, General Requirements (amended August 19, 2004)
- District Rule 8021, Construction, Demolition, Excavation, and Extraction Activities (amended August 19, 2004)
- District Rule 8031, Bulk Materials (amended August 19, 2004)
- District Rule 8041, Carryout and Trackout (amended August 19, 2004)
- District Rule 8051, Open Area (amended August 19, 2004)
- District Rule 8061, Paved and Unpaved Roads (amended August 19, 2004)
- District Rule 8071, Unpaved Vehicle/Equipment Areas (amended September 16, 2004)

- 40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (amended February 16, 2012)
- 40 CFR Part 60, Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 (amended October 17, 2000)
- 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos (amended July 20, 2004)

VII. REQUIREMENTS NOT FEDERALLY ENFORCEABLE

For each Title V source, the District issues a single permit that contains the Federally Enforceable requirements, as well as the District-only requirements. The District-only requirements are not a part of the Title V Operating Permits. The terms and conditions that are part of the facility's Title V permit are designated as "Federally Enforceable Through Title V Permit."

For this facility, the following are not federally enforceable and will not be discussed in further detail:

A. Rules Added

None

B. Rules Updated

None

C. Rules Not Updated

- District Rule 1100, Equipment Breakdown (Amended December 17, 1992)

The following conditions are based on this rule and is therefore not federally enforceable through Title V:

Permit Unit	Permit Conditions
S-3585-0-3	1 and 2

- District Rule 1160, Emission Statements (Adopted November 18, 1992)

The following condition is based on this rule and is therefore not federally enforceable through Title V:

Permit Unit	Permit Condition
S-3585-0-3	3

- District Rule 2040, Applications (Amended December 17, 1992)

The following condition is based on this rule and is therefore not federally enforceable through Title V:

Permit Unit	Permit Condition
S-3585-0-3	7

- District Rule 4102, Nuisance (Amended December 17, 1992)

The following condition is based on this rule and is therefore not federally enforceable through Title V:

Permit Units	Permit Conditions
S-3585-0-3	41
S-3585-26-6 & -29-5	4
S-3585-30-4	2

VIII. PERMIT REQUIREMENTS

The purpose of this evaluation is to review changes to federally enforceable requirements; therefore, this compliance section will only address rules that have been amended or added since the issuance of the last TV renewal in 2016.

A. Fresno County Rule 110, Stanislaus County Rule 110, San Joaquin County Rule 110, Merced County Rule 109, Madera County Rule 113, Kern County Rule 111, Kings County Rule 111, and Tulare County Rule 111 - Equipment Breakdown

In accordance with EPA's State Implementation Plan (SIP) Call, on February 17, 2022, the District rescinded Fresno County Rule 110, Kern County Rule 111, Kings County Rule 111, Madera County Rule 113, Stanislaus County Rule 110, and Tulare County Rule 111 from the San Joaquin Valley SIP.

Since the facility is not located within Merced or San Joaquin County, it is not subject to the requirements of San Joaquin County Rule 110 or Merced County Rule 109 and the reference to these rules will be removed from conditions #1 and 2 on draft facility-wide permit S-3585-0-3. Therefore, proposed conditions #1 and 2 on draft facility-wide permit S-3585-0-3 are no longer Federally Enforceable due to the removal of all county rules as shown below.

- {4362} The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100, 6.1; ~~County Rules 110 (Fresno, Stanislaus, San Joaquin); 109 (Merced); 113 (Madera); and 111 (Kern, Tulare, Kings)~~] Y
- {4363} The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100, 7.0; ~~County Rules 110 (Fresno, Stanislaus, San Joaquin); 109 (Merced); 113 (Madera); and 111 (Kern, Tulare, Kings)~~] Y

B. District Rule 2201 - New and Modified Stationary Source Review Rule

District Rule 2201 has been amended since this Title V permit was last renewed. However, the requirements of this rule are only triggered at the time the source undergoes a modification. All applicable requirements from any NSR permit actions have already been incorporated into the current Title V permit. The updated requirements of this rule are therefore not applicable at this time.

The start-up condition #4 on current permit S-3585-36-3 is no longer applicable and was left on the permit in error during the conversion of ATC S-3585-36-2 to Permit to Operate S-3585-36-3. Therefore, the following condition will be removed from draft permit S-3585-36-4 under this project.

- ~~Upon initial start-up, the VOC content of a gas sample will be measured. [District Rule 2201]N~~

C. District Rule 2520 - Federally Mandated Operating Permits

This rule has been amended since this TV permit was last renewed, but the last amended version of the rule is not SIP approved. Additionally, the amendments to this rule do not have any effect on current permit requirements. However, only greenhouse gas emissions will be addressed under Rule 2520 during this renewal.

Greenhouse Gas Discussion

There are no federally applicable Greenhouse Gas (GHG) requirements for this source. It should be noted that the Mandatory Greenhouse Gas Reporting rule (40 CFR Part 98) is not included in the definition of an applicable requirement within Title V (per 40 CFR 71.2). Therefore, there will be no further discussion of GHG in this evaluation.

D. District Rule 4306 - Boilers, Steam Generators, and Process Heaters - Phase 3

This rule limits NO_x and CO emissions from boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. The oilfield facility has one 84.0 MMBtu/hr steam generator (permit unit S-3585-8), and five 85.0 MMBtu/hr steam generators (permit units S-3585-12-1, S-3585-17, S-3585-24, S-3585-28, and S-3585-30) that are subject to the requirements of this rule.

The units are in compliance with the current SIP version of the rule. However, the last amended version of the rule, which is not SIP approved, requires a lower NO_x emission limit for these units. The steam generators are in compliance with the NO_x and CO emission limits specified in Table 1 until December 30, 2023, and are required to comply with NO_x and CO emission limits specified in Table 2 on and after December 31, 2023 as shown in the following tables.

Table 1: Tier 1 NOx and CO Limits					
Category	Operated on Gaseous Fuel			Operated on Liquid Fuel	
	NOx Limit		CO Limit (ppmv)	NOx Limit	CO Limit (ppmv)
	Standard Option	Enhanced Option			
C. Oilfield Steam Generators	15 ppmv or 0.018 lb/MMBtu	No option	400	40 ppmv or 0.052 lb/MMBtu	400

Table 2: Tier 2 NOx and CO Limits				
Category	Operated on Gaseous Fuel		Operated on Liquid Fuel	
	NOx Limit	CO Limit (ppmv)	NOx Limit	CO Limit (ppmv)
C. Oilfield Steam Generators				
1. Units with a total rated heat input > 5.0 MMBtu/hr and ≤ 20.0 MMBtu/hr	9 ppmv or 0.011 lb/MMBtu	400	40 ppmv or 0.052 lb/MMBtu	400
2. Units with a total rated heat input > 20.0 MMBtu/hr and ≤ 75.0 MMBtu/hr	9 ppmv or 0.011 lb/MMBtu	400	40 ppmv or 0.052 lb/MMBtu	400
3. Units with a total rated heat input > 75.0 MMBtu/hr	7 ppmv or 0.0085 lb/MMBtu	400	40 ppmv or 0.052 lb/MMBtu	400
4. Units firing on less than 50%, by volume, PUC S quality gas	15 ppmv or 0.018 lb/MMBtu	400	40 ppmv or 0.052 lb/MMBtu	400

Since the units at this facility that are subject to this rule are currently in compliance with the current SIP version of the rule, and no compliance deadlines for the most recent non-SIP approved rule have passed, no further discussion of the requirements of this rule is necessary.

E. District Rule 4311 - Flares

This rule limits the emissions of volatile organic compounds (VOC), oxides of nitrogen (NO_x), and sulfur oxides (SO_x) from the operation of flares. This rule is applicable to operations involving the use of flares.

The flare under permit unit S-3585-9 is a non-emergency open flare that is in compliance with the current SIP approved version of the rule. However, the last amended version of the rule, which is not SIP approved, removes the exemption for flares operating at sources that emit less than 10 tons per year of both NO_x and VOC. This change has no effect on this flare, since the facility's emission rates are greater than 10 tons/day for each of these pollutants. The rule amendment requires operators of flares to meet the flare annual throughput thresholds in Rule 4311, Table 2, or to meet revised NO_x and VOC emission requirements listed in Rule 4311, Table 3. The compliance dated of Rule 4311 begin coming into effect on December 31, 2023. The facility is required to submit an Authority to Construct permit application to comply with the future requirements by July 1, 2022.

The flare at this facility is not subject to the current emission limit requirements of Rule 4311 listed in Table 1, and Table 2 and Table 3 requirements are not yet in effect. Therefore, no changes to the permits are required to the permit at this time since the unit and the current permit complies with all current Rule 4311 requirements. An Authority to Construct application and emission control plan will be submitted in the future to address the Table 2 and Table 3 requirements, as applicable to the unit. Since the unit is currently in compliance with the current SIP version of the rule, no further discussion is necessary of this rule.

F. District Rule 4320 - Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater Than 5.0 MMBtu/hr

This rule limits NO_x, CO, SO₂ and PM₁₀ emissions from boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. The oilfield facility has one 84.0 MMBtu/hr steam generator (permit unit S-3585-8), and five 85.0 MMBtu/hr steam generators (permit units S-3585-12-1, S-3585-17, S-3585-24, S-3585-28, and S-3585-30) that are subject to the requirements of this rule.

The units are in compliance with the current SIP approved version of the rule. However, the last amended version of the rule, which is not SIP approved, requires a lower NOx emission limit for this unit. The following table from the non-SIP version of the rule specifies the applicable NOx emission limits, Emission Control Plan, Authority to Construct, and compliance deadlines:

Table 2: Tier 2 NOx Emission Limits				
Category	NOx Limit	Emission Control Plan	Authority to Construct	Compliance Deadline
C. Oilfield Steam Generators				
1. Units with a total rated heat input > 5.0 MMBtu/hr and ≤ 20.0 MMBtu/hr	6 ppmv or 0.0073 lb/MMBtu	May 1, 2022	May 1, 2022	December 31, 2023
2. Units with a total rated heat input > 20.0 MMBtu/hr and ≤ 75.0 MMBtu/hr	5 ppmv or 0.0061 lb/MMBtu	May 1, 2022	May 1, 2022	December 31, 2023
3. Units with a total rated heat input > 75.0 MMBtu/hr	5 ppmv or 0.0061 lb/MMBtu	May 1, 2022	May 1, 2022	December 31, 2023
4. Units firing on less than 50%, by volume, PUC quality gas	5 ppmv or 0.0061 lb/MMBtu	May 1, 2022	May 1, 2022	December 31, 2023

Since the units at this facility that are subject to this rule are currently in compliance with the current SIP version of the rule, and no compliance deadlines for the most recent non-SIP approved rule have passed, no further discussion of the requirements of this rule is necessary.

G. District Rule 4601 - Architectural Coatings

This rule limits the emissions of VOC's from architectural coatings. It requires limiting the application of any architectural coating to no more than what is listed in the Tables 1 and 2 of Section 5.0 of the amended rule. This rule specifies architectural coatings storage, cleanup, and labeling requirements.

The rule was amended in April 16, 2020 but had not been SIP approved. The stringency analysis in Attachment D shows that the amended rule is as stringent as the SIP approved version of the rule that was adopted in December 17, 2009.

The following changes were included in the latest rule amendment that resulted in revising current permit requirements:

- The tables outlining the VOC content of different specialty coatings and colorants have been largely replaced with the Table 1 and Table 2 in Section 5.0.

The updated conditions 23, 24 and 25 on draft facility-wide permit S-3585-0-3 will assure compliance with the requirements of this rule.

H. 40 CFR Part 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984

40 CFR Part 60, Subparts, Kb could potentially apply to the storage tank located at this facility. However, Pursuant to 40 CFR 60.110b(b), this section does not apply to storage vessels with a capacity of $\geq 151 \text{ m}^3$ (949.79 bbl (US oil)) storing a liquid with a maximum true vapor pressure < 3.5 kilopascals (0.508 psi). Since all of the oil at this facility has a TVP of less than 0.50 psi, 40 CFR 60 Subpart Kb is not applicable to any of the tanks and no further discussion is required.

I. 40 CFR Part 60, Subpart OOOO - Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution

This subpart establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO_2) emissions from affected facilities in the crude oil and natural gas production source category that commence construction, modification, or reconstruction after August 23, 2011, and on or before September 18, 2015. In particular, the standards apply to new natural gas well completions, oil/condensate storage tanks with individual tank VOC emissions of 6 tons per day or greater, certain centrifugal compressors with wet seals and reciprocating compressors, continuous bleed natural gas-driven pneumatic controllers with a bleed rate greater than 6 scf/h, glycol dehydrators at major HAP sources, leak detection limits for new valves at gas processing plants, and sulfur removal units producing sulfur at a rate of at least 5 tons/day and located at natural gas processing plants.

This standard could potentially apply to the storage tanks at this facility. However, pursuant to section §60.5365, Subpart OOOO has no standards for tanks with annual VOC emissions less than 6 tons per year. As seen in the Actual Emissions Report included with this permit renewal application, none of the tanks in this facility meet the threshold for applicability of the rule. Therefore, it is not an affected facility and Subpart OOOO does not apply.

J. 40 CFR Part 64 - Compliance Assurance Monitoring (CAM)

40 CFR Part 64 requires Compliance Assurance Monitoring (CAM) for units that meet the following three criteria:

1. the unit must have an emission limit for the pollutant;
2. the unit must have add-on controls for the pollutant; these are devices such as flue gas recirculation (FGR), SCR system, baghouses, and thermal/catalytic oxidizers; and
3. the unit must have a pre-control potential to emit of greater than the major source thresholds.

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

Each permit unit at this facility was evaluated for compliance with CAM requirements during the previous Title V action for this facility. The requirements of this subpart have not been amended since the previous Title V action; however, to ensure continued compliance with the requirements of this subpart, compliance with CAM will be demonstrated in this Title V renewal.

a. S-3585-3-5 to -6-5: 84,000 GALLON FIXED ROOF STORAGE TANKS

These fixed roof storage tanks are not subject to CAM since the tanks do not have emissions limits for any of the criteria pollutants.

b. S-3585-11-8: 9.0 MMBTU/HR NATURAL GAS-FIRED HEATER TREATER WITH LOW-NOX BURNERS

This permit unit has emissions limits for NO_x, SO_x, PM₁₀, CO, and VOC. However, the unit is not subject to CAM because it does not include any add-on controls for any of the criteria pollutants.

c. S-3585-8-8, S-3585-12-5, S-3585-17-4, S-3585-24-4, S-3585-28-4, AND S-3585-30-4: ONE 84 MMBTU/HR NATURAL & TEOR GAS-FIRED STEAM GENERATOR, ONE 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR, AND FOUR 85 MMBTU/HR NATURAL/TEOR GAS-FIRED STEAM GENERATORS, EACH WITH A ULTRA LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND AN O₂ CONTROLLER

Each permit unit has emissions limits for NO_x, SO_x, PM₁₀, CO, and VOC. However, the unit does not have add-on control devices for SO_x, PM₁₀, CO, or VOC; therefore, these units are not subject to CAM for these pollutants.

Each unit is equipped with a FGR that is considered to be an add-on control device for NO_x so it may be subject to CAM for this pollutant. In order to be subject to CAM, each steam generator must also be a pre-control major source for NO_x emissions.

Since steam generators are not source tested with and without the FGR system operating, the effectiveness of the FGR system must be determined by other means in order to determine if the steam generators are major NO_x sources without the add-on FGR systems.

EPA AP-42, Table 1.4-1 lists the following emission factors for steam generators.

EPA AP-42 Emission Factors	
	Emissions Factor (lb-NO _x per MMscf)
Uncontrolled	100
Controlled – Low NO _x burners	50
Controlled – Low NO _x burners/Flue gas recirculation	32

The control efficiency (CE) of the FGR (in % NO_x reduction) is calculated as follows:

$$\frac{(50 - 32) \text{ lb} \cdot \text{NO}_x / \text{MMscf}}{50 \text{ lb} \cdot \text{NO}_x / \text{MMscf}} \times 100\% = 36\%$$

Therefore the FGR reduces NO_x by 36%.

The following calculation determines whether the pre-control PE for each unit is greater than the major source threshold. The NO_x emission factor is 7 ppmv-NO_x @ 3% O₂ (0.008 lb/MMBtu) for each of the steam generator.

S-3585-8-8:

$$\begin{aligned} \text{Pre-control PE NO}_x &= 0.008 \text{ lb-NO}_x/\text{MMBtu} \times 84 \text{ MMBtu/hr} \times 24 \\ &\quad \text{hr/day} \times 365 \text{ day/year} \div (1-0.36) \\ &= 9,198 \text{ lb-NO}_x/\text{year} \end{aligned}$$

S-3585-12-5, -17-4, -24-4, -28-4, and -30-4:

$$\begin{aligned} \text{Pre-control PE NO}_x &= 0.008 \text{ lb-NO}_x/\text{MMBtu} \times 85 \text{ MMBtu/hr} \times 24 \\ &\quad \text{hr/day} \times 365 \text{ day/year} \div (1-0.36) \\ &= 9,308 \text{ lb-NO}_x/\text{year} \end{aligned}$$

Since the pre-control PE for NO_x for each permit unit is not greater than the major source threshold of 20,000 lb-NO_x/year, these units are not subject to CAM for NO_x.

- d. S-3585-9-20: TEOR OPERATION WITH CASING GAS COLLECTION SYSTEM WITH SULFUR TREATMENT SYSTEM AND STEAM KNOCK-OUT SKID WITH FIN FAN COOLERS, GAS SCRUBBER, ELECTRIC CONDENSATE PUMPS, ELECTRIC COMPRESSOR, AND GAS FILTERS SERVING 275 STEAM-ENHANCED WELLS CONNECTED TO TANK VAPOR RECOVERY SYSTEM S-3585-32 AND VENTED TO A FLARE AND/OR STEAM GENERATORS -8, -17, -24 AND -28

40 CFR 64.1 defines a control device as equipment, other than inherent process equipment, that is used to destroy or remove air pollutants prior to discharge to the atmosphere. For TEOR systems, the District has determined that the vapor piping is “inherent process equipment”. Such a network is an array of pipes that connect the wells and route the vapors to where they must go. The piping network is inherent to the TEOR system. Inherent process equipment is explicitly excluded from the definition of control device as defined in 40 CFR 64. Therefore, the TEOR system is not subject to CAM.

- e. S-3585-13-8, -14-7, -25-6, -26-6, -29-5, -32-5, -33-5, -35-4, AND -36-4: STORAGE TANKS, DRAIN TANK AND EMULSION TANK; S-1385-16-7 AND -31-5: WEMCO UNITS; ALL SERVED BY VAPOR CONTROL SYSTEM LISTED ON S-3585-32

40 CFR 64.1 defines a control device as equipment, other than inherent process equipment, that is used to destroy or remove air pollutants prior to discharge to the atmosphere. For tanks with vapor control system, the District has determined that the vapor control system is “inherent process equipment” that is used to increase the safe and proper functioning of the tank battery. Such a vapor control system serves to reduce emissions of H₂S (a toxic substance) from the tanks and to reduce corrosion in the tanks vapor space by eliminating the intrusion of ambient air. Inherent process equipment is explicitly excluded from the definition of control device as defined in 40 CFR 64. Therefore, these permit units are not subject to CAM.

K. 40 CFR Part 82 Subpart B - Servicing of Motor Vehicle Air Conditioners

Per §82.30(a) the purpose of 40 CFR Part 82 Subpart B is to implement section 609 of the Clean Air Act, as amended regarding the servicing of motor vehicle air conditioners (MVACs), and to implement section 608 of the Clean Air Act regarding certain servicing, maintenance, repair and disposal of air conditioners in MVACs and MVAC-like appliances (as that term is defined in 40 CFR 82.152).

Per §82.30(b) these regulations apply to any person performing service on a motor vehicle for consideration when this service involves the refrigerant in the motor vehicle air conditioner.

The amendments to this subpart did not have any effect on the current permit requirements and will therefore not be addressed further in this evaluation.

The following condition on the draft renewed permit is a mechanism to ensure compliance with the requirements of this subpart:

Renewed Permit	Permit Condition
S-3585-0-3	28

L. 40 CFR Part 82 Subpart F - Recycling and Emissions Reductions

Per §82.150(a) the purpose of 40 CFR Part 82 Subpart F is to reduce emissions of class I and class II refrigerants and their substitutes to the lowest achievable level by maximizing the recapture and recycling of such refrigerants during the service, maintenance, repair, and disposal of appliances and restricting the sale of refrigerants consisting in whole or in part of a class I and class II ODS in accordance with Title VI of the Clean Air Act.

Per §82.150(b) these regulations apply to any person servicing, maintaining, or repairing appliances. This subpart also applies to persons disposing of appliances, including small appliances and motor vehicle air conditioners. In addition, this subpart applies to refrigerant reclaimers, technician certifying programs, appliance owners and operators, manufacturers of appliances, manufacturers of recycling and recovery equipment, approved recycling and recovery equipment testing organizations, persons selling class I or class II refrigerants or offering class I or class II refrigerants for sale, and persons purchasing class I or class II refrigerants.

The amendments to this subpart did not have any effect on the current permit requirements and will therefore not be addressed further in this evaluation.

The following condition on the draft renewed permit is a mechanism to ensure compliance with the requirements of this subpart:

Renewed Permit	Permit Condition
S-3585-0-3	27

IX. PERMIT SHIELD

A permit shield legally protects a facility from enforcement of the shielded regulations when a source is in compliance with the terms and conditions of the Title V permit. Compliance with the terms and conditions of the Operating Permit is considered compliance with all applicable requirements upon which those conditions are based, including those that have been subsumed.

A. Requirements Addressed by Model General Permit Templates

The applicant does not propose to use any model general permit templates.

B. Requirements not Addressed by Model General Permit Templates

The applicant is not requesting any permit shields.

C. Obsolete Permit Shields From Existing Permit Requirements

There are few county rules have been removed from the San Joaquin Valley SIP as discussed in Section VII.A and also the facility is not subject to the other county rules; therefore, the permit shield for all county rules will be removed from condition 39 on draft facility-wide permit S-3585-0-3 .

- {4400} Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: Rule 401 (Madera, Fresno, Kern, Kings, San Joaquin, Stanislaus, Tulare and Merced), ~~Rule 110 (Fresno, Stanislaus, San Joaquin), Rule 109 (Merced), Rule 113 (Madera), Rule 111 (Kern, Tulare, Kings), and Rule 202 (Fresno, Kern, Tulare, Kings, Madera, Stanislaus, Merced, San Joaquin).~~ A permit shield is granted from these requirements. [District Rule 2520, 13.2] Y

X. California Environmental Quality Act

The purpose of the Title V permit renewal is to update the permit to ensure that any changes to regulations since the issuance of the initial Title V permit or most recent renewal of the Title V permit are incorporated as permit requirements.

Per the California Environmental Quality Act (CEQA) Statute §21080.24, and CEQA Guidelines §15281, the issuance, modification, amendment, or renewal of any permit by an air pollution control district or air quality management district pursuant to Title V is exempt from CEQA, unless the issuance, modification, amendment, or renewal authorizes a physical or operational change to a source or facility. There will be no physical or operational change to the source or facility nor will the Title V permit renewal authorize a physical or operational change to the source or facility. Therefore, this project, a Title V permit renewal, is subject to a ministerial action that is exempt from CEQA.

XI. PERMIT CONDITIONS

See Attachment A - Draft Renewed Title V Operating Permit

XII. ATTACHMENTS

- A. Draft Renewed Title V Operating Permit
- B. Previous Title V Operating Permit
- C. Detailed Summary List of Facility Permits
- D. District Rule 4601 Stringency Analysis

ATTACHMENT A

Draft Renewed Title V Operating Permit

San Joaquin Valley Air Pollution Control District

FACILITY: S-3585-0-3

EXPIRATION DATE: 04/30/2021

FACILITY-WIDE REQUIREMENTS

1. The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100, 6.1]
2. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100, 7.0]
3. The owner or operator of any stationary source operation that emits more than 25 tons per year of nitrogen oxides or reactive organic compounds, shall provide the District annually with a written statement in such form and at such time as the District prescribes, showing actual emissions of nitrogen oxides and reactive organic compounds from that source. [District Rule 1160, 5.0]
4. {4365} Any person building, altering or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, shall first obtain an Authority to Construct (ATC) from the District unless exempted by District Rule 2020 (12/20/07). [District Rule 2010, 3.0 and 4.0; and 2020] Federally Enforceable Through Title V Permit
5. {4366} The permittee must comply with all conditions of the permit including permit revisions originated by the District. All terms and conditions of a permit that are required pursuant to the Clean Air Act (CAA), including provisions to limit potential to emit, are enforceable by the EPA and Citizens under the CAA. Any permit noncompliance constitutes a violation of the CAA and the District Rules and Regulations, and is grounds for enforcement action, for permit termination, revocation, reopening and reissuance, or modification; or for denial of a permit renewal application. [District Rules 2070, 7.0; 2080; and 2520, 9.8.1 and 9.13.1] Federally Enforceable Through Title V Permit
6. {4367} A Permit to Operate or an Authority to Construct shall not be transferred unless a new application is filed with and approved by the District. [District Rule 2031] Federally Enforceable Through Title V Permit
7. Every application for a permit required under Rule 2010 (12/17/92) shall be filed in a manner and form prescribed by the District. [District Rule 2040]
8. {4369} The operator shall maintain records of required monitoring that include: 1) the date, place, and time of sampling or measurement; 2) the date(s) analyses were performed; 3) the company or entity that performed the analysis; 4) the analytical techniques or methods used; 5) the results of such analysis; and 6) the operating conditions at the time of sampling or measurement. [District Rule 2520, 9.4.1] Federally Enforceable Through Title V Permit
9. {4370} The operator shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report. Support information includes copies of all reports required by the permit and, for continuous monitoring instrumentation, all calibration and maintenance records and all original strip-chart recordings. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate. Any amendments to these Facility-wide Requirements that affect specific Permit Units may constitute modification of those Permit Units.

Facility Name: BERRY PETROLEUM COMPANY LLC
Location: HEAVY OIL CENTRAL STATIONARY SOURCE, CA
S-3585-0-3 : May 9 2022 11:07AM -- BRARG

10. {4371} The operator shall submit reports of any required monitoring at least every six months unless a different frequency is required by an applicable requirement. All instances of deviations from permit requirements must be clearly identified in such reports. [District Rule 2520, 9.5.1] Federally Enforceable Through Title V Permit
11. {4372} Deviations from permit conditions must be promptly reported, including deviations attributable to upset conditions, as defined in the permit. For the purpose of this condition, promptly means as soon as reasonably possible, but no later than 10 days after detection. The report shall include the probable cause of such deviations, and any corrective actions or preventive measures taken. All required reports must be certified by a responsible official consistent with section 10.0 of District Rule 2520 (6/21/01). [District Rules 2520, 9.5.2 and 1100, 7.0] Federally Enforceable Through Title V Permit
12. {4373} If for any reason a permit requirement or condition is being challenged for its constitutionality or validity by a court of competent jurisdiction, the outcome of such challenge shall not affect or invalidate the remainder of the conditions or requirements in that permit. [District Rule 2520, 9.7] Federally Enforceable Through Title V Permit
13. {4374} It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. [District Rule 2520, 9.8.2] Federally Enforceable Through Title V Permit
14. {4375} The permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 2520, 9.8.3] Federally Enforceable Through Title V Permit
15. {4376} The permit does not convey any property rights of any sort, or any exclusive privilege. [District Rule 2520, 9.8.4] Federally Enforceable Through Title V Permit
16. {4377} The Permittee shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the District copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to EPA along with a claim of confidentiality. [District Rule 2520, 9.8.5] Federally Enforceable Through Title V Permit
17. {4378} The permittee shall pay annual permit fees and other applicable fees as prescribed in Regulation III of the District Rules and Regulations. [District Rule 2520, 9.9] Federally Enforceable Through Title V Permit
18. {4379} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 2520, 9.13.2.1] Federally Enforceable Through Title V Permit
19. {4380} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 2520, 9.13.2.2] Federally Enforceable Through Title V Permit
20. {4381} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. [District Rule 2520, 9.13.2.3] Federally Enforceable Through Title V Permit
21. {4382} Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. [District Rule 2520, 9.13.2.4] Federally Enforceable Through Title V Permit

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

22. {4383} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
23. No person shall manufacture, blend, repackage, supply, markets, sell, solicit or apply any architectural coating with a VOC content in excess of the corresponding limit specified in Table of Standards 2 of District Rule 4601 (4/16/20), and shall comply with Table 1 and Table 2 effective on and after 1/1/22 of District Rule 4601 (4/16/20) for use or sale within the District. [District Rule 4601, 5.1] Federally Enforceable Through Title V Permit
24. All VOC-containing materials subject to Rule 4601 (4/16/20) shall be stored in closed containers when not in use. [District Rule 4601, 5.4] Federally Enforceable Through Title V Permit
25. The permittee shall comply with all the Labeling and Test Methods requirements outlined in Rule 4601 sections 6.1 and 6.3 (4/16/20). [District Rule 4601, 6.1 and 6.3] Federally Enforceable Through Title V Permit
26. {4387} With each report or document submitted under a permit requirement or a request for information by the District or EPA, the permittee shall include a certification of truth, accuracy, and completeness by a responsible official. [District Rule 2520, 9.13.1 and 10.0] Federally Enforceable Through Title V Permit
27. {4388} If the permittee performs maintenance on, or services, repairs, or disposes of appliances, the permittee shall comply with the standards for Recycling and Emissions Reduction pursuant to 40 CFR Part 82, Subpart F. [40 CFR 82 Subpart F] Federally Enforceable Through Title V Permit
28. {4389} If the permittee performs service on motor vehicles when this service involves the ozone-depleting refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the standards for Servicing of Motor Vehicle Air Conditioners pursuant to all the applicable requirements as specified in 40 CFR Part 82, Subpart B. [40 CFR Part 82, Subpart B] Federally Enforceable Through Title V Permit
29. {4390} Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8021] Federally Enforceable Through Title V Permit
30. {4391} Outdoor handling, storage and transport of any bulk material which emits dust shall comply with the requirements of District Rule 8031, unless specifically exempted under Section 4.0 of Rule 8031 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit
31. {4392} An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8041] Federally Enforceable Through Title V Permit
32. {4393} Whenever open areas are disturbed, or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8051] Federally Enforceable Through Title V Permit
33. {4394} Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8061] Federally Enforceable Through Title V Permit

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

34. {4395} Any unpaved vehicle/equipment area that anticipates more than 50 Average annual daily Trips (AADT) shall comply with the requirements of Section 5.1.1 of District Rule 8071. Any unpaved vehicle/equipment area that anticipates more than 150 vehicle trips per day (VDT) shall comply with the requirements of Section 5.1.2 of District Rule 8071. On each day that 25 or more VDT with 3 or more axles will occur on an unpaved vehicle/equipment traffic area, the owner/operator shall comply with the requirements of Section 5.1.3 of District Rule 8071. On each day when a special event will result in 1,000 or more vehicles that will travel/park on an unpaved area, the owner/operator shall comply with the requirements of Section 5.1.4 of District Rule 8071. All sources shall comply with the requirements of Section 5.0 of District Rule 8071 unless specifically exempted under Section 4.0 of Rule 8071 (9/16/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8071] Federally Enforceable Through Title V Permit
35. {4396} Any owner or operator of a demolition or renovation activity, as defined in 40 CFR 61.141, shall comply with the applicable inspection, notification, removal, and disposal procedures for asbestos containing materials as specified in 40 CFR 61.145 (Standard for Demolition and Renovation). [40 CFR 61 Subpart M] Federally Enforceable Through Title V Permit
36. {4397} The permittee shall submit certifications of compliance with the terms and standards contained in Title V permits, including emission limits, standards and work practices, to the District and the EPA annually (or more frequently as specified in an applicable requirement or as specified by the District). The certification shall include the identification of each permit term or condition, the compliance status, whether compliance was continuous or intermittent, the methods used for determining the compliance status, and any other facts required by the District to determine the compliance status of the source. [District Rule 2520, 9.16] Federally Enforceable Through Title V Permit
37. {4398} The permittee shall submit an application for Title V permit renewal to the District at least six months, but not greater than 18 months, prior to the permit expiration date. [District Rule 2520, 5.2] Federally Enforceable Through Title V Permit
38. {4399} When a term is not defined in a Title V permit condition, the definition in the rule cited as the origin and authority for the condition in a Title V permits shall apply. [District Rule 2520, 9.1.1] Federally Enforceable Through Title V Permit
39. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: Rule 401 (Madera, Fresno, Kern, Kings, San Joaquin, Stanislaus, Tulare and Merced) and Rule 202 (Fresno, Kern, Tulare, Kings, Madera, Stanislaus, Merced, San Joaquin). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
40. {4401} Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rules 1100, sections 6.1 and 7.0 (12/17/92); 2010, sections 3.0 and 4.0 (12/17/92); 2031 (12/17/92); 2040 (12/17/92); 2070, section 7.0 (12/17/92); 2080 (12/17/92); 4101 (2/17/05); 4601 (12/17/09); 8021 (8/19/2004); 8031 (8/19/2004); 8041 (8/19/2004); 8051 (8/19/2004); 8061 (8/19/2004); and 8071 (9/16/2004). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
42. When applicable to 40 CFR Part 68, a subject facility shall submit to the proper authority a Risk Management Plan when mandated by the regulation. [40 CFR Part 68] Federally Enforceable Through Title V Permit
43. The reporting periods for the Report of Required Monitoring and the Compliance Certification Report begin December 1 of every year, unless alternative dates are approved by the District Compliance Division. These reports are due within 30 days after the end of the reporting period. [District Rule 2520] Federally Enforceable Through Title V Permit

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

*San Joaquin Valley
Air Pollution Control District*

PERMIT UNIT: S-3585-3-5

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S302

PERMIT UNIT REQUIREMENTS

1. 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 Rule 4623] Federally Enforceable Through Title V Permit
2. 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 Rule 4623] Federally Enforceable Through Title V Permit
3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Formerly permit number S-1632-8-0.

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

*San Joaquin Valley
Air Pollution Control District*

PERMIT UNIT: S-3585-4-5

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S284

PERMIT UNIT REQUIREMENTS

1. 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 Rule 4623] Federally Enforceable Through Title V Permit
2. 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 Rule 4623] Federally Enforceable Through Title V Permit
3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Formerly permit number S-1632-9-0.

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

*San Joaquin Valley
Air Pollution Control District*

PERMIT UNIT: S-3585-5-5

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S283

PERMIT UNIT REQUIREMENTS

1. 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 Rule 4623] Federally Enforceable Through Title V Permit
2. 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 Rule 4623] Federally Enforceable Through Title V Permit
3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Formerly permit number S-1632-10-0.

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

*San Joaquin Valley
Air Pollution Control District*

PERMIT UNIT: S-3585-6-5

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S285

PERMIT UNIT REQUIREMENTS

1. 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 Rule 4623] Federally Enforceable Through Title V Permit
2. 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 Rule 4623] Federally Enforceable Through Title V Permit
3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Formerly permit number S-1632-11-0.

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-8-8

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

84 MMBTU/HR THERMOTICS NATURAL & TEOR GAS-FIRED STEAM GENERATOR W/ MAGNA FLAME MODEL 4231-85-GLE-X2631 BURNER, FGR, AND RADAC O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions shall not exceed any of the following limits: 7 ppmv-NOx @ 3% O2 (0.008 lb/MMBtu), 0.0084 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmv-CO @ 3% O2 (0.037 lb-CO/MMBtu) or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. The sulfur content of the gas combusted in this steam generator shall be reduced by a minimum of 95% or to a concentration not to exceed 2.95 grains/100 dscf. [District Rules 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
5. The gas incinerated in this steam generator shall be tested for sulfur content every week in which it burns non-PUC certified gas, during the time that it is burning the non-PUC certified gas. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated on any non-PUC certified gas during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated on fuel that contains non-PUC certified gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] 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.

9. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall determine sulfur content of gas combusted in this steam generator using ASTM method D3246 or double GC for H2S and mercaptans or Draeger tube analysis. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. All units in a group for which representative units are source tested for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. The number of representative units source tested for NOx and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] 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.

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
25. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

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

PERMIT UNIT: S-3585-9-20

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

TEOR OPERATION WITH CASING GAS COLLECTION SYSTEM WITH SULFUR TREATMENT SYSTEM AND STEAM KNOCK-OUT SKID WITH FIN FAN COOLERS, GAS SCRUBBER, ELECTRIC CONDENSATE PUMPS, ELECTRIC COMPRESSOR, AND GAS FILTERS SERVING 275 STEAM-ENHANCED WELLS CONNECTED TO TANK VAPOR RECOVERY SYSTEM S-3585-32 AND VENTED TO A FLARE AND/OR STEAM GENERATORS -8, -17, -24 AND -28

PERMIT UNIT REQUIREMENTS

1. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit
2. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit
3. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit
4. Flare gas pressure shall be greater than or equal to 5 psig. [District Rules 4001 and 4311] Federally Enforceable Through Title V Permit
5. Air-assist blower shall be maintained and operated for smokeless combustion. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
6. Flare shall be equipped with operational produced gas volume flow meter. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The total number of leaks in the TEOR system shall not exceed 15. [District Rules 2201 and 4401] Federally Enforceable Through Title V Permit
8. There shall be no components with any gas leaks greater than 50,000 ppmv. [District Rule 4401] Federally Enforceable Through Title V Permit
9. Pilot gas flow rate to flare shall not exceed 1,500 scf per day. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Flow rate of collected casing gas and tank vapor recovery gas to the flare shall not exceed 251,580 scf per day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Pilot shall be fired only on PUC quality natural gas containing no more than 1 grain-S/100 scf. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The weight percentage of VOC in the total organic compounds in the TEOR gas shall not exceed 52%. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

13. Sulfur compounds of casing gas and tank vapor recovery gas shall be reduced by a minimum of 95% across the sulfur treatment system or to an outlet concentration not exceeding 2.91 grain/100 scf. Compliance with sulfur treatment system control efficiency or outlet concentration limit shall be demonstrated annually by measuring the inlet and/or outlet flows to the treatment system, as appropriate. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Emissions from the flare shall not exceed any of the following limits: 67.9 lb-NO_x/MMscf, 8.3 lb-SO_x/MMscf, 7.9 lb-PM₁₀/MMscf, 369.8 lb-CO/MMscf, or 63.1 lb-VOC/MMscf. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Fugitive emissions from the TEOR system shall not exceed 58.6 lb-VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Un-condensable vapors from these steam enhanced wells shall be incinerated in the flare and/or steam generators S-3585-8 (J401), -17 (J403), -24 (J404), and -28 (J405). [District Rule 2201] Federally Enforceable Through Title V Permit
17. The gas being flared shall be tested for sulfur content every week in which it operates. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated again. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The sulfur content of the gas being flared shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The TEOR gas shall be tested annually for VOC content. [District Rule 2201] Federally Enforceable Through Title V Permit
20. VOC content of gas shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Any open steam-enhanced crude oil production well vents shall be connected to a VOC collection and control system that has a VOC destruction or removal efficiency of at least 99%. [District Rule 4401] Federally Enforceable Through Title V Permit
22. There shall be no open ended lines or valves located at the end of any lines that are not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401] Federally Enforceable Through Title V Permit
23. Unless otherwise specified, an operator shall perform all component inspections and gas leak measurements pursuant to the requirements of Section 6.3.3 of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
24. Except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 of Rule 4401 at least once every year. [District Rule 4401] Federally Enforceable Through Title V Permit
25. An operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but no later than any of the following limits: 14 calendar days for minor gas leaks, 5 calendar days for major gas leaks between 10,000 ppm and 50,000 ppmv, 2 calendar days for major gas leaks in excess of 50,000 ppmv, 3 calendar days for minor liquid leaks and 2 calendar days for major liquid leaks. [District Rule 4401] 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.

26. An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but no later than any of the following limits: 14 calendar days for minor gas leaks, 5 calendar days for major gas leaks between 10,000 ppm and 50,000 ppmv, 2 calendar days for major gas leaks in excess of 50,000 ppmv, 3 calendar days for minor liquid leaks and 2 calendar days for major liquid leaks. [District Rule 4401] Federally Enforceable Through Title V Permit
27. An operator shall initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release. An operator shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection. [District Rule 4401] Federally Enforceable Through Title V Permit
28. An operator shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. [District Rule 4401] Federally Enforceable Through Title V Permit
29. Except for PRDs subject to the requirements of Section 5.8.4.1 of Rule 4401, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401] Federally Enforceable Through Title V Permit
30. An operator shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401] Federally Enforceable Through Title V Permit
31. A District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401] Federally Enforceable Through Title V Permit
32. Upon detection of a leaking component, the operator shall affix to that component a weatherproof, readily visible tag, bearing the date and time when the leak was detected, the date and time of the leak measurement, and the concentration in ppmv. The tag shall remain in place until the leaking component is repaired or replaced and reinspected (using EPA test method 21) and found to be in compliance with the requirements of this rule. [District Rule 4401] Federally Enforceable Through Title V Permit
33. The operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401] Federally Enforceable Through Title V Permit
34. If an operator has minimized a leak in a non-critical or non-essential component, but the leak still exceeds the applicable leak limits as defined in Section 3.0 of Rule 4401, an operator shall either repair or replace the leaking component, vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or remove the leaking component from operation as soon as practicable, but no later than any of the following limits: 14 calendar days for minor gas leaks, 5 calendar days for major gas leaks between 10,000 ppm and 50,000 ppmv, 2 calendar days for major gas leaks in excess of 50,000 ppmv, 3 calendar days for minor liquid leaks and 2 calendar days for major liquid leaks. [District Rule 4401] Federally Enforceable Through Title V Permit
35. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of Rule 4401, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401] 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. An operator shall maintain records required by Section 6.1, including all of the following information: 1) The date and well identification where steam injection or well stimulation occurs, 2) The inspection log pursuant to Section 6.4 of Rule 4401, 3) Records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration, 4) Copies at the facility of the training records of the training program operated pursuant to Section 6.5 of Rule 4401, 5) A copy of the APCO-approved Operator Management Plan at the facility, 6) A list of all gauge tanks including the size, identification number, the location of each gauge tank and specify whether the gauge tank is upstream of all front line production equipment, and 8) The date that any PRD release is discovered, and the identity and location of the PRD that released. [District Rule 4401] Federally Enforceable Through Title V Permit
37. An operator shall maintain an inspection log that includes all of the following data: 1) The total number of components inspected, and the total number and percentage of leaking components found by component type, 2) The location, type, and name or description of each leaking component and description of any unit where the leaking component is found, 3) The date of leak detection and the method of leak detection, 4) For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak, 5) The date of repair, replacement, or removal from operation of leaking components, 6) The identity and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, 7) The methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced, 9) The inspector's name, business mailing address, and business telephone number, and 10) The date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401] Federally Enforceable Through Title V Permit
38. An operator shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. [District Rule 4401] Federally Enforceable Through Title V Permit
39. An operator shall prepare and submit an Operator Management Plan (OMP) for approval by the APCO, using diagrams, charts, spreadsheets, or other methods approved by the APCO to describe the information required. The OMP shall include all of the following information: 1) A description of all wells and all associated VOC collection and control systems subject to Rule 4401, and all wells and all associated VOC collection and control systems that are exempt pursuant to Section 4.0 of Rule 4401, 2) Identification and description of any known hazard that might affect the safety of an inspector, 3) Except for pipes, the number of components that are subject to Rule 4401 by component type, 4) Except for pipes, the number and types of major components, inaccessible components, unsafe-to-monitor components, critical components, and essential components that are subject to Rule 4401 and the reasons for such designation, 5) Except for pipes, the location of components subject to Rule 4401 (components may be grouped together functionally by process unit or facility description), 6) Except for pipes, components exempt pursuant to Section 4.8 of Rule 4401 (except for components buried below ground) may be described in the OMP by grouping them functionally by process unit or facility description. The results of any laboratory testing or other pertinent information to demonstrate compliance with the applicable exemption criteria for components for which an exemption is being claimed pursuant to Sections 4.8 of Rule 4401 shall be submitted with the OMP, 7) A detailed schedule of an operator's inspections of components to be conducted as required by Rule 4401 and whether the required operator inspections of components will be performed by a qualified contractor or by an in-house team, 8) A description of the training standards for personnel that inspect and repair components, and 9) A description of the leak detection training for conducting the test method specified in Section 6.3.3 of Rule 4401 for new operators, and for experienced operators, as necessary. [District Rule 4401] Federally Enforceable Through Title V Permit
40. No provision of the Operator Management Plan, approved or not, shall conflict with or take precedence over any provision of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
41. An operator shall submit information recorded during the calendar year to the APCO no later than 60 days after the end of the calendar year. [District Rule 4401] 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.

42. By January 30 of each year, an operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan. [District Rule 4401] Federally Enforceable Through Title V Permit
43. Daily records of the amount of gas combusted in the flare shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Records of all TEOR gas sulfur and VOC content analyses shall be maintained. [District Rules 2201] Federally Enforceable Through Title V Permit
45. Permittee shall maintain with the permit a list of all steam enhanced wells connected to the TEOR system, and an accurate fugitive component count and the resulting emissions calculated pursuant to CAPCOA document, "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c, "Oil and Gas Production," using screening value ranges emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit
46. All records shall be retained for a period of at least 5 years and shall be made available for District inspection, California Air Resources Board (ARB), and EPA upon request. [District Rule 4401] Federally Enforceable Through Title V Permit

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

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-11-8

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

9.0 MMBTU/HR NATURAL GAS-FIRED CE NATCO HEATER TREATER WITH ONE 6.0 MMBTU/HR MAXON MODEL M-PAKT EB-6 LOW-NOX BURNER AND ONE 3.0 MMBTU/HR MAXON MODEL M-PAKT LOW-NOX BURNER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 3% O₂ (0.018 lb/MMBtu), 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 200 ppmvd CO @ 3% O₂ (0.148 lb/MMBtu), or 0.0055 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Fugitive emissions from the components that connect this unit to the vapor recovery system (S-3585-1) shall not exceed 5.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
7. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
9. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
10. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] 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.

11. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-12-5

EXPIRATION DATE: 04/30/2021

SECTION: NW14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR PCL IDENTIFICATION #POSO-J402 NATURAL GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL LE LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions from the unit shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ (0.008 lb/MMBtu), 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ (0.037 lb/MMBtu), or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, or 10 lb/hr. [District Rules 4201 and 4301] Federally Enforceable Through Title V Permit
4. The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
6. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
9. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
10. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] 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.

11. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
12. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
13. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
14. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
16. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. All units in a group for which representative units are source tested for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. The number of representative units source tested for NOx and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] 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.

21. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
23. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
24. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 4320] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

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

PERMIT UNIT: S-3585-13-8

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27 S **RANGE:** 27 E

EQUIPMENT DESCRIPTION:

5,000 BBL PETROLEUM STORAGE TANK #T-100 VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. 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
4. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
5. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Operator shall monitor vapor control system pressures on a quarterly basis to ensure that system pressure does not exceed pressure relief valve setting. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2520, 9.3.2] 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.

11. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

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

PERMIT UNIT: S-3585-14-7

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

10,000 BBL PETROLEUM STORAGE TANK #TK-10 VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. 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
4. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
5. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Operator shall monitor vapor control system pressures on a quarterly basis to ensure that system pressure does not exceed pressure relief valve setting. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2520, 9.3.2] 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.

11. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

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

PERMIT UNIT: S-3585-16-7

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

600 BBL WEMCO UNIT VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The vessel shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. 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
4. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
5. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Operator shall monitor vapor control system pressures on a quarterly basis to ensure that system pressure does not exceed pressure relief valve setting. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2520, 9.3.2] 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.

11. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-17-4

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR THERMOTICS NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MAGNAFLAME LOW-NOX BURNER, FGR, AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions shall not exceed any of the following limits: 7 ppmv-NOx @ 3% O2 (0.008 lb/MMBtu), 0.00298 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 35 ppmv-CO @ 3% O2 (0.026 lb-CO/MMBtu) or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. The sulfur content of the gas combusted in this steam generator shall be reduced by a minimum of 95% or to a concentration not to exceed 2.95 grains/100 dscf. [District Rules 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
5. The gas incinerated in this steam generator shall be tested for sulfur content every week in which it burns non-PUC certified gas, during the time that it is burning the non-PUC certified gas. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated on any non-PUC certified gas during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated on fuel that contains non-PUC certified gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] 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.

9. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall determine sulfur content of gas combusted in this steam generator using ASTM method D3246 or double GC for H₂S and mercaptans or Draeger tube analysis. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] 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.

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
25. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 4320] Federally Enforceable Through Title V Permit
28. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-24-4

EXPIRATION DATE: 04/30/2021

SECTION: NW 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR PCL IDENTIFICATION #POSO-J404 NATURAL/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME LE LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions shall not exceed any of the following limits: 7 ppmv-NO_x @ 3% O₂ (0.008 lb/MMBtu), 0.00298 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 35 ppmv-CO @ 3% O₂ (0.026 lb-CO/MMBtu) or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. Steam generator shall be fired on natural gas and/or TEOR gas from S-1385-9 with a sulfur content of no greater than 1.0 gr-S/100 scf or pre-treated using a sulfa-treat (or equivalent) system for 95% control of SO_x emissions. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
5. The gas incinerated in this steam generator shall be tested for sulfur content every week in which it burns non-PUC certified gas, during the time that it is burning the non-PUC certified gas. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated on any non-PUC certified gas during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated on fuel that contains non-PUC certified gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] 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.

9. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall determine sulfur content of gas combusted in this steam generator using ASTM method D3246 or double GC for H₂S and mercaptans or Draeger tube analysis. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] 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.

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
25. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 4320] Federally Enforceable Through Title V Permit
28. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

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

PERMIT UNIT: S-3585-25-6

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 26S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

5,000 BBL PETROLEUM STORAGE TANK VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. 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
4. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
5. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Operator shall monitor vapor control system pressures on a quarterly basis to ensure that system pressure does not exceed pressure relief valve setting. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2520, 9.3.2] 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.

11. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

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*San Joaquin Valley
Air Pollution Control District*

PERMIT UNIT: S-3585-26-6

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

5,000 BBL PETROLEUM STORAGE TANK VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] 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 maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
8. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-28-4

EXPIRATION DATE: 04/30/2021

SECTION: NW14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR (J405) EQUIPPED WITH NORTH AMERICAN MODEL 4231-85-GLE ULTRA LOW NOX BURNER (OR EQUIVALENT), FLUE GAS RECIRCULATION (FGR), AND OXYGEN CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions shall not exceed any of the following limits: 7 ppmv-NO_x @ 3% O₂ (0.008 lb/MMBtu), 0.00298 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 35 ppmv-CO @ 3% O₂ (0.0258 lb-CO/MMBtu) or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. The sulfur content of the gas combusted in this steam generator shall be reduced by a minimum of 95% or to a concentration not to exceed 1.0 grains/100 dscf. [District Rules 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
5. The gas incinerated in this steam generator shall be tested for sulfur content every week in which it burns non-PUC certified gas, during the time that it is burning the non-PUC certified gas. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated on any non-PUC certified gas during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated on fuel that contains non-PUC certified gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] 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.

9. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall determine sulfur content of gas combusted in this steam generator using ASTM method D3246 or double GC for H₂S and mercaptans or Draeger tube analysis. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] 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.

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
25. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 4320] Federally Enforceable Through Title V Permit
28. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

*San Joaquin Valley
Air Pollution Control District*

PERMIT UNIT: S-3585-29-5

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

1,000 BBL PETROLEUM STORAGE TANK VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] 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 maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
8. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-30-4

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR (POSO J-406) WITH A NORTH AMERICAN MAGNA-FLAME LE LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
4. Emissions shall not exceed any of the following limits: 7 ppmv-NOx @ 3% O2 (0.008 lb/MMBtu), 0.00298 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 33 ppmvd CO @ 3% O2 (0.0244 lb/MMBtu) or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
5. The sulfur content of the gas combusted in this steam generator shall be reduced by a minimum of 95% or to a concentration not to exceed 1.0 grains/100 dscf. [District Rules 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
6. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr. [District Rule 4301] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO2, or 10 lb/hr. [District Rules 4201 and 4301] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 4301] Federally Enforceable Through Title V Permit
9. The gas incinerated in this steam generator shall be tested for sulfur content every week in which it burns non-PUC certified gas, during the time that it is burning the non-PUC certified gas. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated on any non-PUC certified gas during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated on fuel that contains non-PUC certified gas. [District Rules 2201 and 4320] 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. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
12. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
13. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. Permittee shall determine sulfur content of gas combusted in this steam generator using ASTM method D3246 or double GC for H₂S and mercaptans or Draeger tube analysis. [District Rules 1081, 2201 and 4320] Federally Enforceable Through Title V Permit
16. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
17. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] 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. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
28. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
29. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-31-5

EXPIRATION DATE: 04/30/2021

EQUIPMENT DESCRIPTION:

600 BBL WEMCO UNIT CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The vessel shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. VOC emissions from the components associated with vessel up to vapor control system truck line shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 2201 and 1070] Federally Enforceable Through Title V Permit
4. This vessel 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 Rule 4623] Federally Enforceable Through Title V Permit
5. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this vessel 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 Rule 4623] Federally Enforceable Through Title V Permit
6. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
8. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the vessel. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The permittee shall keep accurate records of each organic liquid stored in the vessel, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
11. All piping, fittings, and valves on this vessel shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2201] 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.

12. If any of the vessel components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
15. If a component type for a given vessel is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Permittee shall keep in their facility at all times a copy of the letter sent to the APCO requesting participation in the Rule 4623 Fixed Roof Tank Preventive Inspection and Maintenance Program, and Tank Interior Cleaning Program, and maintain the records of annual tank inspections, maintenance, and cleaning to document the participation in the program. [District Rule 4623] Federally Enforceable Through Title V Permit
18. Permittee shall comply with all applicable Tank Interior Cleaning Program requirements specified in Table 6 of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
19. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit
20. This tank shall be degassed before commencing interior cleaning by a degassing method in Section 5.7.5.4.1 through 5.7.5.4.4 of District Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
21. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] Federally Enforceable Through Title V Permit
22. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623] Federally Enforceable Through Title V Permit
23. 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 4623] Federally Enforceable Through Title V Permit
24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-32-5

EXPIRATION DATE: 04/30/2021

EQUIPMENT DESCRIPTION:

30,000 BBL TANK CONNECTED TO VAPOR CONTROL SYSTEM WITH 3 FWKOS AND SERVING HEATER TREATERS PEER '-1 AND S-3585-11, WEMCOS '-16 AND '-31, TANKS '-13, '-14, '-25, '- 26, '-29, '-33, '-35 AND '-36 AND TEOR OPERATION '-9

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. VOC emissions from the components associated with tank up to vapor control system trunk line shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. VOC emissions from the components associated with the tank vapor recovery system shall not exceed 110.1 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 2201 and 1070] Federally Enforceable Through Title V Permit
5. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Operator shall monitor vapor control system pressures on a quarterly basis to ensure that system pressure does not exceed pressure relief valve setting. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
8. 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 Rule 4623] Federally Enforceable Through Title V Permit
9. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
10. 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] Federally Enforceable Through Title V Permit
11. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
13. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
14. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2201] Federally Enforceable Through Title V Permit
15. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
18. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Permittee shall keep in their facility at all times a copy of the letter sent to the APCO requesting participation in the Rule 4623 Fixed Roof Tank Preventive Inspection and Maintenance Program, and Tank Interior Cleaning Program, and maintain the records of annual tank inspections, maintenance, and cleaning to document the participation in the program. [District Rule 4623] Federally Enforceable Through Title V Permit
21. Permittee shall comply with all applicable Tank Interior Cleaning Program requirements specified in Table 6 of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
22. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit
23. This tank shall be degassed before commencing interior cleaning by a degassing method in Section 5.7.5.4.1 through 5.7.5.4.4 of District Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
24. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623] Federally Enforceable Through Title V Permit
26. 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 4623] Federally Enforceable Through Title V Permit
27. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit
28. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-33-5

EXPIRATION DATE: 04/30/2021

EQUIPMENT DESCRIPTION:

30,000 BBL TANK CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. VOC emissions from the components associated with tank up to vapor control system trunk line shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 2201 and 1070] Federally Enforceable Through Title V Permit
4. 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 Rule 4623] Federally Enforceable Through Title V Permit
5. 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 Rule 4623] Federally Enforceable Through Title V Permit
6. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
8. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
11. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2201] 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.

12. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
15. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Permittee shall keep in their facility at all times a copy of the letter sent to the APCO requesting participation in the Rule 4623 Fixed Roof Tank Preventive Inspection and Maintenance Program, and Tank Interior Cleaning Program, and maintain the records of annual tank inspections, maintenance, and cleaning to document the participation in the program. [District Rule 4623] Federally Enforceable Through Title V Permit
18. Permittee shall comply with all applicable Tank Interior Cleaning Program requirements specified in Table 6 of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
19. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit
20. This tank shall be degassed before commencing interior cleaning by a degassing method in Section 5.7.5.4.1 through 5.7.5.4.4 of District Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
21. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] Federally Enforceable Through Title V Permit
22. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623] Federally Enforceable Through Title V Permit
23. 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 4623] Federally Enforceable Through Title V Permit
24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

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

PERMIT UNIT: S-3585-35-4

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

500 BBL DRAIN TANK VENTED TO THE VAPOR CONTROL SYSTEM LISTED ON TANK S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. VOC fugitive emissions from the components in gas service on tank shall not exceed 2.1 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. The VOC content of the gas shall not exceed 50% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Upon initial start-up, the VOC content of a gas sample will be measured. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Operator shall conduct quarterly gas sampling for gas exiting the separator pressure vessel to determine that the VOC content equal to or less than 50% by weight. If gas samples are equal to or less than 50% VOC by weight for 8 consecutive quarterly samplings, sampling frequency shall only be required annually. [District Rule 2201] 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 Rule 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 Rule 4623] Federally Enforceable Through Title V Permit
8. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
9. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
11. 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] 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.

12. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity test. [District Rule 4623] Federally Enforceable Through Title V Permit
13. Permittee shall maintain accurate component count for tank according to EPA's "Protocol for Equipment Leak Emission Estimate," Table 2-4, Oil and Gas Production Operations Average Emission Factors. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
14. A leak free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rule 4623] Federally Enforceable Through Title V Permit
15. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. Components in unsafe locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
18. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 2201] Federally Enforceable Through Title V Permit
19. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
21. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
22. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623, Table 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.

23. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
24. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
25. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
26. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
27. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
28. 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 2201 and 4623] Federally Enforceable Through Title V Permit

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

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

PERMIT UNIT: S-3585-36-4

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

10,000 BBL EMULSION TANK VENTED TO THE VAPOR CONTROL SYSTEM LISTED ON TANK S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. VOC fugitive emissions from the components in gas service on tank shall not exceed 6.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. The VOC content of the gas shall not exceed 50% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Operator shall conduct quarterly gas sampling for gas exiting the separator pressure vessel to determine that the VOC content equal to or less than 50% by weight. If gas samples are equal to or less than 50% VOC by weight for 8 consecutive quarterly samplings, sampling frequency shall only be required annually. [District Rule 2201] Federally Enforceable Through Title V Permit
5. 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 Rule 4623] Federally Enforceable Through Title V Permit
6. 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 Rule 4623] Federally Enforceable Through Title V Permit
7. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
8. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
9. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
10. 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] Federally Enforceable Through Title V Permit
11. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity test. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. Permittee shall maintain accurate component count for tank according to EPAs "Protocol for Equipment Leak Emission Estimate," Table 2-4, Oil and Gas Production Operations Average Emission Factors. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
13. A leak free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rule 4623] Federally Enforceable Through Title V Permit
14. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. Components in unsafe locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 2201] Federally Enforceable Through Title V Permit
15. Any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
17. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 2201] Federally Enforceable Through Title V Permit
18. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
20. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
21. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
22. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623, Table 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.

23. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
24. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
25. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623, Table 3] Federally Enforceable Through Title V Permit
26. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
27. 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 2201 and 4623] Federally Enforceable Through Title V Permit

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

ATTACHMENT B

Previous Title V Operating Permit

San Joaquin Valley

Air Pollution Control District

FACILITY: S-3585-0-2

EXPIRATION DATE: 04/30/2021

FACILITY-WIDE REQUIREMENTS

1. The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100, 6.1; County Rules 110 (Fresno, Stanislaus, San Joaquin); 109 (Merced); 113 (Madera); and 111 (Kern, Tulare, Kings)] Federally Enforceable Through Title V Permit
2. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100, 7.0; County Rules 110 (Fresno, Stanislaus, San Joaquin); 109 (Merced); 113 (Madera); and 111 (Kern, Tulare, Kings)] Federally Enforceable Through Title V Permit
3. The owner or operator of any stationary source operation that emits more than 25 tons per year of nitrogen oxides or reactive organic compounds, shall provide the District annually with a written statement in such form and at such time as the District prescribes, showing actual emissions of nitrogen oxides and reactive organic compounds from that source. [District Rule 1160, 5.0] Federally Enforceable Through Title V Permit
4. Any person building, altering or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, shall first obtain an Authority to Construct (ATC) from the District unless exempted by District Rule 2020 (12/20/07). [District Rule 2010, 3.0 and 4.0; and 2020] Federally Enforceable Through Title V Permit
5. The permittee must comply with all conditions of the permit including permit revisions originated by the District. All terms and conditions of a permit that are required pursuant to the Clean Air Act (CAA), including provisions to limit potential to emit, are enforceable by the EPA and Citizens under the CAA. Any permit noncompliance constitutes a violation of the CAA and the District Rules and Regulations, and is grounds for enforcement action, for permit termination, revocation, reopening and reissuance, or modification; or for denial of a permit renewal application. [District Rules 2070, 7.0; 2080; and 2520, 9.8.1 and 9.13.1] Federally Enforceable Through Title V Permit
6. A Permit to Operate or an Authority to Construct shall not be transferred unless a new application is filed with and approved by the District. [District Rule 2031] Federally Enforceable Through Title V Permit
7. Every application for a permit required under Rule 2010 (12/17/92) shall be filed in a manner and form prescribed by the District. [District Rule 2040] Federally Enforceable Through Title V Permit
8. The operator shall maintain records of required monitoring that include: 1) the date, place, and time of sampling or measurement; 2) the date(s) analyses were performed; 3) the company or entity that performed the analysis; 4) the analytical techniques or methods used; 5) the results of such analysis; and 6) the operating conditions at the time of sampling or measurement. [District Rule 2520, 9.4.1] Federally Enforceable Through Title V Permit
9. The operator shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, or report. Support information includes copies of all reports required by the permit and, for continuous monitoring instrumentation, all calibration and maintenance records and all original strip-chart recordings. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate. Any amendments to these Facility-wide Requirements that affect specific Permit Units may constitute modification of those Permit Units.

Facility Name: BERRY PETROLEUM COMPANY LLC
Location: HEAVY OIL CENTRAL STATIONARY SOURCE, CA
S-3585-0-2 : Jan 4 2022 2:29PM -- BRARG

10. The operator shall submit reports of any required monitoring at least every six months unless a different frequency is required by an applicable requirement. All instances of deviations from permit requirements must be clearly identified in such reports. [District Rule 2520, 9.5.1] Federally Enforceable Through Title V Permit
11. Deviations from permit conditions must be promptly reported, including deviations attributable to upset conditions, as defined in the permit. For the purpose of this condition, promptly means as soon as reasonably possible, but no later than 10 days after detection. The report shall include the probable cause of such deviations, and any corrective actions or preventive measures taken. All required reports must be certified by a responsible official consistent with section 10.0 of District Rule 2520 (6/21/01). [District Rules 2520, 9.5.2 and 1100, 7.0] Federally Enforceable Through Title V Permit
12. If for any reason a permit requirement or condition is being challenged for its constitutionality or validity by a court of competent jurisdiction, the outcome of such challenge shall not affect or invalidate the remainder of the conditions or requirements in that permit. [District Rule 2520, 9.7] Federally Enforceable Through Title V Permit
13. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. [District Rule 2520, 9.8.2] Federally Enforceable Through Title V Permit
14. The permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [District Rule 2520, 9.8.3] Federally Enforceable Through Title V Permit
15. The permit does not convey any property rights of any sort, or any exclusive privilege. [District Rule 2520, 9.8.4] Federally Enforceable Through Title V Permit
16. The Permittee shall furnish to the District, within a reasonable time, any information that the District may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the District copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee may furnish such records directly to EPA along with a claim of confidentiality. [District Rule 2520, 9.8.5] Federally Enforceable Through Title V Permit
17. The permittee shall pay annual permit fees and other applicable fees as prescribed in Regulation III of the District Rules and Regulations. [District Rule 2520, 9.9] Federally Enforceable Through Title V Permit
18. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to enter the permittee's premises where a permitted source is located or emissions related activity is conducted, or where records must be kept under condition of the permit. [District Rule 2520, 9.13.2.1] Federally Enforceable Through Title V Permit
19. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit. [District Rule 2520, 9.13.2.2] Federally Enforceable Through Title V Permit
20. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. [District Rule 2520, 9.13.2.3] Federally Enforceable Through Title V Permit
21. Upon presentation of appropriate credentials, a permittee shall allow an authorized representative of the District to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements. [District Rule 2520, 9.13.2.4] Federally Enforceable Through Title V Permit
22. No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit

FACILITY-WIDE REQUIREMENTS CONTINUE ON NEXT PAGE

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

23. No person shall manufacture, blend, repackage, supply, sell, solicit or apply any architectural coating with a VOC content in excess of the corresponding limit specified in Table of Standards 1 effective until 12/30/10 or Table of Standards 2 effective on and after 1/1/11 of District Rule 4601 (12/17/09) for use or sale within the District. [District Rule 4601, 5.1] Federally Enforceable Through Title V Permit
24. All VOC-containing materials subject to Rule 4601 (12/17/09) shall be stored in closed containers when not in use. [District Rule 4601, 5.4] Federally Enforceable Through Title V Permit
25. The permittee shall comply with all the Labeling and Test Methods requirements outlined in Rule 4601 sections 6.1 and 6.3 (12/17/09). [District Rule 4601, 6.1 and 6.3] Federally Enforceable Through Title V Permit
26. With each report or document submitted under a permit requirement or a request for information by the District or EPA, the permittee shall include a certification of truth, accuracy, and completeness by a responsible official. [District Rule 2520, 9.13.1 and 10.0] Federally Enforceable Through Title V Permit
27. If the permittee performs maintenance on, or services, repairs, or disposes of appliances, the permittee shall comply with the standards for Recycling and Emissions Reduction pursuant to 40 CFR Part 82, Subpart F. [40 CFR 82 Subpart F] Federally Enforceable Through Title V Permit
28. If the permittee performs service on motor vehicles when this service involves the ozone-depleting refrigerant in the motor vehicle air conditioner (MVAC), the permittee shall comply with the standards for Servicing of Motor Vehicle Air Conditioners pursuant to all the applicable requirements as specified in 40 CFR Part 82, Subpart B. [40 CFR Part 82, Subpart B] Federally Enforceable Through Title V Permit
29. Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8021] Federally Enforceable Through Title V Permit
30. Outdoor handling, storage and transport of any bulk material which emits dust shall comply with the requirements of District Rule 8031, unless specifically exempted under Section 4.0 of Rule 8031 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8031] Federally Enforceable Through Title V Permit
31. An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0, unless specifically exempted under Section 4.0 of Rule 8041 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8041] Federally Enforceable Through Title V Permit
32. Whenever open areas are disturbed, or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8051] Federally Enforceable Through Title V Permit
33. Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 (8/19/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8061] Federally Enforceable Through Title V Permit
34. Any unpaved vehicle/equipment area that anticipates more than 50 Average annual daily Trips (AADT) shall comply with the requirements of Section 5.1.1 of District Rule 8071. Any unpaved vehicle/equipment area that anticipates more than 150 vehicle trips per day (VDT) shall comply with the requirements of Section 5.1.2 of District Rule 8071. On each day that 25 or more VDT with 3 or more axles will occur on an unpaved vehicle/equipment traffic area, the owner/operator shall comply with the requirements of Section 5.1.3 of District Rule 8071. On each day when a special event will result in 1,000 or more vehicles that will travel/park on an unpaved area, the owner/operator shall comply with the requirements of Section 5.1.4 of District Rule 8071. All sources shall comply with the requirements of Section 5.0 of District Rule 8071 unless specifically exempted under Section 4.0 of Rule 8071 (9/16/2004) or Rule 8011 (8/19/2004). [District Rules 8011 and 8071] Federally Enforceable Through Title V Permit
35. Any owner or operator of a demolition or renovation activity, as defined in 40 CFR 61.141, shall comply with the applicable inspection, notification, removal, and disposal procedures for asbestos containing materials as specified in 40 CFR 61.145 (Standard for Demolition and Renovation). [40 CFR 61 Subpart M] Federally Enforceable Through Title V Permit

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

36. The permittee shall submit certifications of compliance with the terms and standards contained in Title V permits, including emission limits, standards and work practices, to the District and the EPA annually (or more frequently as specified in an applicable requirement or as specified by the District). The certification shall include the identification of each permit term or condition, the compliance status, whether compliance was continuous or intermittent, the methods used for determining the compliance status, and any other facts required by the District to determine the compliance status of the source. [District Rule 2520, 9.16] Federally Enforceable Through Title V Permit
37. The permittee shall submit an application for Title V permit renewal to the District at least six months, but not greater than 18 months, prior to the permit expiration date. [District Rule 2520, 5.2] Federally Enforceable Through Title V Permit
38. When a term is not defined in a Title V permit condition, the definition in the rule cited as the origin and authority for the condition in a Title V permits shall apply. [District Rule 2520, 9.1.1] Federally Enforceable Through Title V Permit
39. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following outdated SIP requirements: Rule 401 (Madera, Fresno, Kern, Kings, San Joaquin, Stanislaus, Tulare and Merced), Rule 110 (Fresno, Stanislaus, San Joaquin), Rule 109 (Merced), Rule 113 (Madera), Rule 111 (Kern, Tulare, Kings), and Rule 202 (Fresno, Kern, Tulare, Kings, Madera, Stanislaus, Merced, San Joaquin). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
40. Compliance with permit conditions in the Title V permit shall be deemed in compliance with the following applicable requirements: SJVUAPCD Rules 1100, sections 6.1 and 7.0 (12/17/92); 2010, sections 3.0 and 4.0 (12/17/92); 2031 (12/17/92); 2040 (12/17/92); 2070, section 7.0 (12/17/92); 2080 (12/17/92); 4101 (2/17/05); 4601 (12/17/09); 8021 (8/19/2004); 8031 (8/19/2004); 8041 (8/19/2004); 8051 (8/19/2004); 8061 (8/19/2004); and 8071 (9/16/2004). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
42. When applicable to 40 CFR Part 68, a subject facility shall submit to the proper authority a Risk Management Plan when mandated by the regulation. [40 CFR Part 68] Federally Enforceable Through Title V Permit
43. On December 31, 2011 the initial Title V permit was issued. The reporting periods for the Report of Required Monitoring and the Compliance Certification Report are based upon this initial permit issuance date, unless alternative dates are approved by the District Compliance Division. These reports are due within 30 days after the end of the reporting period. [District Rule 2520] Federally Enforceable Through Title V Permit

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-3-4

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S302

PERMIT UNIT REQUIREMENTS

1. 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 Rule 4623] Federally Enforceable Through Title V Permit
2. 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 Rule 4623] Federally Enforceable Through Title V Permit
3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Formerly permit number S-1632-8-0.

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-4-4

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S284

PERMIT UNIT REQUIREMENTS

1. 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 Rule 4623] Federally Enforceable Through Title V Permit
2. 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 Rule 4623] Federally Enforceable Through Title V Permit
3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Formerly permit number S-1632-9-0.

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-3585-5-4

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S283

PERMIT UNIT REQUIREMENTS

1. 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 Rule 4623] Federally Enforceable Through Title V Permit
2. 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 Rule 4623] Federally Enforceable Through Title V Permit
3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Formerly permit number S-1632-10-0.

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-6-4

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S285

PERMIT UNIT REQUIREMENTS

1. 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 Rule 4623] Federally Enforceable Through Title V Permit
2. 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 Rule 4623] Federally Enforceable Through Title V Permit
3. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
8. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Formerly permit number S-1632-11-0.

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-8-7

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

84 MMBTU/HR THERMOTICS NATURAL & TEOR GAS-FIRED STEAM GENERATOR W/ MAGNA FLAME MODEL 4231-85-GLE-X2631 BURNER, FGR, AND RADAC O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions shall not exceed any of the following limits: 7 ppmv-NOx @ 3% O2 (0.008 lb/MMBtu), 0.0084 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 50 ppmv-CO @ 3% O2 (0.037 lb-CO/MMBtu) or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rules 4201] Federally Enforceable Through Title V Permit
4. The sulfur content of the gas combusted in this steam generator shall be reduced by a minimum of 95% or to a concentration not to exceed 2.95 grains/100 dscf. [District Rules 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
5. The gas incinerated in this steam generator shall be tested for sulfur content every week in which it burns non-PUC certified gas, during the time that it is burning the non-PUC certified gas. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated on any non-PUC certified gas during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated on fuel that contains non-PUC certified gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] 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.

9. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall determine sulfur content of gas combusted in this steam generator using ASTM method D3246 or double GC for H₂S and mercaptans or Draeger tube analysis. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] 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.

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
25. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

San Joaquin Valley *Air Pollution Control District*

PERMIT UNIT: S-3585-9-18

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

TEOR OPERATION WITH CASING GAS COLLECTION SYSTEM WITH SULFUR TREATMENT SYSTEM AND STEAM KNOCK-OUT SKID WITH FIN FAN COOLERS, GAS SCRUBBER, ELECTRIC CONDENSATE PUMPS, ELECTRIC COMPRESSOR, AND GAS FILTERS SERVING 275 STEAM-ENHANCED WELLS CONNECTED TO TANK VAPOR RECOVERY SYSTEM S-3585-32 AND VENTED TO A FLARE AND/OR STEAM GENERATORS -8, -17, -24 AND -28

PERMIT UNIT REQUIREMENTS

1. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311] Federally Enforceable Through Title V Permit
2. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311] Federally Enforceable Through Title V Permit
3. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311] Federally Enforceable Through Title V Permit
4. Flare gas pressure shall be greater than or equal to 5 psig. [District Rules 4001 and 4311] Federally Enforceable Through Title V Permit
5. Air-assist blower shall be maintained and operated for smokeless combustion. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
6. Flare shall be equipped with operational produced gas volume flow meter. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The total number of leaks in the TEOR system shall not exceed 15. [District Rules 2201 and 4401] Federally Enforceable Through Title V Permit
8. There shall be no components with any gas leaks greater than 50,000 ppmv. [District Rule 4401] Federally Enforceable Through Title V Permit
9. Pilot gas flow rate to flare shall not exceed 1,500 scf per day. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Flow rate of collected casing gas and tank vapor recovery gas to the flare shall not exceed 251,580 scf per day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Pilot shall be fired only on PUC quality natural gas containing no more than 1 grain-S/100 scf. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The weight percentage of VOC in the total organic compounds in the TEOR gas shall not exceed 52%. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

13. Sulfur compounds of casing gas and tank vapor recovery gas shall be reduced by a minimum of 95% across the sulfur treatment system or to an outlet concentration not exceeding 2.91 grain/100 scf. Compliance with sulfur treatment system control efficiency or outlet concentration limit shall be demonstrated annually by measuring the inlet and/or outlet flows to the treatment system, as appropriate. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Emissions from the flare shall not exceed any of the following limits: 67.9 lb-NO_x/MMscf, 8.3 lb-SO_x/MMscf, 7.9 lb-PM₁₀/MMscf, 369.8 lb-CO/MMscf, or 63.1 lb-VOC/MMscf. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Fugitive emissions from the TEOR system shall not exceed 58.6 lb-VOC/day. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Un-condensable vapors from these steam enhanced wells shall be incinerated in the flare and/or steam generators S-3585-8 (J401), -17 (J403) -24 (J404) and -28 (J405). [District Rule 2201] Federally Enforceable Through Title V Permit
17. The gas being flared shall be tested for sulfur content every week in which it operates. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated again. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The sulfur content of the gas being flared shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The TEOR gas shall be tested annually for VOC content. [District Rule 2201] Federally Enforceable Through Title V Permit
20. VOC content of gas shall be determined by ASTM D1945, EPA Method 18 referenced as methane, or equivalent test method with prior District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Any open steam-enhanced crude oil production well vents shall be connected to a VOC collection and control system that has a VOC destruction or removal efficiency of at least 99%. [District Rule 4401] Federally Enforceable Through Title V Permit
22. There shall be no open ended lines or valves located at the end of any lines that are not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401] Federally Enforceable Through Title V Permit
23. Unless otherwise specified, an operator shall perform all component inspections and gas leak measurements pursuant to the requirements of Section 6.3.3 of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
24. Except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 of Rule 4401 at least once every year. [District Rule 4401] Federally Enforceable Through Title V Permit
25. An operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but no later than any of the following limits: 14 calendar days for minor gas leaks, 5 calendar days for major gas leaks between 10,000 ppm and 50,000 ppmv, 2 calendar days for major gas leaks in excess of 50,000 ppmv, 3 calendar days for minor liquid leaks and 2 calendar days for major liquid leaks. [District Rule 4401] 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.

26. An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but no later than any of the following limits: 14 calendar days for minor gas leaks, 5 calendar days for major gas leaks between 10,000 ppm and 50,000 ppmv, 2 calendar days for major gas leaks in excess of 50,000 ppmv, 3 calendar days for minor liquid leaks and 2 calendar days for major liquid leaks. [District Rule 4401] Federally Enforceable Through Title V Permit
27. An operator shall initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release. An operator shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection. [District Rule 4401] Federally Enforceable Through Title V Permit
28. An operator shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service. [District Rule 4401] Federally Enforceable Through Title V Permit
29. Except for PRDs subject to the requirements of Section 5.8.4.1 of Rule 4401, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401] Federally Enforceable Through Title V Permit
30. An operator shall inspect all unsafe-to-monitor components during each turnaround. [District Rule 4401] Federally Enforceable Through Title V Permit
31. A District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401] Federally Enforceable Through Title V Permit
32. Upon detection of a leaking component, the operator shall affix to that component a weatherproof, readily visible tag, bearing the date and time when the leak was detected, the date and time of the leak measurement, and the concentration in ppmv. The tag shall remain in place until the leaking component is repaired or replaced and reinspected (using EPA test method 21) and found to be in compliance with the requirements of this rule. [District Rule 4401] Federally Enforceable Through Title V Permit
33. The operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401] Federally Enforceable Through Title V Permit
34. If an operator has minimized a leak in a non-critical or non-essential component, but the leak still exceeds the applicable leak limits as defined in Section 3.0 of Rule 4401, an operator shall either repair or replace the leaking component, vent the leaking component to a VOC collection and control system as defined in Section 3.0 of Rule 4401, or remove the leaking component from operation as soon as practicable, but no later than any of the following limits: 14 calendar days for minor gas leaks, 5 calendar days for major gas leaks between 10,000 ppm and 50,000 ppmv, 2 calendar days for major gas leaks in excess of 50,000 ppmv, 3 calendar days for minor liquid leaks and 2 calendar days for major liquid leaks. [District Rule 4401] Federally Enforceable Through Title V Permit
35. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of Rule 4401, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401] 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. An operator shall maintain records required by Section 6.1, including all of the following information: 1) The date and well identification where steam injection or well stimulation occurs, 2) The inspection log pursuant to Section 6.4 of Rule 4401, 3) Records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration, 4) Copies at the facility of the training records of the training program operated pursuant to Section 6.5 of Rule 4401, 5) A copy of the APCO-approved Operator Management Plan at the facility, 6) A list of all gauge tanks including the size, identification number, the location of each gauge tank and specify whether the gauge tank is upstream of all front line production equipment, and 8) The date that any PRD release is discovered, and the identity and location of the PRD that released. [District Rule 4401] Federally Enforceable Through Title V Permit
37. An operator shall maintain an inspection log that includes all of the following data: 1) The total number of components inspected, and the total number and percentage of leaking components found by component type, 2) The location, type, and name or description of each leaking component and description of any unit where the leaking component is found, 3) The date of leak detection and the method of leak detection, 4) For gaseous leaks, the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak, 5) The date of repair, replacement, or removal from operation of leaking components, 6) The identity and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, 7) The methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced, 9) The inspector's name, business mailing address, and business telephone number, and 10) The date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401] Federally Enforceable Through Title V Permit
38. An operator shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures, as necessary. [District Rule 4401] Federally Enforceable Through Title V Permit
39. An operator shall prepare and submit an Operator Management Plan (OMP) for approval by the APCO, using diagrams, charts, spreadsheets, or other methods approved by the APCO to describe the information required. The OMP shall include all of the following information: 1) A description of all wells and all associated VOC collection and control systems subject to Rule 4401, and all wells and all associated VOC collection and control systems that are exempt pursuant to Section 4.0 of Rule 4401, 2) Identification and description of any known hazard that might affect the safety of an inspector, 3) Except for pipes, the number of components that are subject to Rule 4401 by component type, 4) Except for pipes, the number and types of major components, inaccessible components, unsafe-to-monitor components, critical components, and essential components that are subject to Rule 4401 and the reasons for such designation, 5) Except for pipes, the location of components subject to Rule 4401 (components may be grouped together functionally by process unit or facility description), 6) Except for pipes, components exempt pursuant to Section 4.8 of Rule 4401 (except for components buried below ground) may be described in the OMP by grouping them functionally by process unit or facility description. The results of any laboratory testing or other pertinent information to demonstrate compliance with the applicable exemption criteria for components for which an exemption is being claimed pursuant to Sections 4.8 of Rule 4401 shall be submitted with the OMP, 7) A detailed schedule of an operator's inspections of components to be conducted as required by Rule 4401 and whether the required operator inspections of components will be performed by a qualified contractor or by an in-house team, 8) A description of the training standards for personnel that inspect and repair components, and 9) A description of the leak detection training for conducting the test method specified in Section 6.3.3 of Rule 4401 for new operators, and for experienced operators, as necessary. [District Rule 4401] Federally Enforceable Through Title V Permit
40. No provision of the Operator Management Plan, approved or not, shall conflict with or take precedence over any provision of Rule 4401. [District Rule 4401] Federally Enforceable Through Title V Permit
41. An operator shall submit information recorded during the calendar year to the APCO no later than 60 days after the end of the calendar year. [District Rule 4401] 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.

42. By January 30 of each year, an operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan. [District Rule 4401] Federally Enforceable Through Title V Permit
43. Daily records of the amount of gas combusted in the flare shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Records of all TEOR gas sulfur and VOC content analyses shall be maintained. [District Rules 2201] Federally Enforceable Through Title V Permit
45. Permittee shall maintain with the permit a list of all steam enhanced wells connected to the TEOR system, and an accurate fugitive component count and the resulting emissions calculated pursuant to CAPCOA document, "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c, "Oil and Gas Production," using screening value ranges emission factors. [District Rule 2201] Federally Enforceable Through Title V Permit
46. All records shall be retained for a period of at least 5 years and shall be made available for District inspection, California Air Resources Board (ARB), and EPA upon request. [District Rule 4401] Federally Enforceable Through Title V Permit

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

San Joaquin Valley *Air Pollution Control District*

PERMIT UNIT: S-3585-11-6

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

9.0 MMBTU/HR NATURAL GAS-FIRED CE NATCO HEATER TREATER WITH ONE 6.0 MMBTU/HR MAXON MODEL M-PAKT EB-6 LOW-NOX BURNER AND ONE 3.0 MMBTU/HR MAXON MODEL M-PAKT LOW-NOX BURNER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 3% O₂ (0.018 lb/MMBtu), 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 200 ppmvd CO @ 3% O₂ (0.148 lb/MMBtu), or 0.0055 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rules 4201] Federally Enforceable Through Title V Permit
4. The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Fugitive emissions from the components that connect this unit to the vapor recovery system (S-3585-1) shall not exceed 5.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
7. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
9. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
10. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] 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.

11. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-12-3

EXPIRATION DATE: 04/30/2021

SECTION: NW14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR PCL IDENTIFICATION #POSO-J402 NATURAL GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL LE LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions from the unit shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ (0.008 lb/MMBtu), 0.00285 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 50 ppmvd CO @ 3% O₂ (0.037 lb/MMBtu), or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO₂, nor 10 lb/hr. . [District Rules 4201 and 4301] Federally Enforceable Through Title V Permit
4. The unit shall only be fired on PUC-regulated natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
5. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
6. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
9. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
10. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] 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.

11. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
12. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
13. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
14. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NOx and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The following conditions must be met for representative unit(s) to be used to test for NOx and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
16. All units in a group for which representative units are source tested for NOx and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. All units in a group for which representative units are source tested for NOx and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. The number of representative units source tested for NOx and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] 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.

21. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
23. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
24. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 4320] Federally Enforceable Through Title V Permit
26. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

San Joaquin Valley *Air Pollution Control District*

PERMIT UNIT: S-3585-13-7

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27 S **RANGE:** 27 E

EQUIPMENT DESCRIPTION:

5,000 BBL PETROLEUM STORAGE TANK #T-100 VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. 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
4. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
5. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Operator shall monitor vapor control system pressures on a quarterly basis to ensure that system pressure does not exceed pressure relief valve setting [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2520, 9.3.2] 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.

11. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

San Joaquin Valley *Air Pollution Control District*

PERMIT UNIT: S-3585-14-6

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

10,000 BBL PETROLEUM STORAGE TANK #TK-10 VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. 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
4. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
5. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Operator shall monitor vapor control system pressures on a quarterly basis to ensure that system pressure does not exceed pressure relief valve setting [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2520, 9.3.2] 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.

11. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-16-6

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

600 BBL WEMCO UNIT VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The vessel shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. 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
4. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
5. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Operator shall monitor vapor control system pressures on a quarterly basis to ensure that system pressure does not exceed pressure relief valve setting [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2520, 9.3.2] 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.

11. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-17-3

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR THERMOTICS NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MAGNAFLAME LOW-NOX BURNER, FGR, AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions shall not exceed any of the following limits: 7 ppmv-NOx @ 3% O2 (0.008 lb/MMBtu), 0.00298 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 35 ppmv-CO @ 3% O2 (0.026 lb-CO/MMBtu) or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rules 4201] Federally Enforceable Through Title V Permit
4. The sulfur content of the gas combusted in this steam generator shall be reduced by a minimum of 95% or to a concentration not to exceed 2.95 grains/100 dscf. [District Rules 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
5. The gas incinerated in this steam generator shall be tested for sulfur content every week in which it burns non-PUC certified gas, during the time that it is burning the non-PUC certified gas. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated on any non-PUC certified gas during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated on fuel that contains non-PUC certified gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] 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.

9. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall determine sulfur content of gas combusted in this steam generator using ASTM method D3246 or double GC for H₂S and mercaptans or Draeger tube analysis. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] 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.

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
25. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 4320] Federally Enforceable Through Title V Permit
28. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

San Joaquin Valley *Air Pollution Control District*

PERMIT UNIT: S-3585-24-3

EXPIRATION DATE: 04/30/2021

SECTION: NW 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR PCL IDENTIFICATION #POSO-J404 NATURAL/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME LE LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions shall not exceed any of the following limits: 7 ppmv-NOx @ 3% O2 (0.008 lb/MMBtu), 0.00298 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 35 ppmv-CO @ 3% O2 (0.026 lb-CO/MMBtu) or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. Steam generator shall be fired on natural gas and/or TEOR gas from S-1385-9 with a sulfur content of no greater than 1.0 gr-S/100 scf or pre-treated using a sulfa-treat (or equivalent) system for 95% control of SOx emissions. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
5. The gas incinerated in this steam generator shall be tested for sulfur content every week in which it burns non-PUC certified gas, during the time that it is burning the non-PUC certified gas. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated on any non-PUC certified gas during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated on fuel that contains non-PUC certified gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] 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.

9. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall determine sulfur content of gas combusted in this steam generator using ASTM method D3246 or double GC for H₂S and mercaptans or Draeger tube analysis. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] 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.

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
25. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 4320] Federally Enforceable Through Title V Permit
28. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

San Joaquin Valley *Air Pollution Control District*

PERMIT UNIT: S-3585-25-5

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 26S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

5,000 BBL PETROLEUM STORAGE TANK VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. 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
4. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
5. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Operator shall monitor vapor control system pressures on a quarterly basis to ensure that system pressure does not exceed pressure relief valve setting [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2520, 9.3.2] 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.

11. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit

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

*San Joaquin Valley
Air Pollution Control District*

PERMIT UNIT: S-3585-26-5

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

5,000 BBL PETROLEUM STORAGE TANK VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] 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 maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
8. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley *Air Pollution Control District*

PERMIT UNIT: S-3585-28-3

EXPIRATION DATE: 04/30/2021

SECTION: NW14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR (J405) EQUIPPED WITH NORTH AMERICAN MODEL 4231-85-GLE ULTRA LOW NOX BURNER (OR EQUIVALENT), FLUE GAS RECIRCULATION (FGR), AND OXYGEN CONTROLLER

PERMIT UNIT REQUIREMENTS

1. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
2. Emissions shall not exceed any of the following limits: 7 ppmv-NO_x @ 3% O₂ (0.008 lb/MMBtu), 0.00298 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 35 ppmv-CO @ 3% O₂ (0.0258 lb-CO/MMBtu) or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rules 4201] Federally Enforceable Through Title V Permit
4. The sulfur content of the gas combusted in this steam generator shall be reduced by a minimum of 95% or to a concentration not to exceed 1.0 grains/100 dscf. [District Rules 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
5. The gas incinerated in this steam generator shall be tested for sulfur content every week in which it burns non-PUC certified gas, during the time that it is burning the non-PUC certified gas. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated on any non-PUC certified gas during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated on fuel that contains non-PUC certified gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
7. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
8. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] 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.

9. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
10. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
11. Permittee shall determine sulfur content of gas combusted in this steam generator using ASTM method D3246 or double GC for H₂S and mercaptans or Draeger tube analysis. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
20. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] 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.

22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
25. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
26. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 4320] Federally Enforceable Through Title V Permit
28. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-3585-29-4

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

1,000 BBL PETROLEUM STORAGE TANK VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Fugitive emissions shall not exceed 12.8 lb/day. [District Rule 2201] 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 maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
8. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley *Air Pollution Control District*

PERMIT UNIT: S-3585-30-2

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR (POSO J-406) WITH A NORTH AMERICAN MAGNA-FLAME LE LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND O2 CONTROLLER

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
2. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. Exhaust stack shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
4. Emissions shall not exceed any of the following limits: 7 ppmv-NOx @ 3% O2 (0.008 lb/MMBtu), 0.00298 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 33 ppmvd CO @ 3% O2 (0.0244 lb/MMBtu) or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
5. The sulfur content of the gas combusted in this steam generator shall be reduced by a minimum of 95% or to a concentration not to exceed 1.0 grains/100 dscf. [District Rules 2201, 4320 and 4801] Federally Enforceable Through Title V Permit
6. Nitrogen oxide (NOx) emissions shall not exceed 140 lb/hr. [District Rule 4301] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf, calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201 and 4301] Federally Enforceable Through Title V Permit
8. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas or by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by source testing in combination with fuel analysis. [District Rule 4301] Federally Enforceable Through Title V Permit
9. The gas incinerated in this steam generator shall be tested for sulfur content every week in which it burns non-PUC certified gas, during the time that it is burning the non-PUC certified gas. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive sulfur tests, then the fuel sulfur testing frequency shall be semi-annually. If a semi-annual fuel sulfur test fails to show compliance, weekly testing shall resume as indicated above until compliance with the sulfur limits can be demonstrated for 8 consecutive sulfur tests. If the unit is not operated on any non-PUC certified gas during the interval between the semi-annual sulfur testing, the test need not be performed until the unit is operated on fuel that contains non-PUC certified gas. [District Rules 2201 and 4320] 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. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306 and 4320]
11. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
12. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
13. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. Permittee shall determine sulfur content of gas combusted in this steam generator using ASTM method D3246 or double GC for H₂S and mercaptans or Draeger tube analysis. [District Rules 1081, 2201 and 4320] Federally Enforceable Through Title V Permit
16. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
17. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. The fuel higher heating value for each fuel shall be certified by third party fuel supplier or determined by: ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Annual test results submitted to the District from unit(s) representing a group of units may be used to measure NO_x and CO emissions of this permit for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x and CO emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. (This requirement shall not supersede a more stringent NSR or PSD permit testing requirement.) [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
21. The following conditions must be met for representative unit(s) to be used to test for NO_x and CO limits for a group of units: 1) all units are initially source tested and emissions from each unit in group are less than 90% of the permitted value and vary 25% or less from the average of all runs, 2) all units in group are similar in terms of rated heat input (rating not to exceed 100 MMBtu/hr), make and series, operation conditions, and control method, and 3) the group is owned by a single owner and located at a single stationary source. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. All units in a group for which representative units are source tested for NO_x and CO emissions shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rules 4305, 4306 and 4320] 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. All units in a group for which representative units are source tested for NO_x and CO emissions of this permit shall be fired on the same fuel type during the entire compliance period. If a unit switches at any time to an alternate fuel type then that unit shall not be considered part of the group and shall be required to undergo a source test for all fuel types used, within one year of the switch. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The number of representative units source tested for NO_x and CO emissions shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that in 3 years, all units in the entire group will have been tested at least once. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
28. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
29. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-31-4

EXPIRATION DATE: 04/30/2021

EQUIPMENT DESCRIPTION:

: 600 BBL WEMCO UNIT CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The vessel shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. VOC emissions from the components associated with vessel up to vapor control system truck line shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 2201 and 1070] Federally Enforceable Through Title V Permit
4. This vessel 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 Rule 4623] Federally Enforceable Through Title V Permit
5. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this vessel 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 Rule 4623] Federally Enforceable Through Title V Permit
6. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
8. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the vessel. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The permittee shall keep accurate records of each organic liquid stored in the vessel, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
11. All piping, fittings, and valves on this vessel shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2201] 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.

12. If any of the vessel components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
15. If a component type for a given vessel is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Permittee shall keep in their facility at all times a copy of the letter sent to the APCO requesting participation in the Rule 4623 Fixed Roof Tank Preventive Inspection and Maintenance Program, and Tank Interior Cleaning Program, and maintain the records of annual tank inspections, maintenance, and cleaning to document the participation in the program. [District Rule 4623] Federally Enforceable Through Title V Permit
18. Permittee shall comply with all applicable Tank Interior Cleaning Program requirements specified in Table 6 of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
19. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit
20. This tank shall be degassed before commencing interior cleaning by a degassing method in Section 5.7.5.4.1 through 5.7.5.4.4 of District Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
21. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] Federally Enforceable Through Title V Permit
22. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623] Federally Enforceable Through Title V Permit
23. 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 4623] Federally Enforceable Through Title V Permit
24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-32-4

EXPIRATION DATE: 04/30/2021

EQUIPMENT DESCRIPTION:

30,000 BBL TANK CONNECTED TO VAPOR CONTROL SYSTEM WITH 3 FWKOS AND SERVING HEATER TREATERS PEER '-1 AND S-3585-11, WEMCOS '-16 AND '-31, TANKS '-13, '-14, '-25, '- 26, '-29, '-33, '-35 AND '-36 AND TEOR OPERATION '-9

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. VOC emissions from the components associated with tank up to vapor control system trunk line shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. VOC emissions from the components associated with the tank vapor recovery system shall not exceed 110.1 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 2201 and 1070] Federally Enforceable Through Title V Permit
5. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Operator shall monitor vapor control system pressures on a quarterly basis to ensure that system pressure does not exceed pressure relief valve setting [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
8. 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 Rule 4623] Federally Enforceable Through Title V Permit
9. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
10. 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] Federally Enforceable Through Title V Permit
11. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
13. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
14. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2201] Federally Enforceable Through Title V Permit
15. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
18. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Permittee shall keep in their facility at all times a copy of the letter sent to the APCO requesting participation in the Rule 4623 Fixed Roof Tank Preventive Inspection and Maintenance Program, and Tank Interior Cleaning Program, and maintain the records of annual tank inspections, maintenance, and cleaning to document the participation in the program. [District Rule 4623] Federally Enforceable Through Title V Permit
21. Permittee shall comply with all applicable Tank Interior Cleaning Program requirements specified in Table 6 of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
22. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit
23. This tank shall be degassed before commencing interior cleaning by a degassing method in Section 5.7.5.4.1 through 5.7.5.4.4 of District Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
24. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623] Federally Enforceable Through Title V Permit
26. 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 4623] Federally Enforceable Through Title V Permit
27. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit
28. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-33-4

EXPIRATION DATE: 04/30/2021

EQUIPMENT DESCRIPTION:

30,000 BBL TANK CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. VOC emissions from the components associated with tank up to vapor control system trunk line shall not exceed 12.8 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Permittee shall maintain with the permit an accurate fugitive component count and the resulting emissions calculated pursuant to EPA document, "EPA Protocol for Equipment Leak Emission Estimate," Table 2-4, "Oil and Gas Production Operations," using average emission factors. [District Rules 2201 and 1070] Federally Enforceable Through Title V Permit
4. 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 Rule 4623] Federally Enforceable Through Title V Permit
5. 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 Rule 4623] Federally Enforceable Through Title V Permit
6. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
8. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
9. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
11. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2201] 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.

12. If any of the tank components are found to be leaking, operator shall immediately affix a tag and maintain records of liquid leak and gas leak detection readings, date/time leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Comply with the following requirements to repair leaking components that have a gas leak >10,000 ppmv (measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane):
 - a. Eliminate the leak within 8 hours after detection; or
 - b. If the leak can not be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices; and
 - c. Eliminate the leak within 48 hours after minimization; and
 - d. In no event that the total time to minimize and eliminate the leak shall exceed 56 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
15. If a component type for a given tank is found to leak during an annual inspection, then conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If a component type is found to have no leak after four consecutive quarterly inspections, then revert to annual inspections. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Permittee shall keep in their facility at all times a copy of the letter sent to the APCO requesting participation in the Rule 4623 Fixed Roof Tank Preventive Inspection and Maintenance Program, and Tank Interior Cleaning Program, and maintain the records of annual tank inspections, maintenance, and cleaning to document the participation in the program. [District Rule 4623] Federally Enforceable Through Title V Permit
18. Permittee shall comply with all applicable Tank Interior Cleaning Program requirements specified in Table 6 of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
19. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] Federally Enforceable Through Title V Permit
20. This tank shall be degassed before commencing interior cleaning by a degassing method in Section 5.7.5.4.1 through 5.7.5.4.4 of District Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit
21. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] Federally Enforceable Through Title V Permit
22. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rule 4623] Federally Enforceable Through Title V Permit
23. 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 4623] Federally Enforceable Through Title V Permit
24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-35-3

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

500 BBL DRAIN TANK VENTED TO THE VAPOR CONTROL SYSTEM LISTED ON TANK S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. VOC fugitive emissions from the components in gas service on tank shall not exceed 2.1 lb/day. [District Rule Rules 2201] Federally Enforceable Through Title V Permit
3. The VOC content of the gas shall not exceed 50% by weight. [District Rule 2201]
4. Upon initial start-up, the VOC content of a gas sample will be measured. [District Rule 2201]
5. Operator shall conduct quarterly gas sampling for gas exiting the separator pressure vessel to determine that the VOC content equal to or less than 50% by weight. If gas samples are equal to or less than 50% VOC by weight for 8 consecutive quarterly samplings, sampling frequency shall only be required annually. [District Rule 2201]
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 Rule 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 Rule 4623] Federally Enforceable Through Title V Permit
8. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
9. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
11. 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] Federally Enforceable Through Title V Permit
12. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity test. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

13. Permittee shall maintain accurate component count for tank according to EPAs "Protocol for Equipment Leak Emission Estimate," Table 2-4, Oil and Gas Production Operations Average Emission Factors. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
14. A leak free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rule 4623]
15. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. Components in unsafe locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rule 2201 and 4623]
18. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 2201] Federally Enforceable Through Title V Permit
19. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623, Table 3]
21. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623, Table 3]
22. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623, Table 3]
23. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623, Table 3]
24. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rule 4623, Table 3]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623, Table 3]
26. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623, Table 3]
27. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection [District Rule 2201] Federally Enforceable Through Title V Permit
28. 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 2201 and 4623] Federally Enforceable Through Title V Permit

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

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: S-3585-36-3

EXPIRATION DATE: 04/30/2021

SECTION: 14 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

10,000 BBL EMULSION TANK VENTED TO THE VAPOR CONTROL SYSTEM LISTED ON TANK S-3585-32

PERMIT UNIT REQUIREMENTS

1. The tank shall have no holes or openings. [District Rule 2201] Federally Enforceable Through Title V Permit
2. VOC fugitive emissions from the components in gas service on tank shall not exceed 6.8 lb/day. [District Rule Rules 2201] Federally Enforceable Through Title V Permit
3. The VOC content of the gas shall not exceed 50% by weight. [District Rule 2201]
4. Upon initial start-up, the VOC content of a gas sample will be measured. [District Rule 2201]
5. Operator shall conduct quarterly gas sampling for gas exiting the separator pressure vessel to determine that the VOC content equal to or less than 50% by weight. If gas samples are equal to or less than 50% VOC by weight for 8 consecutive quarterly samplings, sampling frequency shall only be required annually. [District Rule 2201]
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 Rule 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 Rule 4623] Federally Enforceable Through Title V Permit
8. Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
9. The permittee shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
11. 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] Federally Enforceable Through Title V Permit
12. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity test. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

13. Permittee shall maintain accurate component count for tank according to EPAs "Protocol for Equipment Leak Emission Estimate," Table 2-4, Oil and Gas Production Operations Average Emission Factors. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
14. A leak free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. [District Rule 4623]
15. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. Components in unsafe locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 2201] Federally Enforceable Through Title V Permit
16. Any tank gauging or sampling device on a tank vented to the vapor control system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rule 2201 and 4623]
18. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 2201] Federally Enforceable Through Title V Permit
19. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623, Table 3]
21. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623, Table 3]
22. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623, Table 3]
23. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623, Table 3]
24. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rule 4623, Table 3]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623, Table 3]
26. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623, Table 3]
27. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection [District Rule 2201] Federally Enforceable Through Title V Permit
28. 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 2201 and 4623] Federally Enforceable Through Title V Permit

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

ATTACHMENT C

Detailed Summary List of Facility Permits

Detailed Facility Report
For Facility=3585 and excluding Deleted Permits
Sorted by Facility Name and Permit Number

BERRY PETROLEUM COMPANY LLC	FAC #	S 3585	TYPE:	TitleV	EXPIRE ON:	04/30/2021
HEAVY OIL CENTRAL STATIONARY SOURCE	STATUS:	A	TOXIC ID:	60306	AREA:	6 /
CA	TELEPHONE:				INSP. DATE:	08/22

PERMIT NUMBER	FEE DESCRIPTION	FEE RULE	QTY	FEE AMOUNT	FEE TOTAL	PERMIT STATUS	EQUIPMENT DESCRIPTION
S-3585-3-4	84,000 GALLONS	3020-05 D	1	223.00	223.00	A	ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S302
S-3585-4-4	84,000 GALLONS	3020-05 D	1	223.00	223.00	A	ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S284
S-3585-5-4	84,000 GALLONS	3020-05 D	1	223.00	223.00	A	ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S283
S-3585-6-4	84,000 GALLONS	3020-05 D	1	223.00	223.00	A	ONE 84,000 GALLON FIXED ROOF PETROLEUM STORAGE TANK #20S285
S-3585-8-7	84 MMBtu/hr	3020-02 H	1	1,238.00	1,238.00	A	84 MMBTU/HR THERMOTICS NATURAL & TEOR GAS-FIRED STEAM GENERATOR W/ MAGNA FLAME MODEL 4231-85-GLE-X2631 BURNER, FGR, AND RADAC O2 CONTROLLER
S-3585-9-18	275 wells	3020-09 A	275	11.23	3,088.25	A	TEOR OPERATION WITH CASING GAS COLLECTION SYSTEM WITH SULFUR TREATMENT SYSTEM AND STEAM KNOCK-OUT SKID WITH FIN FAN COOLERS, GAS SCRUBBER, ELECTRIC CONDENSATE PUMPS, ELECTRIC COMPRESSOR, AND GAS FILTERS SERVING 275 STEAM-ENHANCED WELLS CONNECTED TO TANK VAPOR RECOVERY SYSTEM S-3585-32 AND VENTED TO A FLARE AND/OR STEAM GENERATORS -8, -17, -24 AND -28
S-3585-11-6	9 MMBtu/hr	3020-02 G	1	980.00	980.00	A	9.0 MMBTU/HR NATURAL GAS-FIRED CE NATCO HEATER TREATER WITH ONE 6.0 MMBTU/HR MAXON MODEL M-PAKT EB-6 LOW-NOX BURNER AND ONE 3.0 MMBTU/HR MAXON MODEL M-PAKT LOW-NOX BURNER
S-3585-12-3	85 MMBtu/hr	3020-02 H	1	1,238.00	1,238.00	A	85 MMBTU/HR PCL IDENTIFICATION #POSO-J402 NATURAL GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MODEL LE LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER
S-3585-13-7	210,000 gallon	3020-05 E	1	296.00	296.00	A	5,000 BBL PETROLEUM STORAGE TANK #T-100 VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32
S-3585-14-6	420,000 gallon tank	3020-05 E	1	296.00	296.00	A	10,000 BBL PETROLEUM STORAGE TANK #TK-10 VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32
S-3585-16-6	25,200 gallon wemco	3020-05 C	1	165.00	165.00	A	600 BBL WEMCO UNIT VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32
S-3585-17-3	85 MMBtu/hr	3020-02 H	1	1,238.00	1,238.00	A	85 MMBTU/HR THERMOTICS NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MAGNAFLAME LOW-NOX BURNER, FGR, AND O2 CONTROLLER
S-3585-24-3	85 MMBtu/hr	3020-02 H	1	1,238.00	1,238.00	A	85 MMBTU/HR PCL IDENTIFICATION #POSO-J404 NATURAL/TEOR GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME LE LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR), AND O2 CONTROLLER

Detailed Facility Report
For Facility=3585 and excluding Deleted Permits
Sorted by Facility Name and Permit Number

PERMIT NUMBER	FEE DESCRIPTION	FEE RULE	QTY	FEE AMOUNT	FEE TOTAL	PERMIT STATUS	EQUIPMENT DESCRIPTION
S-3585-25-5	21,000 gallon oil tank	3020-05 C	1	165.00	165.00	A	5,000 BBL PETROLEUM STORAGE TANK VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32
S-3585-26-5	210,000 Gallons	3020-05 E	1	296.00	296.00	A	5,000 BBL PETROLEUM STORAGE TANK VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32
S-3585-28-3	85 MMBtu/hr	3020-02 H	1	1,238.00	1,238.00	A	85 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR (J405) EQUIPPED WITH NORTH AMERICAN MODEL 4231-85-GLE ULTRA LOW NOX BURNER (OR EQUIVALENT), FLUE GAS RECIRCULATION (FGR), AND OXYGEN CONTROLLER
S-3585-29-4	42,000 Gallons	3020-05 C	1	165.00	165.00	A	1,000 BBL PETROLEUM STORAGE TANK VENTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32
S-3585-30-2	85 MMBtu/hr	3020-02 H	1	1,238.00	1,238.00	A	85 MMBTU/HR NATURAL GAS/TEOR GAS-FIRED STEAM GENERATOR (POSO J-406) WITH A NORTH AMERICAN MAGNA-FLAME LE LOW NOX BURNER, FLUE GAS RECIRCULATION (FGR) AND O2 CONTROLLER
S-3585-31-4	25,200 Gallons	3020-05 C	1	165.00	165.00	A	: 600 BBL WEMCO UNIT CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32
S-3585-32-4	1,260,000 Gallons	3020-05 G	1	461.00	461.00	A	30,000 BBL TANK CONNECTED TO VAPOR CONTROL SYSTEM WITH 3 FWKOS AND SERVING HEATER TREATERS PEER '-1 AND S-3585-11, WEMCOS '-16 AND '-31, TANKS '-13, '-14, '-25, '- 26, '-29, '-33, '-35 AND '-36 AND TEOR OPERATION '-9
S-3585-33-4	1,260,000 Gallons	3020-05 G	1	461.00	461.00	A	30,000 BBL TANK CONNECTED TO VAPOR CONTROL SYSTEM LISTED ON S-3585-32
S-3585-35-3	20,500 gal	3020-05 C	1	165.00	165.00	A	500 BBL DRAIN TANK VENTED TO THE VAPOR CONTROL SYSTEM LISTED ON TANK S-3585-32
S-3585-36-3	410,000 gal	3020-05 E	1	296.00	296.00	A	10,000 BBL EMULSION TANK VENTED TO THE VAPOR CONTROL SYSTEM LISTED ON TANK S-3585-32

Number of Facilities Reported: 1

ATTACHMENT D

District Rule 4601 Stringency Analysis

Stringency Comparison of District Rule 4601 Non-SIP Version (4/16/20) to Current SIP Version (12/17/09)

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
<p>2.0 Applicability</p>	<p>This rule is applicable to any person who supplies, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures, blends or repackages any architectural coating for use within the District.</p>	<p>This rule is applicable to any person who supplies, markets, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures, blends or repackages any architectural coating for use within the District.</p>	<p>The only change is to include applicability of this rule to the person marketing the coatings, therefore, non-SIP version of rule is more stringent than SIP version.</p>
<p>4.0 Exemptions</p>	<p>4.1 The provisions of this rule shall not apply to:</p> <p>4.1.1 Any architectural coating that is supplied, sold, offered for sale, or manufactured for use outside of the District or for shipment to other manufacturers for reformulation or repackaging.</p> <p>4.1.2 Any aerosol coating product.</p> <p>4.2 With the exception of Section 6.2, the provisions of this rule shall not apply to any architectural coating that is sold in a container with a volume of one liter (1.057 quarts) or less.</p>	<p>4.1 The provisions of this rule shall not apply to:</p> <p>4.1.1 Any architectural coating that is supplied, sold, offered for sale, or manufactured for use outside of the District or for shipment to other manufacturers for reformulation or repackaging.</p> <p>4.1.2 Any aerosol coating product.</p> <p>4.2 With the exception of Section 6.2 and Section 4.3, the provisions of this rule shall not apply to any architectural coating that is sold in a container with a volume of one liter (1.057 quarts) or less, provided the following requirements are met:</p> <p>4.2.1 The coating container is not bundled together with other containers of the same specific coating category (listed in Table 1) to be sold as a unit that exceeds one liter (1.057 quart), excluding containers packed together for shipping to a retail outlet, and</p> <p>4.2.2 The label or any other product literature does not suggest combining multiple containers of the same specific category (listed in Table 1) so that the combination exceeds one liter (1.057 quart).</p> <p>4.3 On and after sixty days following the effective date of EPA final rulemaking that the conditions described in Clean Air Act Sections 172(c)(9) and 182(c)(9) have occurred in the San Joaquin Valley regarding the 2008 8-hour Ozone National Ambient Air Quality Standard, the categories of coatings listed below shall no longer be exempt from the provisions of Table 1 of this rule when sold in containers having capacities of one liter (1.057 quarts) or less:</p> <p>4.3.1 Bituminous Roof Coatings;</p>	<p>The exemptions for colorant and for architectural coatings sold in a container with a volume of one liter (1.057 quarts) or less have been added to the rule in order to make the amended rule consistent with the exemptions presented in 2020 California Air Resources Board (ARB) Suggested Control Measures (SCM) for Architectural Coatings. Therefore, the non-SIP version of the rule is as stringent as the SIP version of the rule.</p>

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
		<p>4.3.2 Flat Coatings that are sold in containers having capacities greater than eight fluid ounces;</p> <p>4.3.3 Magnesite Cement Coatings;</p> <p>4.3.4 Multi-Color Coatings;</p> <p>4.3.5 Nonflat Coatings that are sold in containers having capacities greater than eight fluid ounces;</p> <p>4.3.6 Pre-Treatment Wash Primers;</p> <p>4.3.7 Reactive Penetrating Sealers;</p> <p>4.3.8 Shellacs (Clear and Opaque);</p> <p>4.3.9 Stone Consolidants;</p> <p>4.3.10 Swimming Pool Coatings;</p> <p>4.3.11 Tub and Tile Refinishing Coatings;</p> <p>4.3.12 Wood Coatings, including Lacquers, Varnishes, and Sanding Sealers; and</p> <p>4.3.13 Wood Preservatives.</p> <p>4.4 Colorant added at the factory or at the worksite is not subject to the VOC limits in Table 2. In addition, containers of colorant sold at the point of sale for use in the field or on a job site are also not subject to the VOC limit in Table 2.</p>	
<p>5.0 Requirements</p>	<p>5.1 VOC Content Limits: Except as provided in Sections 5.2 and 5.3, no person shall: manufacture, blend, or repackage for use within the District; or supply, sell, or offer for sale within the District; or solicit for application or apply within the District any architectural coating with a VOC content in excess of the corresponding limit specified in the Table of Standards 1 or the Table of Standards 2, after the specified effective date in the Table of Standards 1 or the Table of Standards 2. Limits are expressed as VOC Regulatory, thinned to the manufacturer's maximum thinning recommendation, excluding any colorant added to tint bases.</p> <p>5.2 Most Restrictive VOC Limit: If a coating meets the definition in Section 3.0 for one or more specialty coating categories listed in the Table of Standards 1 or the Table of Standards 2, then that coating is not required to meet the VOC limits for Flat, Nonflat, or Nonflat – High Gloss coatings, but is required to meet the VOC limit for the applicable specialty coating listed in the Table of Standards 1 or the Table of Standards 2.</p> <p>5.2.1 Effective until December 31, 2010, with the exception of the specialty coating categories specified in Section 5.2.3.1 through 5.2.3.15, if a coating is recommended for use in more than one of the specialty coating categories listed in the Table</p>	<p>5.1 VOC Content Limits: Except as provided in Sections 5.2 and 5.3, no person shall: manufacture, blend, or repackage for use within the District; or supply, sell, market or offer for sale within the District; or solicit for application or apply within the District any architectural coating or colorant with a VOC content in excess of the corresponding limit specified in Table 1 or Table 2, after the specified effective date in Table 1 or Table 2. Limits are expressed as VOC Regulatory, thinned to the manufacturer's maximum thinning recommendation, excluding any colorant added to tint bases.</p> <p>5.2 Most Restrictive VOC Limit: If a coating meets the definition in Section 3.0 for one or more specialty coating categories listed in Table 1 or, then that coating is not required to meet the VOC limits for Flat or Nonflat coatings, but is required to meet the VOC limit for the applicable specialty coating listed in Table 1 or . With the exception of the specialty coating categories specified in Sections 5.2.1 through 5.2.12, if a coating is recommended for use in more than one of the specialty coating categories listed in Table 1, then the most restrictive (or lowest) VOC content limit shall apply. This requirement applies to: usage recommendations that appear anywhere on the coating</p>	<p>The Table of Standards 1 and the Table of Standard 2 have been replaced with more stringent Table 1 with VOC content limit for coatings and Table 2 with VOC content limit for colorants with more stringent VOC limits as shown in the tables at the end of this document. Therefore, the non-SIP version of the rule is more stringent than the SIP version of the rule.</p> <p>The VOC limit of the non-SIP version is at least as stringent as the SIP version. Therefore, the non-SIP version of the rule is more stringent than the SIP version of the rule.</p>

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>of Standards 1, the most restrictive (or lowest) VOC content limit shall apply.</p> <p>5.2.2 Effective on and after January 1, 2011, with the exception of the specialty coating categories specified in Sections 5.2.3.2, 5.2.3.3, 5.2.3.5 through 5.2.3.9, and 5.2.3.14 through 5.2.3.18, if a coating is recommended for use in more than one of the specialty coating categories listed in the Table of Standards 2, the most restrictive (or lowest) VOC content limit shall apply.</p> <p>5.2.3 This requirement applies to: usage recommendations that appear anywhere on the coating container, anywhere on any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a manufacturer or anyone acting on their behalf.</p> <p>5.2.3.1 Lacquer coatings (including lacquer sanding sealers)</p> <p>5.2.3.2 Metallic pigmented coatings</p> <p>5.2.3.3 Shellacs</p> <p>5.2.3.4 Fire-retardant coatings</p> <p>5.2.3.5 Pretreatment wash primers</p> <p>5.2.3.6 Industrial maintenance coatings</p> <p>5.2.3.7 Low-solids coatings</p> <p>5.2.3.8 Wood preservatives</p> <p>5.2.3.9 High temperature coatings</p> <p>5.2.3.10 Temperature-indicator safety coatings</p> <p>5.2.3.11 Antenna coatings</p> <p>5.2.3.12 Antifouling coatings</p> <p>5.2.3.13 Flow coatings</p> <p>5.2.3.14 Bituminous roof primers</p> <p>5.2.3.15 Specialty primers, sealers and undercoaters</p> <p>5.2.3.16 Aluminum roof coatings</p> <p>5.2.3.17 Zinc-rich primers</p> <p>5.2.3.18 Wood Coatings</p>	<p>container, anywhere on any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a manufacturer or anyone acting on their behalf.</p> <p>5.2.1 Metallic pigmented coatings;</p> <p>5.2.2 Shellacs;</p> <p>5.2.3 Pretreatment wash primers;</p> <p>5.2.4 Industrial maintenance coatings;</p> <p>5.2.5 Low-solids coatings;</p> <p>5.2.6 Wood preservatives;</p> <p>5.2.7 High temperature coatings;</p> <p>5.2.8 Bituminous roof primers;</p> <p>5.2.9 Specialty primers, sealers and undercoaters;</p> <p>5.2.10 Aluminum roof coatings;</p> <p>5.2.11 Zinc-rich primers; and</p> <p>5.2.12 Wood Coatings.</p>	
	<p>5.3 Sell-Through of Coatings: A coating manufactured prior to the effective date specified for that coating in the Table of Standards 1 or the Table of Standards 2, and that complied with the standards in effect at the time the coating was manufactured, may be sold, supplied, or offered for sale for up to three years after the specified effective date. In addition, a coating manufactured before the effective date specified for that coating in the Table of Standards 1 or the Table of Standards 2 may be applied at any time, both before and after the specified effective date, so long as the coating complied with the standards in effect at the time the coating was manufactured. This Section 5.3 does not apply to any</p>	<p>5.3 Sell-Through of Coatings: 5.3.1 A coating manufactured prior to January 1, 2022, may be sold, supplied, or offered for sale for up to three years after January 1, 2022. In addition, a coating manufactured before January 1, 2022 may be applied at any time, both before and after January 1, 2022, so long as the coating complied with the standards in effect at the time the coating was manufactured. This subsection 5.3.1 does not apply to any coating that does not display the date or date-code required by subsection 6.1.1. 5.3.2 A colorant manufactured prior to January 1, 2022, may be sold, supplied, or offered for sale for up to three years after January 1, 2022. In addition, a</p>	<p>The VOC limit of the non-SIP version is at least as stringent as the SIP version. Therefore, the non-SIP version of the rule is more stringent than the SIP version of the rule.</p>

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	coating that does not display the date or date-code required by Section 6.1.1.	colorant manufactured before January 1, 2022 may be applied at any time, both before and after January 1, 2022, so long as the colorant complied with the standards in effect at the time the colorant was manufactured. This subsection 5.3.2 does not apply to any colorant that does not display the date or date-code required by subsection 6.1.1.	
	5.4 Painting Practices: All architectural coating containers used to apply the contents therein to a surface directly from the container by pouring, siphoning, brushing, rolling, padding, ragging or other means, shall be closed when not in use. These architectural coating containers include, but are not limited to, drums, buckets, cans, pails, trays or other application containers. Containers of any VOC-containing materials used for thinning and cleanup shall also be closed when not in use.	5.4 Painting Practices: All architectural coating containers used to apply the contents therein to a surface directly from the container by pouring, siphoning, brushing, rolling, padding, ragging or other means, shall be closed when not in use. These architectural coating containers include, but are not limited to, drums, buckets, cans, pails, trays or other application containers. Containers of any VOC-containing materials used for thinning and cleanup shall also be closed when not in use.	No change in the requirements, therefore, non-SIP version of rule is as stringent as SIP version.
	5.5 Thinning: No person who applies or solicits the application of any architectural coating shall apply a coating that is thinned to exceed the applicable VOC limit specified in the Table of Standards 1 or the Table of Standards 2.	5.5 Thinning: No person who applies or solicits the application of any architectural coating shall apply a coating that is thinned to exceed the applicable VOC limit specified in the Table of Standards 1 or the Table of Standards 2.	No change in the requirements, therefore, non-SIP version of rule is as stringent as SIP version.
	5.6 Rust Preventative Coatings: Effective through December 31, 2010, no person shall apply or solicit the application of any rust preventative coating for industrial use, unless such a rust preventative coating complies with the industrial maintenance coating VOC limit specified in the Table of Standards 1.		The VOC limit of the SIP version is no longer applicable at this time and has been removed.
	5.7 Coatings Not Listed in the Table of Standards 1 or the Table of Standards 2: For any coating that does not meet any of the definitions for the specialty coatings categories listed in the Table of Standards 1 or the Table of Standards 2, the VOC content limit shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat – High Gloss coating, based on its gloss, and the corresponding Flat, Nonflat, or Nonflat – High Gloss VOC limit in the Table of Standards 1 or the Table of Standards 2 shall apply.	5.6 Coatings Not Listed in Table 1: For any coating that does not meet any of the definitions for the specialty coatings categories listed in Table 1, the VOC content limit shall be determined by classifying the coating as Flat or Nonflat, based on its gloss, and the corresponding Flat or Nonflat VOC limit in Table 1 shall apply.	The VOC limit of the non-SIP version is at least as stringent as the SIP version. Therefore, the non-SIP version of the rule is more stringent than the SIP version of the rule.
		5.7 Colorants: No person within the District shall, at the point of sale of any architectural coating subject to subsection 5.1, add to such coating any colorant that contains VOCs in excess of the corresponding applicable VOC limit specified in Table 2. The point of sale includes retail outlets that add colorant to a coating container to obtain a specific color.	The VOC limit for colorants in non-SIP version more stringent than the SIP version of the rule.
	5.8 Prior to January 1, 2011, any coating that		The VOC limit of the SIP

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>meets a definition in Section 3.0 for a coating category listed in the Table of Standards 2 and complies with the applicable VOC limit in the Table of Standards 2 and with Sections 5.2 and 6.1 (including those provision of Section 6.1 otherwise effective on January 1, 2011) shall be considered in compliance with this rule.</p>		<p>version is no longer applicable at this time and has been removed.</p>
	<p>Table of Standards 1 (Effective on and after 1/1/11)</p>	<p>Table 1 VOC Content Limits for Coatings (Effective on and after 1/1/22) (See end of the document for Table Comparison)</p>	<p>The requirements of Table of Standard 1 are more stringent than the Table 1 in the SIP rule. Therefore, non-SIP version of rule is as stringent as SIP version.</p>
	<p>Table of Standards 2 (Effective on and after 1/1/11)</p>	<p>Table 2 VOC Content Limits for Colorants (Effective on and after 1/1/22) (See end of the document for Table Comparison)</p>	<p>VOC content limits for colorants were added under the amended rule. Therefore, the non-SIP version of the rule is more stringent than the SIP version of the rule.</p>
<p>6.0 Administrative Requirements</p>	<p>6.1 Labeling Requirements: Each manufacturer of any architectural coating subject to this rule shall display the information listed in Sections 6.1.1 through 6.1.14 on the coating container (or label) in which the coating is sold or distributed.</p> <p>6.1.1 Date Code: The date the coating was manufactured, or a date code representing the date, shall be indicated on the label, lid or bottom of the container. If the manufacturer uses a date code for any coating, the manufacturer shall file an explanation of each code with the Executive Officer of the ARB.</p> <p>6.1.2 Thinning Recommendations: A statement of the manufacturer's recommendation regarding thinning of the coating shall be indicated on the label or lid of the container. This requirement does not apply to the thinning of architectural coatings with water. If thinning of the coating prior to use is not necessary, the recommendation must specify that the coating is to be applied without thinning.</p> <p>6.1.3 VOC Content: Each container of any coating subject to this rule shall display one of the following values, in grams of VOC per liter of coating:</p> <p>6.1.3.1 Maximum VOC Content, as determined from all potential product formulations; or</p> <p>6.1.3.2 VOC Content, as determined</p>	<p>6.1 Labeling Requirements: Each manufacturer of any architectural coating subject to this rule shall display the information listed in Sections 6.1.1 through 6.1.12 on the coating container (or label) in which the coating is sold or distributed.</p> <p>6.1.1 Date Code: The date the coating was manufactured, or a date code representing the date, shall be indicated on the label, lid or bottom of the container. If the manufacturer uses a date code for any coating, the manufacturer shall file an explanation of each code with the Executive Officer of the ARB.</p> <p>6.1.2 Thinning Recommendations: A statement of the manufacturer's recommendation regarding thinning of the coating shall be indicated on the label or lid of the container. This requirement does not apply to the thinning of architectural coatings with water. If thinning of the coating prior to use is not necessary, the recommendation must specify that the coating is to be applied without thinning.</p> <p>6.1.3 VOC Content: Each container of any coating subject to this rule shall display one of the following values, in grams of VOC per liter of coating:</p> <p>6.1.3.1 Maximum VOC Content, as determined from all potential product formulations; or</p>	<p>The non-SIP approved rule contain sections listed in the SIP rule plus additional requirements not found in the SIP version for colorants. Therefore, non-SIP version of rule is as stringent as SIP version.</p>

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>from actual formulation data; or</p> <p>6.1.3.3 VOC Content, as determined using the test methods in Section 6.3.2.</p> <p>If the manufacturer does not recommend thinning, the container must display the VOC Content, as supplied. If the manufacturer recommends thinning, the container must display the VOC Content, including the maximum amount of thinning solvent recommended by the manufacturer. If the coating is a multicomponent product, the container must display the VOC content as mixed or catalyzed. If the coating contains silanes, siloxanes, or other ingredients that generate ethanol or other VOCs during the curing process, the VOC content must include the VOCs emitted during curing.</p> <p>6.1.4 Faux Finishing Coatings: Effective January 1, 2011, the labels of all clear topcoat Faux Finishing coatings shall prominently display the statement "This product can only be sold or used as part of a Faux Finishing coating system".</p> <p>6.1.5 Industrial Maintenance Coatings: Each manufacturer of any industrial maintenance coating subject to this rule shall display on the label or lid of the container in which the coating is sold or distributed one or more of the following descriptions listed in Section 6.1.5.1 through 6.1.5.3.</p> <p>6.1.5.1 "For industrial use only"</p> <p>6.1.5.2 "For professional use only"</p> <p>6.1.5.3 "Not for residential use" or "Not intended for residential use"</p> <p>6.1.6 Clear Brushing Lacquers: The labels of all clear brushing lacquers shall prominently display the statements "For brush application only," and "This product must not be thinned or sprayed." (Category deleted effective January 1, 2011.)</p> <p>6.1.7 Rust Preventative Coatings: The labels of all rust preventative coatings shall prominently display the statement "For Metal Substrates Only".</p> <p>6.1.8 Specialty Primers, Sealers and Undercoaters: Effective until December 31, 2010, the labels of all specialty primers, sealers and undercoaters shall prominently display one or more of the descriptions listed in Section 6.1.8.1 through 6.1.8.5. Effective on and after January 1, 2011, the labels of all specialty primers, sealers, and undercoaters shall prominently display one or more of the descriptions listed in</p>	<p>6.1.3.2 VOC Content, as determined from actual formulation data; or</p> <p>6.1.3.3 VOC Content, as determined using the test methods in Section 6.3.2.</p> <p>If the manufacturer does not recommend thinning, the container must display the VOC Content, as supplied. If the manufacturer recommends thinning, the container must display the VOC Content, including the maximum amount of thinning solvent recommended by the manufacturer. If the coating is a multicomponent product, the container must display the VOC content as mixed or catalyzed. If the coating contains silanes, siloxanes, or other ingredients that generate ethanol or other VOCs during the curing process, the VOC content must include the VOCs emitted during curing.</p> <p>6.1.4 Faux Finishing Coatings: The labels of all clear topcoat Faux Finishing coatings shall prominently display the statement "This product can only be sold or used as part of a Faux Finishing coating system".</p> <p>6.1.5 Industrial Maintenance Coatings: Each manufacturer of any industrial maintenance coating subject to this rule shall display on the label or lid of the container in which the coating is sold or distributed one or more of the following descriptions listed in Section 6.1.5.1 through 6.1.5.3.</p> <p>6.1.5.1 "For industrial use only"</p> <p>6.1.5.2 "For professional use only"</p> <p>6.1.6 Rust Preventative Coatings: The labels of all rust preventative coatings shall prominently display the statement "For Metal Substrates Only".</p> <p>6.1.7 Specialty Primers, Sealers and Undercoaters: The labels of all specialty primers, sealers, and undercoaters shall prominently display the statement "Specialty Primer, Sealer, Undercoater"</p> <p>6.1.8 Reactive Penetrating Sealers: The labels of all Reactive Penetrating Sealers shall prominently display the statement "Reactive Penetrating Sealer."</p> <p>6.1.9 Stone Consolidants: The labels of all Stone Consolidants shall prominently display the statement "Stone Consolidant - For Professional Use Only."</p>	

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>Sections 6.1.8.1 through 6.1.8.3. On and after January 1, 2011, Sections 6.1.8.4 and 6.1.8.5 will be no longer effective.</p> <p>6.1.8.1 For fire-damaged substrates.</p> <p>6.1.8.2 For smoke-damaged substrates.</p> <p>6.1.8.3 For water-damaged substrates.</p> <p>6.1.8.4 For excessively chalky substrates.</p> <p>6.1.8.5 For blocking stains.</p> <p>6.1.9 Quick Dry Enamels: The labels of all quick dry enamels shall prominently display the words "Quick Dry" and the dry hard time. (Category deleted effective January 1, 2011.)</p> <p>6.1.10 Reactive Penetrating Sealers: Effective January 1, 2011, the labels of all Reactive Penetrating Sealers shall prominently display the statement "Reactive Penetrating Sealer."</p> <p>6.1.11 Stone Consolidants: Effective January 1, 2011, the labels of all Stone Consolidants shall prominently display the statement "Stone Consolidant - For Professional Use Only."</p> <p>6.1.12 Nonflat– High Gloss Coatings: The labels of all Nonflat – high gloss coatings shall prominently display the words "High Gloss."</p> <p>6.1.13 Wood Coatings: Effective January 1, 2011, the labels of all Wood Coatings shall prominently display the statement "For Wood Substrates Only."</p> <p>6.1.14 Zinc Rich Primers: Effective January 1, 2011, the labels of all Zinc Rich Primers shall prominently display one or more of the following descriptions listed in Section 6.1.14.1 through 6.1.14.3.</p> <p>6.1.14.1 "For industrial use only"</p> <p>6.1.14.2 "For professional use only"</p> <p>6.1.14.3 "Not for residential use" or "Not intended for residential use"</p>	<p>6.1.10 Wood Coatings: The labels of all Wood Coatings shall prominently display the statement "For Wood Substrates Only."</p> <p>6.1.11 Zinc Rich Primers: The labels of all Zinc Rich Primers shall prominently display the statement "For professional use only."</p> <p>6.1.12 Colorants: Effective January 1, 2022, each manufacturer of any colorant subject to this rule shall display the information listed in subsections 6.1.12.1 and 6.1.12.2 on the container (or label) in which the colorant is sold or distributed.</p> <p>6.1.12.1 Date Code: The date the colorant was manufactured, or a date code representing the date, shall be indicated on the label, lid, or bottom of the container. If the manufacturer uses a date code for any colorant, the manufacturer shall file an explanation of each code with the APCO.</p> <p>6.1.12.2 VOC Content: Each container of any colorant subject to this rule shall display one of the following values in grams of VOC per liter of colorant.</p> <p>6.1.12.2.1 Maximum VOC Content as determined from all potential product formulations; or</p> <p>6.1.12.2.2 VOC Content as determined from actual formulation data; or</p> <p>6.1.12.2.3 VOC Content as determined using the test methods in subsection 6.3.2.</p> <p>If the colorant contains silanes, siloxanes, or other ingredients that generate ethanol or other VOCs during the curing process, the VOC content must include the VOCs emitted during curing. VOC Content shall be determined as defined in subsections 3.72, 3.73, and 3.74.</p>	
	<p>6.2 Reporting Requirements</p> <p>The reporting requirements specified in Sections 6.2.1 through 6.2.6 shall apply until December 31, 2010.</p> <p>6.2.1 Clear Brushing Lacquers: Each manufacturer of clear brushing lacquers shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the ARB. The report shall specify the number of gallons of clear brushing lacquers sold in the State during the preceding calendar year, and shall describe the</p>	<p>6.2 Reporting Requirements</p> <p>6.2.1 Sales Data: All sales data listed in Sections 6.2.1.1 to 6.2.1.14 shall be maintained on-site by the responsible official for a minimum of three years. A responsible official from each manufacturer shall upon request of the Executive Officer of CARB, or his or her delegate, provide data concerning the distribution and sales of architectural coatings. Sales data submitted by the responsible official to the Executive Officer of the ARB may be claimed as confidential, and such information shall be handled in</p>	<p>All the reporting requirements were removed except the sales data requirements presented in 2020 California Air Resources Board (ARB) Suggested Control Measures (SCM) for Architectural Coatings in order to make the amended rule consistent with SCM. Therefore, non-SIP version of rule is as stringent as SIP version.</p>

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>method used by the manufacturer to calculate State sales.</p> <p>6.2.2 Rust Preventative Coatings: Each manufacturer of rust preventative coatings shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the ARB. The report shall specify the number of gallons of rust preventative coatings sold in the State during the preceding calendar year, and shall describe the method used by the manufacturer to calculate State sales.</p> <p>6.2.3 Specialty Primers, Sealers and Undercoaters: Each manufacturer of specialty primers, sealers and undercoaters shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the ARB. The report shall specify the number of gallons of specialty primers, sealers and undercoaters sold in the State during the preceding calendar year, and shall describe the method used by the manufacturer to calculate State sales.</p> <p>6.2.4 Toxic Exempt Compounds: For each architectural coating that contains perchloroethylene or methylene chloride, the manufacturer shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the ARB the following information for products sold in the State during the preceding year:</p> <p>6.2.4.1 the product brand name and a copy of the product label with legible usage instructions;</p> <p>6.2.4.2 the product category listed in the Table of Standards 1 or the Table of Standards 2 to which the coating belongs;</p> <p>6.2.4.3 the total sales in California during the calendar year to the nearest gallon;</p> <p>6.2.4.4 the volume percent, to the nearest 0.10 percent, of perchloroethylene and methylene chloride in the coating.</p> <p>6.2.5 Recycled Coatings: Manufacturers of recycled coatings must submit a letter to the Executive Officer of the ARB certifying their status as a Recycled Paint Manufacturer. The manufacturer shall, on or before April 1 of each calendar year beginning with the year 2004, submit an annual report to the Executive Officer of the ARB. The report shall include, for all recycled coatings, the total number of gallons</p>	<p>accordance with the procedures specified in Title 17, California Code of Regulations Sections 91000-91022. The responsible official shall within 180 days provide information, including, but not limited to the data listed in Sections 6.2.1.1 through 6.2.1.14:</p> <p>6.2.1.1 The name and mailing address of the manufacturer;</p> <p>6.2.1.2 The name, address and telephone number of a contact person;</p> <p>6.2.1.3 The name of the coating product as it appears on the label and the applicable coating category;</p> <p>6.2.1.4 Whether the product is marketed for interior or exterior use or both;</p> <p>6.2.1.5 The number of gallons sold in California in containers greater than one liter (1.057 quart) and equal to or less than one liter (1.057 quart);</p> <p>6.2.1.6 The VOC Actual content and VOC Regulatory content in grams per liter. If thinning is recommended, list the VOC Actual content and VOC Regulatory content after maximum recommended thinning. If containers less than one liter have a different VOC content than containers greater than one liter, list separately. If the coating is a multi-component product, provide the VOC content as mixed or catalyzed;</p> <p>6.2.1.7 The names and CAS numbers of the VOC constituents in the product;</p> <p>6.2.1.8 The names and CAS numbers of any compounds in the product specifically exempted from the VOC definition;</p> <p>6.2.1.9 Whether the product is marketed as solvent-borne, waterborne, or 100% solids;</p> <p>6.2.1.10 Description of resin or binder in the product;</p> <p>6.2.1.11 Whether the coating is a single-component or multi-component product;</p> <p>6.2.1.12 The density of the product in pounds per gallon;</p> <p>6.2.1.13 The percent by weight of: solids, all volatile materials, water, and any compounds in the product specifically exempted from the VOC</p>	

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>distributed in the State during the preceding year, and shall describe the method used by the manufacturer to calculate State distribution.</p> <p>6.2.6 Bituminous Coatings: Each manufacturer of bituminous roof coatings or bituminous roof primers shall, on or before April 1 of each calendar year beginning with the year 2004, submit an annual report to the Executive Officer of ARB. The report shall specify the number of gallons of bituminous roof coatings or bituminous roof primers sold in the State during the preceding calendar year, and shall describe the method used by the manufacturer to calculate state sales.</p> <p>6.2.7 Effective on and after January 1, 2011, Sales Data: All sales data listed in Sections 6.2.7.1 to 6.2.7.14 shall be maintained on-site by the responsible official for a minimum of three years. A responsible official from each manufacturer shall upon request of the Executive Officer of the ARB, or his or her delegate, provide data concerning the distribution and sales of architectural coatings. Sales data submitted by the responsible official to the Executive Officer of the ARB may be claimed as confidential, and such information shall be handled in accordance with the procedures specified in Title 17, California Code of Regulations Sections 91000-91022. The responsible official shall within 180 days provide information, including, but not limited to the data listed in Sections 6.2.7.1 through 6.2.7.14:</p> <p>6.2.7.1 the name and mailing address of the manufacturer;</p> <p>6.2.7.2 the name, address and telephone number of a contact person;</p> <p>6.2.7.3 the name of the coating product as it appears on the label and the applicable coating category;</p> <p>6.2.7.4 whether the product is marketed for interior or exterior use or both;</p> <p>6.2.7.5 the number of gallons sold in California in containers greater than one liter (1.057 quart) and equal to or less than one liter (1.057 quart);</p> <p>6.2.7.6 the VOC Actual content and VOC Regulatory content in grams per liter. If thinning is recommended, list the VOC Actual content and VOC Regulatory content after maximum recommended</p>	<p>definition; and</p> <p>6.2.1.14 The percent by volume of solids, water, and any compounds in the product specifically exempted from the VOC definition.</p>	

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>thinning. If containers less than one liter have a different VOC content than containers greater than one liter, list separately. If the coating is a multi-component product, provide the VOC content as mixed or catalyzed;</p> <p>6.2.7.7 the names and CAS numbers of the VOC constituents in the product;</p> <p>6.2.7.8 the names and CAS numbers of any compounds in the product specifically exempted from the VOC definition;</p> <p>6.2.7.9 whether the product is marketed as solvent-borne, waterborne, or 100% solids;</p> <p>6.2.7.10 description of resin or binder in the product;</p> <p>6.2.7.11 whether the coating is a single-component or multi-component product;</p> <p>6.2.7.12 the density of the product in pounds per gallon;</p> <p>6.2.7.13 the percent by weight of: solids, all volatile materials, water, and any compounds in the product specifically exempted from the VOC definition; and</p> <p>6.2.7.14 the percent by volume of: solids, water, and any compounds in the product specifically exempted from the VOC definition.</p>		
	<p>6.3 Test Methods</p> <p>The test methods listed below shall be used to demonstrate compliance with this rule. Alternate equivalent test methods may be used provided the test methods have been approved by the APCO and EPA.</p> <p>6.3.1 Calculation of VOC Content: For the purpose of determining compliance with the VOC content limits in the Table of Standards 1 or the Table of Standards 2, the VOC content of a coating shall be determined as defined in Section 3.77, 3.78, or 3.79 as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured. If the manufacturer does not recommend thinning, the VOC Content must be calculated for the product as supplied. If the manufacturer recommends thinning, the VOC Content must be calculated including</p>	<p>6.3 Test Methods</p> <p>The test methods listed below shall be used to demonstrate compliance with this rule. Alternate equivalent test methods may be used provided the test methods have been approved by the APCO and EPA.</p> <p>6.3.1 Calculation of VOC Content: For the purpose of determining compliance with the VOC content limits in Table 1 or the 2, the VOC content of a coating shall be determined as defined in Section 3.71, 3.72, or 3.73 as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured. If the manufacturer does not recommend thinning, the VOC Content must be calculated for the product as supplied. If the manufacturer recommends thinning, the VOC Content must be calculated including</p>	<p>Numerous definitions were added, deleted or modified in order to make the amended rule consistent with definitions and rule requirements presented in 2020 California Air Resources Board (ARB) Suggested Control Measures (SCM) for Architectural Coatings. Therefore, the non-SIP version of the rule is more stringent than the SIP version of the rule.</p>

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>the maximum amount of thinning solvent recommended by the manufacturer. If the coating is a multi-component product, the VOC content must be calculated as mixed or catalyzed. If the coating contains silanes, siloxanes, or other ingredients that generate ethanol or other VOC during the curing process, the VOC content must include the VOCs emitted during curing.</p> <p>6.3.2 VOC Content of Coatings: To determine the physical properties of a coating in order to perform the calculations in Section 3.77 and 3.79, the reference method for VOC content is EPA Method 24, except as provided in Sections 6.3.3 and 6.3.16. An alternative method to determine the VOC content of coatings is SCAQMD Method 304-91 (Revised February 1996). The exempt compounds content shall be determined by SCAQMD Method 303-91 (Revised 1993), BAAQMD Method 43 (Revised 1996), or BAAQMD Method 41 (Revised 1995), as applicable. To determine the VOC content of a coating, the manufacturer may use EPA Method 24, or an alternative method as provided in Section 6.3.3, formulation data, or any other reasonable means for predicting that the coating has been formulated as intended (e.g., quality assurance checks, recordkeeping). However, if there are any inconsistencies between the results of EPA Method 24 test and any other means for determining VOC content, the EPA Method 24 test results will govern, except when an alternative method is approved as specified in Section 6.3.3. The District Air Pollution Control Officer (APCO) may require the manufacturer to conduct an EPA Method 24 analysis.</p> <p>6.3.3 Alternative Test Methods: Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with Section 6.3.2 1, after review and approved in writing by the staffs of the District, ARB and EPA, may also be used.</p> <p>6.3.4 Methacrylate Traffic Marking Coatings: Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to a modification of EPA Method 24 (40 CFR 59, subpart D, Appendix A). This method has not been approved for methacrylate multicomponent coatings used for other purposes than as traffic marking coatings or for other classes of</p>	<p>the maximum amount of thinning solvent recommended by the manufacturer. If the coating is a multi-component product, the VOC content must be calculated as mixed or catalyzed. If the coating contains silanes, siloxanes, or other ingredients that generate ethanol or other VOC during the curing process, the VOC content must include the VOCs emitted during curing.</p> <p>6.3.2 VOC Content of Coatings: To VOC Content of Coatings or Colorants: To determine the physical properties of a coating or colorant in order to perform the calculations in Section 3.71 and 3.73, the reference method for VOC content is EPA Method 24, except as provided in Sections 6.3.3 and 6.3.15. An alternative method to determine the VOC content of coatings or colorants is SCAQMD Method 304-91 (Revised February 1996). The exempt compounds content shall be determined by SCAQMD Method 303-91 (Revised 1996), BAAQMD Method 43 (Revised 2005), or BAAQMD Method 41 (Revised 2005), as applicable. To determine the VOC content of a coating or colorant, the manufacturer may use EPA Method 24, or an alternative method as provided in Section 6.3.4, formulation data, or any other reasonable means for predicting that the coating or colorant has been formulated as intended (e.g., quality assurance checks, recordkeeping). However, if there are any inconsistencies between the results of EPA Method 24 test and any other means for determining VOC content, the EPA Method 24 test results will govern, except when an alternative method is approved as specified in Section 6.3.4. The District Air Pollution Control Officer (APCO) may require the manufacturer to conduct an EPA Method 24 analysis.</p> <p>6.3.3 To determine the VOC content of a coating or colorant with a VOC content of 150 g/l or less, the manufacturer may use SCAQMD Method 313, incorporated by reference in subsection 6.3.34, ASTM D6886-18, incorporated by reference in subsection 6.3.35, or any other reasonable means for predicting that the coating or colorant has been formulated as intended (e.g., quality assurance checks, record keeping).</p>	

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>multicomponent coatings.</p> <p>6.3.5 Flame Spread Index: The flame spread index of a fire-retardant coating shall be determined by ASTM E84-07, "Standard Test Method for Surface Burning Characteristics of Building Materials" (see Section 3.0, Fire-Retardant Coating).</p> <p>6.3.6 Fire Resistance Rating: The fire resistance rating of a fire-resistive coating shall be determined by ASTM E119-07, "Standard Test Methods for Fire Tests of Building Construction Materials" (see Section 3.0, Fire-Resistive Coating).</p> <p>6.3.7 Gloss Determination: The gloss of a coating shall be determined by ASTM D523-89 (1999), "Standard Test Method for Specular Gloss" (see Section 3.0, Flat Coating, Nonflat Coating, Nonflat-High Gloss Coating and Quick-Dry Enamel).</p> <p>6.3.8 Metal Content of Coatings: The metallic content of a coating shall be determined by SCAQMD Method 318-95, Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction, <i>SCAQMD Laboratory Methods of Analysis for Enforcement Samples</i> (see Section 3.0, Metallic Pigmented Coating, Aluminum Roof Coating and Faux Finish).</p> <p>6.3.9 Acid Content of Coatings: The acid content of a coating shall be determined by ASTM D1613-06, "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer and related products" (see Section 3.0, Pre-Treatment Wash Primer).</p> <p>6.3.10 Drying Times: The set-to-touch, dry-hard, dry-to-touch and dry-to-recoat times of a coating shall be determined by ASTM D1640-95, "Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature" (see Section 3.0, Quick-Dry Enamel and Quick-Dry Primer, Sealer and Undercoater) The tack-free time of a quick-dry enamel coating shall be determined by the Mechanical Test Method of ASTM D1640-95. (Category deleted effective January 1, 2011.)</p> <p>6.3.11 Surface Chalkiness: The chalkiness of a surface shall be determined using ASTM D4214-98, "Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films"(see Section 3, Specialty Primer, Sealer and Undercoater). (Category deleted effective January 1, 2011.)</p> <p>6.3.12 Exempt Compounds—Siloxanes:</p>	<p>6.3.4 Alternative Test Methods: Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with Section 6.3.2 4, after review and approved in writing by the staffs of the District, ARB and EPA, may also be used.</p> <p>6.3.5 Methacrylate Traffic Marking Coatings: Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to a modification of EPA Method 24 (40 CFR 59, subpart D, Appendix A). This method has not been approved for methacrylate multicomponent coatings used for other purposes than as traffic marking coatings or for other classes of multicomponent coatings.</p> <p>6.3.6 Flame Spread Index: The flame spread index of a fire-retardant coating shall be determined by ASTM E84-18B, "Standard Test Method for Surface Burning Characteristics of Building Materials" (see Section 3.0, Fire-Retardant Coating).</p> <p>6.3.7 Fire Resistance Rating: The fire resistance rating of a fire-resistive coating shall be determined by ASTM E119-18ce1, "Standard Test Methods for Fire Tests of Building Construction Materials" (see Section 3.0, Fire-Resistive Coating).</p> <p>6.3.8 Gloss Determination: The gloss of a coating shall be determined by ASTM D523-14 (2018), "Standard Test Method for Specular Gloss" (see Section 3.0, Flat Coating and Nonflat Coating).</p> <p>6.3.9 Metal Content of Coatings: The metallic content of a coating shall be determined by SCAQMD Method 318-95, Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction, <i>SCAQMD Laboratory Methods of Analysis for Enforcement Samples</i> (see Section 3.0, Metallic Pigmented Coating, Aluminum Roof Coating and Faux Finish).</p> <p>6.3.10 Acid Content of Coatings: The acid content of a coating shall be determined by ASTM D1613-17, "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer and related products" (see Section 3.0, Pre-Treatment Wash Primer).</p> <p>6.3.11 Exempt Compounds—Siloxanes: Exempt compounds that are cyclic,</p>	

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>Exempt compounds that are cyclic, branched, or linear completely methylated siloxanes, shall be analyzed as exempt compounds for compliance with Section 6 by BAAQMD Method 43, "Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials," <i>BAAQMD Manual of Procedures</i>, Volume III, adopted 11/6/96 (see Section 3.0, Volatile Organic Compound, and Section 6.3.2).</p> <p>6.3.13 Exempt Compounds—Parachlorobenzotrifluoride (PCBTF): The exempt compound parachlorobenzotrifluoride, shall be analyzed as an exempt compound for compliance with Section 6 by BAAQMD Method 41, "Determination of Volatile Organic Compounds in Solvent Based Coatings and Related Materials Containing Parachlorobenzotrifluoride," <i>BAAQMD Manual of Procedures</i>, Volume III, adopted 12/20/95 (see Section 3.0, Volatile Organic Compound, and Section 6.3.2).</p> <p>6.3.14 Exempt Compounds: The content of compounds under U.S. EPA Method 24 shall be analyzed by SCAQMD Method 303-91 (Revised 1993), "Determination of Exempt Compounds," <i>SCAQMD Laboratory Methods of Analysis for Enforcement Samples</i> (see Section 3.0, Volatile Organic Compound, and Section 6.3.2).</p> <p>6.3.15 VOC Content of Coatings: The VOC content of a coating shall be determined by EPA Method 24 as it exists in appendix A of 40 <i>Code of Federal Regulations</i> (CFR) part 60, "Determination of Volatile Matter Content, Water Content, Density, Volume Solids and Weight Solids of Surface Coatings" (see Section 6.3.2).</p> <p>6.3.16 <i>Alternative VOC Content of Coatings: The VOC content of coatings may be analyzed either by U.S. EPA Method 24 or SCAQMD Method 304-91 (Revised 1996), "Determination of Volatile Organic Compounds (VOC) in Various Materials," SCAQMD Laboratory Methods of Analysis for Enforcement Samples.</i></p> <p>6.3.17 Methacrylate Traffic Marking Coatings: The VOC content of methacrylate multicomponent coatings used as traffic marking coatings shall be analyzed by the procedures in 40 CFR part 59, subpart D, appendix A, "Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings" (September</p>	<p>branched, or linear completely methylated siloxanes, shall be analyzed as exempt compounds for compliance with Section 6 by BAAQMD Method 43, "Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials," <i>BAAQMD Manual of Procedures</i>, Volume III, revised 2006 (see Section 3.0, Volatile Organic Compound, and Section 6.3.2).</p> <p>6.3.12 Exempt Compounds—Parachlorobenzotrifluoride (PCBTF): The exempt compound parachlorobenzotrifluoride, shall be analyzed as an exempt compound for compliance with Section 6 by BAAQMD Method 41, "Determination of Volatile Organic Compounds in Solvent Based Coatings and Related Materials Containing Parachlorobenzotrifluoride," <i>BAAQMD Manual of Procedures</i>, Volume III, revised 2006 (see Section 3.0, Volatile Organic Compound, and Section 6.3.2).</p> <p>6.3.13 Exempt Compounds: The content of compounds exempted under U.S. EPA Method 24 shall be analyzed by SCAQMD Method 303-91 (Revised 1996), "Determination of Exempt Compounds," <i>SCAQMD Laboratory Methods of Analysis for Enforcement Samples</i> (see Section 3.0, Volatile Organic Compound, and Section 6.3.2).</p> <p>6.3.14 VOC Content of Coatings: The VOC content of a coating shall be determined by EPA Method 24 as it exists in appendix A of 40 <i>Code of Federal Regulations</i> (CFR) part 60, "Determination of Volatile Matter Content, Water Content, Density, Volume Solids and Weight Solids of Surface Coatings" (see Section 6.3.2).</p> <p>6.3.15 Alternative VOC Content of Coatings: The VOC content of coatings may be analyzed either by U.S. EPA Method 24 or SCAQMD Method 304-91 (Revised 1996), "Determination of Volatile Organic Compounds (VOC) in Various Materials," <i>SCAQMD Laboratory Methods of Analysis for Enforcement Samples</i>.</p> <p>6.3.16 Methacrylate Traffic Marking Coatings: The VOC content of methacrylate multicomponent coatings used as traffic marking coatings shall be analyzed by the procedures in 40 CFR part 59,</p>	

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>11, 1998).</p> <p>6.3.18 Hydrostatic Pressure for Basement Specialty Coatings: The hydrostatic pressure resistance for basement specialty coatings shall be analyzed using ASTM D7088-04, "Standard Practice for Resistance to Hydrostatic Pressure for Coatings Used in Below Grade Applications Applied to Masonry".</p> <p>6.3.19 Tub and Tile Refinish Coating Adhesion: The adhesion of tub and tile coating shall be determined by ASTM D4585-99, "Standard Practice for Testing Water Resistance of Coatings Using Controlled Condensation" and ASTM D3359-02, "Standard Test Methods for Measuring Adhesion by Tape Test".</p> <p>6.3.20 Tub and Tile Refinish Coating Hardness: The hardness of tub and tile refinish coating shall be determined by ASTM D3363-05, "Standard Test Method for Film Hardness by Pencil Test".</p> <p>6.3.21 Tub and Tile Refinish Coating Abrasion Resistance: Abrasion resistance of tub and tile refinish coating shall be analyzed by ASTM D4060-07, "Standard Test Methods for Abrasion Resistance of Organic Coatings by the Taber Abraser".</p> <p>6.3.22 Tub and Tile Refinish Coating Water Resistance: Water resistance of tub and tile refinish coatings shall be determined by ASTM D4585-99, "Standard Practice for Testing Water Resistance of Coatings Using Controlled Condensation" and ASTM D714-02e1, "Standard Test Method for Evaluating Degree of Blistering of Paints".</p> <p>6.3.23 Waterproofing Membrane: Waterproofing membrane shall be tested by ASTM C836-06, "Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course".</p> <p>6.3.24 Mold and Mildew Growth for Basement Specialty Coatings: Mold and mildew growth resistance for basement specialty coatings shall be determined by ASTM D3273-00, "Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber" and ASTM D3274-95, "Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth or Soil and Dirt Accumulation".</p> <p>6.3.25 Reactive Penetrating Sealer Water</p>	<p>subpart D, appendix A, "Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings" (September 11, 1998).</p> <p>6.3.17 Hydrostatic Pressure for Basement Specialty Coatings: The hydrostatic pressure resistance for basement specialty coatings shall be analyzed using ASTM D7088-17, "Standard Practice for Resistance to Hydrostatic Pressure for Coatings Used in Below Grade Applications Applied to Masonry".</p> <p>6.3.18 Tub and Tile Refinish Coating Adhesion: The adhesion of tub and tile coating shall be determined by ASTM D4585/4585M-18, "Standard Practice for Testing Water Resistance of Coatings Using Controlled Condensation" and ASTM D3359-17, "Standard Test Methods for Measuring Adhesion by Tape Test".</p> <p>6.3.19 Tub and Tile Refinish Coating Hardness: The hardness of tub and tile refinish coating shall be determined by ASTM D3363-05 (2011)e2, "Standard Test Method for Film Hardness by Pencil Test".</p> <p>6.3.20 Tub and Tile Refinish Coating Abrasion Resistance: Abrasion resistance of tub and tile refinish coating shall be analyzed by ASTM D4060-14, "Standard Test Methods for Abrasion Resistance of Organic Coatings by the Taber Abraser".</p> <p>6.3.21 Tub and Tile Refinish Coating Water Resistance: Water resistance of tub and tile refinish coatings shall be determined by ASTM D4585/4585M-18, "Standard Practice for Testing Water Resistance of Coatings Using Controlled Condensation" and ASTM D714-02 (2017), "Standard Test Method for Evaluating Degree of Blistering of Paints".</p> <p>6.3.22 Waterproofing Membrane: Waterproofing membrane shall be ASTM C836/836M-18, "Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course".</p> <p>6.3.23 Mold and Mildew Growth for Basement Specialty Coatings: Mold and mildew growth resistance for basement specialty coatings shall be determined by ASTM D3273-16, "Standard Test Method for Resistance to Growth of Mold on the</p>	

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
	<p>Repellency: Reactive penetrating sealer water repellency shall be analyzed by ASTM C67-07, "Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile"; or ASTM C97-02, "Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone"; or ASTM C140-06, "Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units".</p> <p>6.3.26 Reactive Penetrating Sealer Water Vapor Transmission: Reactive penetrating sealer water vapor transmission shall be analyzed ASTM E96/E96M-05, "Standard Test Method for Water Vapor Transmission of Materials".</p> <p>6.3.27 Reactive Penetrating Sealer - Chloride Screening Applications: Reactive penetrating sealers shall be analyzed by National Cooperative Highway Research Report 244 (1981), "Concrete Sealers for the Protection of Bridge Structures".</p> <p>6.3.28 Stone Consolidants: Stone consolidants shall be tested using ASTM E2167-01, "Standard Guide for Selection and Use of Stone Consolidants".</p>	<p>Surface of Interior Coatings in an Environmental Chamber" and ASTM D3274-09 (2017), "Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Fungal or Algal Growth or Soil and Dirt Accumulation". 6.3.25 Reactive Penetrating Sealer Water Repellency: Reactive penetrating sealer water repellency shall be analyzed by ASTM C67-07, "Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile"; or ASTM C97-02, "Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone"; or ASTM C140-06, "Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units".</p> <p>6.3.24 Reactive Penetrating Sealer Water Repellency: Reactive penetrating sealer water repellency shall be analyzed by ASTM C67/C67M-18, "Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile"; or ASTM C97/97M-18, "Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone"; or ASTM C140-140M-18a, "Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units"</p> <p>6.3.25 Reactive Penetrating Sealer Water Vapor Transmission: Reactive penetrating sealer water vapor transmission shall be analyzed ASTM E96/E96M-16, "Standard Test Method for Water Vapor Transmission of Materials" or ASTM D6490-99 (2014), "Standard Test Method for Water Vapor Transmission of Nonfilm Forming Treatments Used on Cementitious Panels".</p> <p>6.3.26 Reactive Penetrating Sealer - Chloride Screening Applications: Reactive penetrating sealers shall be analyzed by National Cooperative Highway Research Report 244 (1981), "Concrete Sealers for the Protection of Bridge Structures".</p> <p>6.3.27 Stone Consolidants: Stone consolidants shall be tested using ASTM E2167-01 (2008), "Standard Guide for Selection and Use of Stone Consolidants".</p> <p>6.3.28 Building Envelope Coating Air Permeance of Building Materials: ASTM E2178-13, "Standard Test Method for Air Permeance of Building Materials".</p> <p>6.3.29 Building Envelope Coating Water</p>	

Requirement Category	SIP Version of Rule 4601 (12/17/09)	Non-SIP Version of Rule 4601 (4/16/20)	Conclusion
		<p>Penetration Testing: ASTM E331-00 (2016), "Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference".</p> <p>6.3.30 Building Envelope Coating Water Vapor Transmission: ASTM E96/96M-16, "Standard Test Methods for Water Vapor Transmission of Materials".</p> <p>6.3.31 Tile and Stone Sealers Absorption: ASTM C373-18, "Standard Test Methods for Determination of Water Absorption and Associated Properties by Vacuum Method for Pressed Ceramic Tile and Glass Tiles and Boil Method for Extruded Ceramic Tiles and Non-tile Fired Ceramic Whiteware Products"; or ASTM C97/97M-18, "Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone"; or ASTM C642-13, "Standard Test Method for Density, Absorption, and Voids in Hardened Concrete".</p> <p>6.3.32 Tile and Stone Sealers – Static Coefficient of Friction: ANSI A137.1 (2012), "American National Standard of Specifications for Ceramic Tile".</p> <p>6.3.33 Tile and Stone Sealers Water Vapor Transmissions: ASTM E96/96M-16, "Standard Test Methods for Water Vapor Transmission of Materials".</p> <p>6.3.34 VOC Content of Coatings: South Coast AQMD Method 313, "Determination of Volatile Organic Compounds (VOC) by Gas Chromatography/Mass Spectrometry/Flame Ionization Detection (GS/MS/FID)".</p> <p>6.3.35 VOC Content of Coatings: ASTM D6886-18, "Standard Test Method for Determination of the Weight Percent Individual Volatile Organic Compounds in Waterborne Air-Dry Coatings by Gas Chromatography".</p>	
7.0 Compliance Schedule	Persons subject to this rule shall be in compliance with this rule by the dates specified within the rule.	Persons subject to this rule shall be in compliance with this rule by the dates specified within the rule.	No change in the requirements, therefore, non-SIP version of rule is as stringent as SIP version.

Here is the link to 2020 California Air Resources Board (ARB) Suggested Control Measures (SCM) for Architectural Coatings:

https://ww2.arb.ca.gov/sites/default/files/2020-07/2020SCM_final.pdf

District Rule 4601 was amended (4/16/20). As analyzed, each amended section of the non-SIP version of the rule is at least as stringent as, or more stringent than the corresponding section of the SIP version of the rule. Therefore, it is concluded that overall the non-SIP version of the rule is more stringent than the SIP version of the rule.

Table 1 VOC Content Limits for Coatings		
COATING CATEGORY	Current Rule 4601 VOC Limit (g/l) Effective on and after 1/1/2012	Amended Rule 4601 VOC Limit (g/l) Effective on and after 1/1/2022
Flat Coatings	50	50
Nonflat Coatings	100	50
Specialty Coatings -		
Aluminum Roof Coatings	400	100
Basement Specialty Coatings	400	400
Bituminous Roof Coatings	50	50
Bituminous Roof Primers	350	350
Bond Breakers	350	350
Building Envelope Coatings	-	50
Concrete Curing Compounds	350	350
Concrete/Masonry Sealers	100	100
Driveway Sealers	50	50
Dry Fog Coatings	150	50
Faux Finishing Coatings	350	350
Fire Resistive Coatings	350	150
Floor Coatings	100	50
Form-Release Compounds	250	100
Graphic Arts Coatings (Sign Paints)	500	500
High Temperature Coatings	420	420
Industrial Maintenance Coatings	250	250
Low Solids Coatings ¹²	1201	120 1
Magnesite Cement Coatings	450	450
Mastic Texture Coatings	100	100
Metallic Pigmented Coatings	500	500
Multi-Color Coatings	250	250
Pre-Treatment Wash Primers	420	420
Primers, Sealers, and Undercoaters	100	100
Reactive Penetrating Sealers	350	350
Recycled Coatings	250	250
Roof Coatings	50	50
Rust Preventative Coatings	250	250
Shellacs:		
Clear	730	730
Opaque	550	550
Specialty Primers, Sealers, and Undercoaters	100	100
Stains	250	100
Interior Stains	250	

Stone Consolidants	450	450
Swimming Pool Coatings	340	340
Tile and Stone Sealers	100	
Traffic Marking Coatings	100	100
Tub and Tile Refinish Coatings	420	420
Waterproofing Membranes	250	100
Wood Coatings	275	275
Wood Preservatives	350	350
Zinc-Rich Primers	340	340

Table 2 VOC Content Limits for Colorants

Colorants Added To	VOC Limit (g/l) Effective on and after 1/1/2022
Architectural Coatings, excluding Industrial Maintenance Coatings	50
Solvent Based Industrial Maintenance Coatings	600
Waterborne Industrial Maintenance Coatings	50
Wood Coatings	600