



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

MAR 13 2014

Chad Hathaway
Hathaway LLC
PO Box 81385
Bakersfield, CA 93308-1385

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-6905
Project Number: S-1140440

Dear Mr. Hathaway:

Enclosed for your review and comment is the District's analysis of Hathaway LLC's application for an Authority to Construct for installing a 50 Mscf/day flare serving as a control device for the tank vapor control system listed on permit S-6509-26-4 and TEOR operation S-6509-29-0, at Section 20, Township 27S, Range 27E within Hathaway's Heavy Oil Central stationary source.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. 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 regarding this matter, please contact Mr. Steve Davidson of Permit Services at (661) 392- 5618.

Sincerely,

David Warner
Director of Permit Services

DW:SDD/st

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email

Sayed Sadredin
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Oilfield Flare

Facility Name: Hathaway, LLC
Mailing Address: PO Box 81385
Bakersfield, CA 93380
Contact Person: Chad Hathaway
Telephone: 661-393-2004
Application #(s): S-6509-10-6, '-26-4, '-29-1, and '-35-0
Project #: S-1140440
Deemed Complete: February 13, 2014
Facility Name: Hathaway, LLC

Engineer: Steve Davidson
Date: February 24, 2014
Lead Engineer: Allan Phillips *ASURE AGE*
Date: MAR 11 2014

I. Proposal

Hathaway, LLC requests an Authority to Construct (ATC) permit to install a 50 Mscf/day flare (S-6509-35-0) serving as a control device for the tank vapor control system listed on permit S-6509-26-4 and TEOR operation S-6509-29-0. The throughput of tank S6509-10-6 will be reduced to offset the increase in VOC emissions associated with the proposed flare.

The increase in VOC emissions from the flare results in a Federal Major Modification. BACT and public notice are required. Offsets are not required.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (11/26/12)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 2530	Federally Enforceable Potential to Emit (12/18/08)
Rule 4001	New Source Performance Standards - Subpart Kb (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4311	Flares (06/18/2009)
Rule 4401	Steam-enhanced Crude Oil Production Well Vents (6/16/11)
Rule 4623	Storage of Organic Liquids (5/19/05)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The equipment will be located at Section 20, Township 27S, Range 27E within Hathaway's Heavy Oil Central stationary source. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The flare is used as a vapor control device for oilfield tanks and TEOR wells. Currently, the equipment is only allowed to discharge to sales gas line or permit exempt heater. An ATC is required to authorize the equipment to use the flare as a control device.

V. Equipment Listing

Pre-Project Equipment Description:

ATC S-6509-10-5: MODIFICATION OF 42,000 GAL. BOLTED, FIXED ROOF SHIPPING/STOCK TANK – (QUINN LEASE): LOWER THROUGHPUT FROM 765 BBL/DAY TO 640 BBL/DAY

ATC S-6509-26-3: MODIFICATION OF 1500 BBL FIXED ROOF CRUDE OIL WASH TANK SERVED BY VAPOR CONTROL SYSTEM (USL LEASE): CONNECT TANK S-6509-33 TO THE VAPOR CONTROL SYSTEM

ATC S-6509-29-0: THERMALLY ENHANCED OIL RECOVERY OPERATION (TEOR) SERVING UP TO 50 STEAM ENHANCED WELLS

Proposed Modification:

S-6509-10: Reduce the throughput to 565 BBLs per day.

S-6509-26: Allow vapors to be incinerated by flare S-6509-35

S-6509-29: Allow vapors to be incinerated by flare S-6509-35

S-6509-35: Install flare to control vapors from tank S-6509-26 and TEOR operation S-6509-29

Post Project Equipment Description:

S-6509-10-6: 1000 BBL FIXED ROOF CRUDE OIL SHIPPING/STOCK TANK (QUINN LEASE)

S-6509-26-4: 1500 BBL FIXED ROOF CRUDE OIL WASH TANK CONNECTED TO VAPOR CONTROL SYSTEM SHARED WITH TANKS S-6509-27, '28 and '33 (USL LEASE)

S-6509-29-1: THERMALLY ENHANCED OIL RECOVERY OPERATION (TEOR) SERVING UP TO 50 STEAM ENHANCED WELLS

S-6509-35-0: 50 MSCF/DAY FLARE WITH A COANDA EFFECT FLARE TIP SERVING THE VAPOR CONTROL SYSTEMS LISTED ON PERMITS S-6509-26 AND S-6509-29

VI. Emission Control Technology Evaluation

Coanda flares allow air to penetrate into the combustion gas to provide essentially smokeless operation. The flare is equipped with a Kaldair electronic flame monitoring system. PUC quality natural gas containing up to 15 ppmv H₂S is used for both pilot and purge gas.

VII. General Calculations

According to District FYI -111 Category 20, allowing a vapor control system to vent to a different permitted disposal device is not a change in the method of operation, provided that the vapor control system can continue to meet its control efficiency requirement. Therefore, permits S-6509-26 and S- 6509-39 are not being modified and Rule 2201 does not apply. Calculations will not be required for these permits.

A. Assumptions

Tank S-6509-10:

- Pre-project emissions are 34.1 lb-VOC/day and 12,431lb-VOC/year (calculated in project S-6509, 1132535)
- post-project throughput: 565 bbl/day
- Maximum TVP: 0.5 psi (current PTO)
- API gravity: <26 degrees (applicant)
- Tank temperature: 140 deg F
- Additional parameters included in **Appendix E**.

Flare S-6509-35-0:

- Daily heat input limit: 50 MMBtu/day.
- Sulfur content of the flared gas will not exceed 160 ppmv (10 gr S/100dscf).
- Higher heating value of the flared gas is approximately 1,000 Btu/scf (applicant)
- Quantity of pilot and sweep gas combusted will not exceed 20,000 scf/day (exempt per FYI-310).

B. Emission Factors

Both the daily and annual PE2 for the tank S-6509-10 will be based on the results from the District's Microsoft Excel spreadsheets for Tank Emissions - Fixed Roof Crude Oil less than 26° API. (See Appendix E)

Pre and Post-Project Emission Factors		
Pollutant	Emission Factor (lb/MMBtu)	Source
NO _x	0.068	AP-42/FYI-83
SO _x *	0.0284	Sulfur mass balance (per applicant)
PM ₁₀	0.008	AP-42/FYI-83
CO	0.370	AP-42/FYI-83
VOC	0.063	AP-42/FYI-83

$$\begin{aligned} *SO_x &= (10 \text{ gr-S}/100 \text{ scf})(10^6 \text{ scf fuel/MMSCF})(\text{lb}/7000 \text{ gr})(\text{MMSCF}/1,000 \text{ MMBtu})(64 \text{ lb-SO}_2/32 \text{ lb-S}) \\ &= 0.0284 \text{ lb/MMBtu} \end{aligned}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Tank S-6509-10:

Pre-project emissions are 34.1 lb-VOC/day and 12,431 lb-VOC/year

Flare S-6509-35-0:

Since the flare is a new emissions unit, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

Tank S-6509-10-6:

PE2		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
S-6509-10-6	30.7	11,188

Flare S-6509-35-0:

Flared gas daily emissions

$$\text{NO}_x: (0.068 \text{ lb/MMBtu})(50 \text{ MMBtu/day}) = 3.4 \text{ lb/day}$$

Flared gas annual emissions

$$\text{NO}_x: (0.068 \text{ lb/MMBtu})(18,250 \text{ MMBtu/yr}) = 1241 \text{ lb/yr}$$

Post-Project Potential to Emit (PE2)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	3.4	1241
SO _x	1.4	518
PM ₁₀	0.4	146
CO	18.5	6753
VOC	3.2	1150

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

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

The SSPE1 is calculated in Appendix F and presented in the following table.

SSPE1 (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	3294	599	1598	8603	226,882

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	3294	599	1598	8603	226,882
- S-6509-10-5	0	0	0	0	-12,431
+ S-6509-10-6	0	0	0	0	11,188
+ S-6509-35-0	1241	518	146	6753	1150
SSPE2	4,535	1,117	1,744	15,356	226,789

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

Rule 2201 Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Facility emissions pre-project	3294	599	1598	8603	226,882
Facility emissions – post project	4,535	1,117	1,744	15,356	226,789
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

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

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀	CO _{2e}
Estimated Facility PE before Project Increase	1.6	113	0.3	7.7	0.9	0.9	12,299
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)	N	N	N	N	N	N	N

24 MMBtu/hr (natural gas) x 117 lb-CO_{2e}/MMBtu x 8760 hr/year

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

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

Flare S-6509-35-0 is a new emissions unit; therefore, BE = PE1 = 0 for all pollutants.

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

Tank S-6509-10 is equipped with a PV vent satisfying achieved in practice BACT; therefore, tank S-6509-10 is a clean emissions unit and BE = PE1.

7. SB 288 Major Modification

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

Since this facility is a major source for VOCs, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
VOC	1150	50,000	No

Since the SB 288 Major Modification Thresholds for VOCs was not surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

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

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

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination. Therefore, tank S-6509-10 is not included in this calculation.

Step 1

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

The project's combined total emission increases are equal to flare S-6509-35's post project emissions.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
VOC*	1150	0	Yes

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

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

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

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

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

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

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

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

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0.6	0.6	0.3	3.4	0.1	0.1	1076
PSD Major Source threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	N	N	N	N	N	N	N

2.1 MMBtu/hr (natural gas) x 117 lb-CO2e/MMBtu x 8760 hr/year

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

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

According to District FYI -111 Category 20, allowing a vapor control system to vent to a different permitted disposal device is not a change in the method of operation, provided that the vapor control system can continue to meet its control efficiency requirement. Therefore, permits S-6509-26 and S- 6509-39 are not being modified and Rule 2201 does not apply and no further NSR discussion is required.

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install a new flare with a PE greater than 2 lb/day for NO_x, CO, and VOC. BACT is triggered for NO_x and VOC only since the PEs are greater than 2 lbs/day. However, BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lbs/year, as demonstrated in Section VII.C.5 above.

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

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

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

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

Where,

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

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

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

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

Where,

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

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

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

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

Tank S-6509-10:

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

$$\begin{aligned}\text{AIPE} &= \text{PE2} - (\text{PE1} * (1)) \\ &= 30.7 - (34.1 * (1)) \\ &= -3.4 \text{ lb-VOC/day}\end{aligned}$$

As demonstrated above, the AIPE is not greater than 2.0 lb/day for VOC emissions. Therefore, BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 above, this project does not constitute an SB 288 Major Modification. Therefore, BACT is not triggered for SB 288 Major Modification purposes.

As discussed in Sections VII.C.8 above, this project constitutes a Federal Major Modification for VOC emissions. Therefore, for flare S-6509-35 BACT is triggered for VOC.

2. BACT Guideline

BACT Guideline 1.4.2, applies to the produced gas flare. [Waste Gas Flare – Incinerating Produced Gas] (See **Appendix B**)

3. Top-Down BACT Analysis

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

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

NO_x: Coanda Effect Burner
VOC: Coanda Effect burner

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	4,535	1,117	1,744	15,356	226,789
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	Yes

2. Quantity of Offsets Required

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

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BE for tank S-6509-10-6 is equal to the PE1 since the unit is a Clean Emissions Unit.

As calculated in Section VII.C.6 above, the BE for flare S-6509-35-0 is equal to zero since it is a Clean Emissions Unit.

Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

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

Tank S-6509-10:

PE2 (VOC) = 11,188 lb/year

BE (VOC) = 12,431 lb/year

ICCE = 0 lb/year

Flare S-6509-35:

PE2 (VOC) = 1150 lb/year

BE (VOC) = 0 lb/year

ICCE = 0 lb/year

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([11,188 - 12,431] + [1150 - 0] - 0) \times \text{DOR} \\ &= -93 \text{ lb VOC}_x/\text{year} \\ &= 0 \text{ lb VOC}_x/\text{year} \end{aligned}$$

As demonstrated in the calculation above, the amount of offsets is zero. Therefore, offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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

As demonstrated in Section VII.C.7, this project does not constitute a SB 288 Major Modification; therefore, public noticing for SB 288 Major Modification purposes is not required.

As demonstrated in Section VII.C.8, this project is a Federal Major Modification. Therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore, public noticing for PE > 100 lb/day purposes is not required.

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	3294	4535	20,000 lb/year	No
SO _x	599	1117	54,750 lb/year	No
PM ₁₀	1598	1744	29,200 lb/year	No
CO	8603	15,356	200,000 lb/year	No
VOC	226,882	226,789	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	4535	3294	1241	20,000 lb/year	No
SO _x	1117	599	518	20,000 lb/year	No
PM ₁₀	1744	1598	146	20,000 lb/year	No
CO	15,356	8603	6,753	20,000 lb/year	No
VOC	226,789	226,882	-93	20,000 lb/year	No

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

2. Public Notice Action

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

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions for Tank S-6905-10-6:

- VOC emission rate from the tank shall not exceed 30.7 lb/day. [District Rule 2201] N
- Throughput shall not exceed 565 bbl/day. [District Rule 2201] N
- 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] N

Proposed Rule 2201 (DEL) Conditions for Flare S-6905-35-0:

- The flare shall not incinerate more than 50 Mscf/day nor 18.25 MMscf/year of gas. [District Rules 2201 and 4311] N
- Emission rates from this unit shall not exceed any of the following limits: NO_x (as NO₂) - 0.068 lb/MMBtu; VOC (as methane) - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu or PM₁₀ - 0.008 lb/MMBtu. [District Rule 2201] N
- Gas sulfur content shall not exceed 10 gr/100 scf. [District Rules 2201 and 4801] N

E. Compliance Assurance

1. Source Testing

Tank S-6509-10-6:

The permittee will be required to perform periodic TVP testing for all tanks in this project using the latest EPA and CARB approved version of the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph" to validate non-applicability of Rule 4623. The testing shall be conducted once every 24 month period or every time when the source of liquid stored is changed.

Flare S-6509-35-0:

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

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

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

Tank S-6509-10-6:

- Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 2201] N
- 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] N

Flare S-6509-35-0:

- Permittee shall maintain accurate daily records of volume, type, higher heating value, and sulfur content and of gas flared. [District Rule 2201] N
- 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 Rule 2201] N

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

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

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

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

G. Compliance Certification

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

H. Alternate Siting Analysis

The current project occurs at an existing facility.

Since the project will provide flaring capacity to be used at the location, the existing sites will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

Rule 2520 Federally Mandated Operating Permits

Since this facility's emissions exceed the major source thresholds of District Rule 2201, this facility is a major source. However, this facility has elected to comply with Rule 2530, exempts it from the requirements of Rule 2520.

Rule 2530 Federally Enforceable Potential to Emit

The purpose of this rule is to restrict the emissions of a stationary source so that the source may elect to be exempt from the requirements of Rule 2520. Pursuant to Rule 2530, since this

facility has elected exemption from the requirements of Rule 2520 by ensuring actual emissions from the stationary source in every 12-month periods to not exceed the following: ½ the major source thresholds for NO_x, VOCs, CO, and PM₁₀; 50 tons per year SO₂; 5 tons per year of a single HAP; 12.5 tons per year of any combination of HAPs; 50 percent of any lesser threshold for a single HAP as the EPA may establish by rule; and 50 percent of the major source threshold for any other regulated air pollutant not listed in Rule 2530.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60.

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

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

No subparts of 40 CFR Part 60 apply to produced gas-fired flares.

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

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

Rule 4101 Visible Emissions

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

The flare is equipped with air assist and is expected to continue to operate without visible emissions dark as, or darker than, Ringelmann 1 or 20% opacity as stated in the following ATC condition:

- 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]

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (**Appendix D**), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

Discussion of T-BACT

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

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix D of this report, the emissions increases for this project was determined to be less than significant. The following conditions will be placed on ATC S-6509-35-0 to ensure compliance:

- {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] N
- The flare shall not incinerate more than 50 Mscf/day nor 18.25 MMscf/year of gas. [District Rules 2201 and 4311]

Rule 4201 Particulate Matter Concentration

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

The concentration of particulate matter in the flare's exhaust can be calculated given the following data:

F-Factor for Flared Gas: 8,604 dscf/MMBtu at 60 °F
 PM₁₀ Emission Factor: 0.026 lb-PM₁₀/MMBtu
 Percentage of PM as PM₁₀ in Exhaust: 100%
 Exhaust Oxygen (O₂) Concentration: 3%
 Excess Air Correction to F Factor = $20.9 \div (20.9 - 3) = 1.17$

$$\frac{\left(\frac{0.026 \text{ lb} \cdot \text{PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb}} \right)}{\frac{8,604 \text{ ft}^3}{\text{MMBtu}} \times 1.17} = 0.01 \frac{\text{grain} \cdot \text{PM}}{\text{ft}^3}$$

Since 0.01 grain/dscf is less than 0.1 grain/dscf, compliance with District Rule 4201 is expected and the following condition will be listed on the flare's permit to ensure compliance.

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

Rule 4301 Fuel Burning Equipment

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

The following table compares the Flare's emissions with Rule 4301 limits.

Rule 4301 Limits			
Pollutant	Flare Emissions (lb/hr)	Rule 4301 Limits (lb/hr)	Compliant?
NO ₂	2.9	140	Yes
SO ₂	1.2	200	Yes
Total PM	0.3	200	Yes

Since none of the Rule 4301 limits are exceeded, compliance with Rule 4301 is expected. Since the proposed emission limits already placed on the flare permit are much more stringent, no additional conditions will be listed.

Rule 4311 Flares

The purpose of this rule is to limit the emissions of volatile organic compounds (VOC), oxides of nitrogen (NOx), and sulfur oxides (SOx) from the operation of flares. This rule is applicable to operations involving the use of flares

Section 5.1 applies to emergency flares. This is not an emergency flare.

Section 5.2 requires that the flame be present at all times when combustible gases are vented through the flare. The following condition will be listed on the permit:

- A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311]

Section 5.3 requires an automatic ignition system, or a pilot flame present at all times gases are vented. The following condition will be listed on the permit:

- The flare shall be equipped with an automatic ignition system. [District Rule 4311]

Section 5.4 requires an automatic ignition system, or a heat sensing device capable of continuously detecting at least one pilot flame. This flare is equipped with an automatic ignition system.

Section 5.5 requires flares that use automatic ignition systems and which do not use a continuous pilot flame to use purge gas for purging. The flare has an continuous pilot.

Section 5.6 does not apply to Coanda effect flares. The proposed flare is a Coanda effect flare.

Section 5.7 is not applicable as it applies to ground-level enclosed flares. The flare is not a ground-level enclosed flares and thus Section 5.7 is not applicable.

Section 5.8 requires the applicant to submit a Flare Minimization Plan (FMP). The applicant has submitted an approved plan; therefore, this project meets this requirement of the FMP.

Section 5.9 applies to refinery flares. The facility is not a refinery.

Section 5.10 requires the operator of a flare subject to a FMP to monitor the vent gas flow to the flare with a flow measuring device or other parameters as specified in the Permit to Operate. The operator shall maintain records pursuant to Section 6.1.7. Therefore, following conditions will be placed on the permit:

- Flare shall be equipped with a non-resettable, totalizing flare gas volume flow meter. [District Rules 2201 and 4311]

Section 5.11 does not apply to flares with a capacity less than 50 MMBtu/hr.

Section 6.1.1 requires the operator of flares that are subject to the requirements of 40 CFR 60.18 to make available to the APCO upon request the compliance determination records that demonstrate compliance with the provisions of 40 CFR 60.18, (c)(3) through (c)(5). The flare is not subject to 40 CFR 60.18; therefore, this section does not apply.

Section 6.1.2 applies to ground level enclosed flares. The flare is not a ground level enclosed flare; therefore, this section is not applicable.

Section 6.1.3 requires for flares used during an emergency that records of the duration of flare operation, amount of gas burned, and the nature of the emergency situation be maintained. The flare is not an emergency flare; therefore this section does not apply.

Section 6.1.4 does not apply as the operator is not claiming an exemption pursuant to Section 4.3.

Section 6.1.5 requires the permittee to retain on site a copy of the approved flare minimization plan. The following condition will be added to S-6509-35-0:

- Copies of approved flare minimization plan pursuant to Rule 4311 Section 6.5 shall be made readily available to the APCO, ARB, and EPA upon request for a minimum of 5 years. [District Rule 4311]

Section 6.1.6 requires the permittee to retain a copy of annual reports submitted to the APCO pursuant to Section 6.2. The following condition will be placed on permit S-6509-35-0

- All records and monitoring data shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4311] N

Section 6.1.7 requires the permittee to retain monitoring data, where applicable, collected pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10. Section 5.10 (flare minimization vent gas flow rate) applies. Therefore, monitoring data for that section will be required. Monitoring for the other section applies only to petroleum refinery flares. The following condition will be added to S-7616-30, -31, and -32:

- All records and monitoring data shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2201 and 4311] N

Section 6.2 - Flare Reporting

Section 6.2.1 states that the operator of a flare subject to flare minimization plans pursuant to Section 5.8 of this rule shall notify the APCO of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever occurs first. The notification shall include the flare source identification, the start date and time, and the end date and time. The following condition will be added to S-7616-30, -31, and -32:

- The operator shall notify the APCO of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever occurs first.

The notification shall include the flare source identification, the start date and time, and the end date and time. [District Rule 4311]

Section 6.2.2 states that the operator of a flare subject to flare minimization plans pursuant to Section 5.8 shall submit an annual report to the APCO that summarizes all Reportable Flaring Events as defined in Section 3.0 that occurred during the previous 12 month period. The report (as described in that section) shall be submitted within 30 days following the end of the twelve month period of the previous year. The following condition will be added to S-6509-35-0:

- The operator of a flare subject to flare minimization plans pursuant to Section 5.8 shall submit an annual report to the APCO that summarizes all Reportable Flaring Events as defined in Rule 4311 Section 3.0 that occurred during the previous 12 month period. The report shall be submitted within 30 days following the end of the twelve month period of the previous year. [District Rule 4311]

Section 6.2.3 states that the operator of a flare subject to flare monitoring requirements pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10, as appropriate, shall submit an annual report to the APCO within 30 days following the end of each 12 month period. The report shall include components specified in Section 6.2.3.1 through 6.2.3.8. Section 5.10 (flare minimization vent gas flow rate) applies, therefore monitoring data for that section will be required. Monitoring for the other section applies only to petroleum refinery flares. The following condition will be added to S-7616-30, -31, and -32:

- The operator of a flare shall submit an annual report to the APCO as specified in Rule 4311 Section 6.2.3 within 30 days following the end of each 12 month period. [District Rule 4311]

Section 6.3 lists the approved test methods 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.

Section 6.5.1 requires the operator of a petroleum refinery flare or any flare that has a flaring capacity of greater than or equal to 5.0 MMBtu per hour to submit a flare minimization plan (FMP) to the APCO for approval. The applicant has submitted an approved flare minimization plan.

Compliance with the rule is expected.

Rule 4401 Steam-enhanced Crude Oil Production Well Vents

The purpose of this rule is to limit the VOC emissions from steam-enhanced crude oil production well vents. This rule is applicable to all steam-enhanced crude oil production wells and any associated vapor collection and control systems.

The proposed wells will operate with either open or closed casing vents. With the latter, produced fluids will be sent to storage tanks equipped with 99% vapor control. TEOR wells operated with open casing vents will vent to a vapor control system with 99% VOC control efficiency. Therefore, the requirement of 99% control as required by Section 5.1 of the rule will

be met. Permit conditions require compliance with the vapor control efficiency, I&M program, and record-keeping requirements of this rule.

Permit S-6509-29 is currently in compliance with the rule and continued compliance is expected.

Rule 4623 Storage of Organic Liquids

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

S-6509-10-6:

According to Section 4.4, tanks exclusively receiving and or storing organic liquids with a TVP less than 0.5 psia are exempt from this Rule except for complying with Sections 6.2, 6.3.6, 6.4 and 7.2. The tank is currently in compliance with these requirements and continued compliance is expected.

S-6509-26-4:

The affected tanks are served by a vapor control system that has a control efficiency of at least 95%. This rule also requires the tank and tank vapor control system to be maintained in a leak-free condition. Leak-free is defined in the rule as no readings on a portable VOC detection device greater than 10,000 ppmv above background and no dripping of organic liquid at a rate of more than 3 drops per minute.

The tanks are currently in compliance with the rule and continued compliance is expected. Compliance with the requirements of this rule is expected.

Rule 4801 Sulfur Compounds

The rule limits sulfur compound emission (as SO_x) concentrations to no more than 2000 ppmv, measured at the point of discharge. The flared gas sulfur content will not exceed 160 ppmv. Compliance is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;

- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

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

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

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-6509-10-6, '-26-4, '-29-1, and '-35-0 subject to the permit conditions on the attached draft ATC in **Appendix J**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-6509-10-6	3020-05S-C	1000 BBLs	\$63.00
S-6509-26-4	3020	1500 BBLs	\$75
S-6509-29-1	3020-09S-A	50 wells	\$233.50
S-6509-35-0	3020-02-E	2.1 MMBtu/hr	\$412

Appendixes

- A: Current PTO(s)
- B: BACT Guideline
- C: BACT Analysis
- D: HRA Summary
- E: Tank Calculations
- F: SSPE1 Calculations
- G: Quarterly Net Emissions Change
- H: Emission Profile(s)
- I: Compliance Certification
- J: Draft ATC

APPENDIX A

Current PTOs

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-6509-10-1

EXPIRATION DATE: 01/31/2016

SECTION: NW15 **TOWNSHIP:** 26S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

42,000 GAL. BOLTED, FIXED ROOF SHIPPING/STOCK TANK – (QUINN LEASE)

PERMIT UNIT REQUIREMENTS

1. To maintain status as a small producer, permittee's crude oil production shall average less than 6000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 3020 & 4623]
2. Throughput shall not exceed 875 bbl/day. [District Rule 2201]
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 Rule 4623]
4. 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]
5. 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]
6. 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]
7. 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]
8. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank provided the requirements of Sections 6.2.1.1.1 through 6.2.1.1.5 of Rule 4623 are met. [District Rule 4623]
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]
10. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 2201 and 4623]
11. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 1070 and 4623]

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-6509-26-2

EXPIRATION DATE: 01/31/2015

SECTION: 20 TOWNSHIP: 27S RANGE: 27E

EQUIPMENT DESCRIPTION:

1500 BBL FIXED ROOF CRUDE OIL WASH TANK CONNECTED TO VAPOR CONTROL SYSTEM SHARED WITH TANKS S-6509-27 AND S-6509-28 (USL LEASE)

PERMIT UNIT REQUIREMENTS

1. Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 2080 and 4623]
2. Vapor control system shall discharge to sales gas line or permit exempt heater. [District Rule 2201]
3. Permit exempt heater shall combust only natural gas containing no more than five (5) percent by weight hydrocarbons heavier than butane and no more than 1.0 grain of total sulfur per 100 standard cubic feet of gas. [District Rule 2020]
4. VOC and sulfur content of natural gas combusted by permit exempt heater shall be tested and recorded not less than every 12 months using methods ASTM D-1945, ASTM D-3588, ASTM D-3246, and EPA Method 18 referenced as methane or equivalent test method with prior District approval. [District Rule 2201]
5. VOC emission rate from vapor service components associated with this tank up to the vapor control system trunk line shall not exceed 0.2 lb/day. [District Rule 2201]
6. VOC emission rate from vapor control system shall not exceed 0.2 lb/day. [District Rule 2201]
7. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 2201 and 4623]
8. A leak-free condition is defined as a condition without a gas leak or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate of more than 3 drops per minute. [District Rule 2201 and 4623]
9. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 2201 and 4623]
10. 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 shell and roof of the uninsulated tank for structural integrity annually. [District Rule 2201 and 4623]
11. 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 Rules 2201 and 4623]

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

12. 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 on 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 Rules 2201 and 4623]
13. 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 Rules 2201 and 4623]
14. 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 Rules 2201 and 4623]
15. If a component type for the tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623]
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]
17. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623]
18. 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]
19. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623]
20. The tank shall be cleaned using one of the following methods: water, hot water, solvents with an initial boiling point of greater than 302 F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams VOC per liter or less. The tank sediment may be used for road mix as allowed by Section 6.17 of District Rule 2020. [District Rule 4623]
21. Steam cleaning shall be allowed only during December through March, or at locations where wastewater treatment facilities are limited. [District Rule 4623]
22. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 4623]
23. 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]

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



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: S-6509-29-0

ISSUANCE DATE: 11/15/2012

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: 19&20 TOWNSHIP: 27S RANGE: 27E

EQUIPMENT DESCRIPTION:
THERMALLY ENHANCED OIL RECOVERY OPERATION (TEOR) SERVING UP TO 50 STEAM ENHANCED WELLS

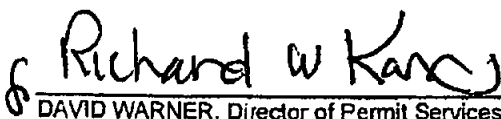
CONDITIONS

1. An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with either of the following requirements: The steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401, the well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere, or the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401]
2. When operated with closed casing vents, production from TEOR operation shall be sent to vapor controlled tanks S-6509-15, -16, and -18 and/or S-6509-26 through -28. [District Rule 2201]
3. When operated with open casing vents, vapors from TEOR operation shall be combusted in permit exempt heater(s). [District Rule 2201]
4. Permit exempt heater shall combust only natural gas containing no more than five (5) percent by weight hydrocarbons heavier than butane and no more than 1.0 grain of total sulfur per 100 standard cubic feet of gas. [District Rule 2020]
5. VOC and sulfur content of natural gas combusted by permit exempt heater shall be tested and recorded not less than every 12 months using methods ASTM D-1945, ASTM D-3588, ASTM D-3246, and EPA Method 18 referenced as methane or equivalent test method with prior District approval. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO


DAVID WARNER, Director of Permit Services

S-6509-29-0 Nov 15 2012 10:05 AM - EDGEHILL Joint Inspection NOT Required

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

6. Leaks exceeding an instrument reading of 10,000 ppmv are a violation of this permit. [District Rules 2201 and 4401]
7. Fugitive VOC emissions from TEOR operation shall not exceed 2.3 lb/day. [District Rule 2201]
8. Permittee shall maintain records of the date and well identification where steam injection or well stimulation occurs, current list of all thermally enhanced production wells associated with this operation, the permit numbers of tanks receiving production from the TEOR operation, leak inspection results, and accurate fugitive component counts of components in gas service and resulting emissions calculated using the emission factors in the CAPCOA California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, Table IV-2c, Oil and Gas Production Screening Value Ranges Emission Factors (Feb 1999). [District Rule 4401]
9. All records shall be maintained and made readily available for District inspection upon request for a period of five years. [District Rule 1070]
10. The operator shall maintain a copy of the latest APCO-approved Operator Management Plan (OMP) at the facility and make it available to the APCO, ARB, and US EPA upon request. [District Rule 4401]
11. By January 30 of each year, the operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401]
12. In accordance with the approved OMP, the operator shall meet all applicable operating, inspection and re-inspection, maintenance, process pressure relief device (PRD), component identification, record keeping, and notification requirements of Rule 4401 for all components containing or contacting VOC's at this facility except for those components specifically exempted in Section 4.0 of Rule 4401. [District Rule 4401]
13. The operator shall maintain an inspection log that has been signed and dated by the facility operator responsible for the inspection, certifying the accuracy of the information recorded in the log. The inspection log shall contain, at a minimum, all of the following information: 1) The total number of components inspected, and the total number and percentage of leaking components found by component types; 2) The location, type, name or description of each leaking component and the description of any unit where the leaking component is found; 3) Date of the leak detection and method of the leak detection; 4) For gaseous leaks, record 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 the leaking component(s); 6) The identification 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 first; 7) The method(s) 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]
14. Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4401]
15. All records required by this permit shall be maintained and retained on-site for a minimum of five (5) years and made available for District, ARB, and EPA inspection upon request. [District Rule 4401]
16. ATC shall be implemented concurrently with or subsequent to ATC S-6509-10-3. [District Rule 2201]

APPENDIX B

BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District
Best Available Control Technology (BACT) Guideline 1.4.2
Last Update 12/31/1998

Waste Gas Flare - Incinerating Produced Gas

Pollutant	Achieved In Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		
NOx	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		
PM10	Steam assisted or Air assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.		
SOx	Steam assisted or Air assisted or Coanda effect burner, when steam unavailable Pilot Light fired solely on LPG or natural gas.		
VOC	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		

APPENDIX C

BACT Analysis

NOx and VOC

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse Guideline 1.4.2 (current version), identifies Achieved in Practice BACT for NOx, CO and VOC from Waste Gas Flare – Incinerating Produced Gas as steam assisted, air assisted or Coanda effect when steam is unavailable.

b. Step 2 - Eliminate technologically infeasible options

Steam is not available at the site. Therefore steam assisted flare is not technologically feasible.

c. Step 3 - Rank remaining options by control effectiveness

Air assisted, or Coanda effect flare

d. Step 4 - Cost effectiveness analysis

The flare is equipped with an air assist; therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

Air assist flare

APPENDIX D

HRA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Steven Davidson, AQE – Permit Services
From: Trevor Joy, AQS – Technical Services
Date: February 19, 2014
Facility Name: Hathaway, LLC
Location: Section 20, Township 27S, Range 27E
Application #(s): S-6509-35-0
Project #: 1140440

A. RMR SUMMARY

Categories	Units 35-0 Flare	Project Totals	Facility Totals
Prioritization Score	0.04	0.04	0.8
Acute Hazard Index	N/A ¹	N/A ¹	N/A ¹
Chronic Hazard Index	N/A ¹	N/A ¹	N/A ¹
Maximum Individual Cancer Risk (10 ⁻⁶)	N/A ¹	N/A ¹	N/A ¹
T-BACT Required?	No		
Special Permit Conditions?	Yes		

1. The prioritization score is less than 1 so no further analysis is required.

Proposed Permit Conditions

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

Unit # 35

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

The flare shall not incinerate more than 50 Mscf/day nor 18.25 MMscf/year of gas. [District Rules 2201 and 4311]

B. RMR REPORT

I. Project Description

Technical Services received a request on February 13, 2012 to perform an Ambient Air Quality Analysis and a Risk Management Review for the proposed installation of a NG/Waste Gas flare.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Emissions were calculated using "Oilfield Natural Gas-Fired + Waste Gas Flare" emission factors. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for this proposed unit was less than 1 (see RMR Summary Table). Therefore, no further analysis was necessary. AERMOD was used for the AAQA analysis, with the parameters outlined below and meteorological data for Porterville 2005 – 2009 to determine the maximum dispersion factors.

The following parameters were used for the review:

Analysis Parameter Units 35-0			
Closest Receptor - Business (m)	915	Closest Receptor – Resident (m)	510
NG and Waste Gas Usage (MMScf/hr)	0.0043	NG and Waste Gas Usage (MMScf/yr)	18.25
Effective Release Height (m)	6.27	Gas Exit Temperature (K)	810
Stack Inside Diameter (m)	0.36	Gas Exit Velocity (m/s)	5.13

Technical Services also performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀; as well as a RMR. The emission rates used for criteria pollutant modeling were

	NO _x	Sox	CO	PM10	PM2.5
Lbs/hr	0.294	0.117	1.6	0.035	0.035
Lbs/yr	1241	494	6752	139	139

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Values are in µg/m³

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

*Results were taken from the attached PSD spreadsheet.

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

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

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

III. Conclusion

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

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

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

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

Attachments:

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

APPENDIX E

Tank Calculations

Tank Input Data	
permit number (S-xxxx-xx-xx)	
facility tank I.D.	--
nearest city {1: Bakersfield, 2: Fresno, 3: Stockton}	1
tank ROC vapor pressure (psia)	0.5
liquid bulk storage temperature, Tb (°F)	140
is this a constant-level tank? {yes, no}	no
will flashing losses occur in this tank (only if first-line tank)? {yes, no}	no
breather vent pressure setting range (psi)	0.06
diameter of tank (feet)	21.2
capacity of tank (bbl)	1,000
conical or dome roof? {c, d}	c
shell height of tank (feet)	16
average liquid height (feet)	9
are the roof and shell the same color? {yes,no}	yes
For roof:	
color {1:Spec Al, 2:Diff Al, 3:Light, 4:Med, 5:Red, 6:White}	4
condition {1: Good, 2: Poor}	1
-----This row only used if shell is different color from roof-----	3
-----This row only used if shell is different color from roof-----	1

Liquid Input Data	A	B
maximum daily fluid throughput (bbl)		565
maximum annual fluid throughput (bbl)	206,225	206,225
-----This row only used if flashing losses occur in this tank-----		100
-----This row only used if flashing losses occur in this tank-----	205225	205,225
molecular weight, Mw (lb/lb-mol)		100

Calculated Values	A	B
daily maximum ambient temperature, T _{ax} (°F)		77.65
daily minimum ambient temperature, T _{an} (°F)		53.15
daily total solar insulation factor, I (Btu/ft ² -day)		1648.9
atmospheric pressure, P _a (psia)		14.47
water vapor pressure at daily maximum liquid surface temperature (T _{lx}), P _{vx} (psia)	121.4	1.7703
water vapor pressure at daily minimum liquid surface temperature (T _{ln}), P _{vn} (psia)	110.6	1.3034
water vapor pressure at average liquid surface temperature (T _{la}), P _{va} (psia)	116.0	1.5288
roof outage, H _{ro} (feet)		0.2208
vapor space volume, V _v (cubic feet)		2548.88
paint factor, alpha		0.68
vapor density, W _v (lb/cubic foot)		0.0081
daily vapor temperature range, delta T _v (degrees Rankine)		49.04
vapor space expansion factor, K _e		0.1166

Results	lb/year	lb/day
Standing Storage Loss	877	2.40
Working Loss	10,311	28.25
Flashing Loss	N/A	N/A
Total Uncontrolled Tank VOC Emissions	11,188	30.7

Summary Table	
Permit Number	---
Facility Tank I.D.	--
Tank capacity (bbl)	1,000
Tank diameter (ft)	21.2
Tank shell height (ft)	16
Conical or Dome Roof	Conical
Maximum Daily Fluid Throughput (bbl/day)	565
Maximum Annual Fluid Throughput (bbl/year)	206,225
Maximum Daily Oil Throughput (bbl/day)	N/A
Maximum Annual Oil Throughput (bbl/year)	N/A
Total Uncontrolled Daily Tank VOC Emissions (lb/day)	30.7
Total Uncontrolled Annual Tank VOC Emissions (lb/year)	11,188

APPENDIX F

SSPE1 Calculations

Detailed SSPE Report

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	6509	0	0						0
S	6509	3	0	0	0	0	0	7477	0
S	6509	4	0	0	0	0	0	25727	0
S	6509	7	0	0	0	0	0	22372	0
S	6509	8	0	0	0	0	0	14924	0
S	6509	10	1	0	0	0	0	16865	3
S	6509	11	2					15641	1
S	6509	12	0	0	0	0	0	51424	0
S	6509	13	0	0	0	0	0	51424	0
S	6509	14	1	1752	50	133	1472	96	0
S	6509	15	0	0	0	0	0	1677	1
S	6509	16	0					3374	1
S	6509	17	0	0	0	0	0	720	0
S	6509	18	0	0	0	0	0	1357	1
S	6509	19	0	0	0	0	0	2261	0
S	6509	20	0					850	0
S	6509	21	0					1429	0
S	6509	22	0	0	0	0	0	481	0
S	6509	23	0	0	0	0	0	1332	0
S	6509	24	0	0	0	0	0	1332	0
S	6509	26	2	0	0	0	0	146	1
S	6509	27	0	0	0	0	0	58	0
S	6509	28	0	0	0	0	0	73	0

SSPE (lbs) 1752 50 133 1472 221020
 -29 868
 -30 1542 544 1465 7131 1060
 -31 580
 -32 1663
 -34 72
 1559

Monday, February 10, 2014 - 33

Page 1 of 1

Notes:

3294 599 1598 8603 226,822

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

APPENDIX G
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

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

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

S-6509-10-6 Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	3108	2797	-311

S-6509-26-4 Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	37	37	0

S-6509-29-1 Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	217	217	0

S-6509-35-0 Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	310	0	310
SO _x	130	0	130
PM ₁₀	37	0	37
CO	1688	0	1688
VOC	288	0	288

Permit #: S-6509-10-6	Last Updated
Facility: HATHAWAY LLC	02/26/2014 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	11168.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	30.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-311.0
Q2:	0.0	0.0	0.0	0.0	-311.0
Q3:	0.0	0.0	0.0	0.0	-311.0
Q4:	0.0	0.0	0.0	0.0	-311.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-6509-26-4	Last Updated
Facility: HATHAWAY LLC	02/21/2014 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	146.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.4
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-6509-29-1	Last Updated
Facility: HATHAWAY LLC	02/17/2014 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	868.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	2.4
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-6509-35-0	Last Updated
Facility: HATHAWAY LLC	02/17/2014 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	1241.0	518.0	146.0	6753.0	1150.0
Daily Emis. Limit (lb/Day)	3.4	1.4	0.4	18.5	3.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	310.0	130.0	37.0	1688.0	288.0
Q2:	310.0	130.0	37.0	1688.0	288.0
Q3:	310.0	130.0	37.0	1688.0	288.0
Q4:	310.0	130.0	37.0	1688.0	288.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

APPENDIX I

Compliance Certification

January 31, 2014


Mr. Leonard Scandura
Permit Services Manager
San Joaquin Valley Unified
Air Pollution Control District
34946 Flyover Ct.
Bakersfield, CA 93308

RECEIVED
FEB 06 2014
SJVAPCD
Southern Region

**Subject: ATC Application – S-6509 Flare
Federal Major Modification Compliance Certification**

Dear Mr. Scandura:

I hereby certify that all major Stationary Sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California, which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards.



Signature

Member Manager
Title

APPENDIX J

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-6509-10-6

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: NW15 TOWNSHIP: 25S RANGE: 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 1000 BBL FIXED ROOF SHIPPING/STOCK TANK (QUINN LEASE): REDUCE THROUGHPUT TO 565 BBLS PER DAY

ISSUANCE DATE: DRAFT

DRAFT

CONDITIONS

1. To maintain status as a small producer, permittee's crude oil production shall average less than 6000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 3020 & 4623]
2. VOC emission rate from the tank shall not exceed 30.7 lb/day. [District Rule 2201]
3. Throughput shall not exceed 565 bbl/day. [District Rule 2201]
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 Rules 2201 and 4623]
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]
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]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

DRAFT
DAVID WARNER, Director of Permit Services

S-6509-10-6: Mar 6 2014 7:45AM - DAVIDSON : Joint Inspection NOT Required

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]
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]
9. Instead of testing each uncontrolled fixed roof tank, the permittee may conduct a TVP test of the organic liquid stored in a representative tank provided the requirements of Sections 6.2.1.1.1 through 6.2.1.1.5 of Rule 4623 are met. [District Rule 4623]
10. Permittee shall maintain monthly records of average daily crude oil throughput and shall keep accurate records of each organic liquid stored in the tank, including its storage temperature, TVP, and API gravity. [District Rule 2201 and 4623]
11. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 1070 and 4623]
12. ATC S-6509-10-5 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
13. ATC S-6509-35-0 shall be implemented concurrent with this ATC. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-6509-26-4

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: 20 TOWNSHIP: 27S RANGE: 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 1500 BBL FIXED ROOF CRUDE OIL WASH TANK CONNECTED TO VAPOR CONTROL SYSTEM
SHARED WITH TANKS S-6509-27 AND S-6509-28 (USL LEASE); ALLOW FLARE S-6509-35 TO INCINERATE VAPORS

ISSUANCE DATE: DRAFT

DRAFT

CONDITIONS

1. Permittee's crude oil production shall average less than 6,000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 2080 and 4623]
2. Vapor control system shall discharge to sales gas line, flare S-6509-35, and/or a permit exempt equipment. [District Rule 2201]
3. Permit exempt heater shall combust only natural gas containing no more than five (5) percent by weight hydrocarbons heavier than butane and no more than 1.0 grain of total sulfur per 100 standard cubic feet of gas. [District Rule 2020]
4. VOC and sulfur content of natural gas combusted by permit exempt heater shall be tested and recorded not less than every 12 months using methods ASTM D-1945, ASTM D-3588, ASTM D-3246, and EPA Method 18 referenced as methane or equivalent test method with prior District approval. [District Rule 2201]
5. VOC emission rate from vapor service components associated with this tank up to the vapor control system trunk line shall not exceed 0.2 lb/day. [District Rule 2201]
6. VOC emission rate from vapor control system shall not exceed 0.2 lb/day. [District Rule 2201]
7. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 2201 and 4623]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services
S-6509-26-4 : May 8 2014 7:48AM - DAVIDSDS : Joint inspection NOT Required

8. A leak-free condition is defined as a condition without a gas leak or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate of more than 3 drops per minute. [District Rule 2201 and 4623]
9. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 2201 and 4623]
10. 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 shell and roof of the uninsulated tank for structural integrity annually. [District Rule 2201 and 4623]
11. 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 Rules 2201 and 4623]
12. 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 Rules 2201 and 4623]
13. 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 Rules 2201 and 4623]
14. 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 Rules 2201 and 4623]
15. If a component type for the tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623]
16. Any component found to be leaking by the operator 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]
17. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date and time of leak detection, and method of detection; 3) Date and time of leak repair, and emission level of recheck after leak is repaired; 4) Method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rules 2201 and 4623]
18. 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]

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CONDITIONS CONTINUE ON NEXT PAGE

19. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to an APCO-approved vapor recovery system until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to an APCO-approved vapor recovery system by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rule 4623]
20. The tank shall be cleaned using one of the following methods: water, hot water, solvents with an initial boiling point of greater than 302 F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams VOC per liter or less. The tank sediment may be used for road mix as allowed by Section 6.17 of District Rule 2020. [District Rule 4623]
21. Steam cleaning shall be allowed only during December through March, or at locations where wastewater treatment facilities are limited. [District Rule 4623]
22. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 4623]
23. 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]
24. ATC S-6509-26-3 shall be implemented prior to or concurrent with this ATC. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-6509-29-1

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: 19&20 TOWNSHIP: 27S RANGE: 27E

EQUIPMENT DESCRIPTION:

MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION (TEOR) SERVING UP TO 50 STEAM
ENHANCED WELLS: ALLOW FLARE S-6509-35 TO INCINERATE VAPORS

ISSUANCE DATE: DRAFT

DRAFT

CONDITIONS

1. An operator shall not operate a steam-enhanced crude oil production well unless the operator complies with either of the following requirements: The steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids (crude oil or mixture of crude oil and water) is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401, the well vent may be temporarily opened during periods of attended service or repair of the well provided such activity is done as expeditiously as possible with minimal spillage of material and VOC emissions to the atmosphere, or the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401]
2. When operated with closed casing vents, production from TEOR operation shall be sent to vapor controlled tanks S-6509-15, '-16, and '-18 and/or S-6509-26 through '-28. [District Rule 2201]
3. When operated with open casing vents, vapors from TEOR operation shall be combusted in flare S-6509-35 or permit exempt equipment. [District Rule 2201]
4. Permit exempt heater shall combust only natural gas containing no more than five (5) percent by weight hydrocarbons heavier than butane and no more than 1.0 grain of total sulfur per 100 standard cubic feet of gas. [District Rule 2020]
5. VOC and sulfur content of natural gas combusted by permit exempt heater shall be tested and recorded not less than every 12 months using methods ASTM D-1945, ASTM D-3588, ASTM D-3246, and EPA Method 18 referenced as methane or equivalent test method with prior District approval. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-6500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

8-5509-29-1: Mar 8 2014 7:49AM - DAVIDSON - Joint Inspection NOT Required

6. Leaks exceeding an instrument reading of 10,000 ppmv are a violation of this permit. [District Rules 2201 and 4401]
7. Fugitive VOC emissions from TEOR operation shall not exceed 2.3 lb/day. [District Rule 2201]
8. Permittee shall maintain records of the date and well identification where steam injection or well stimulation occurs, current list of all thermally enhanced production wells associated with this operation, the permit numbers of tanks receiving production from the TEOR operation, leak inspection results, and accurate fugitive component counts of components in gas service and resulting emissions calculated using the emission factors in the CAPCOA California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, Table IV-2c, Oil and Gas Production Screening Value Ranges Emission Factors (Feb 1999). [District Rule 4401]
9. All records shall be maintained and made readily available for District inspection upon request for a period of five years. [District Rule 1070]
10. {4266} The operator shall maintain a copy of the latest APCO-approved Operator Management Plan (OMP) at the facility and make it available to the APCO, ARB, and US EPA upon request. [District Rule 4401]
11. {4267} By January 30 of each year, the operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4401]
12. {4268} In accordance with the approved OMP, the operator shall meet all applicable operating, inspection and re-inspection, maintenance, process pressure relief device (PRD), component identification, record keeping, and notification requirements of Rule 4401 for all components containing or contacting VOC's at this facility except for those components specifically exempted in Section 4.0 of Rule 4401. [District Rule 4401]
13. {4269} The operator shall maintain an inspection log that has been signed and dated by the facility operator responsible for the inspection, certifying the accuracy of the information recorded in the log. The inspection log shall contain, at a minimum, all of the following information: 1) The total number of components inspected, and the total number and percentage of leaking components found by component types; 2) The location, type, name or description of each leaking component and the description of any unit where the leaking component is found; 3) Date of the leak detection and method of the leak detection; 4) For gaseous leaks, record 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 the leaking component(s); 6) The identification 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 first; 7) The method(s) 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]
14. {4270} Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4401]
15. {4271} All records required by this permit shall be maintained and retained on-site for a minimum of five (5) years and made available for District, ARB, and EPA inspection upon request. [District Rule 4401]
16. ATC S-6509-29-0 shall be implemented prior to or concurrently with this ATC. [District Rule 2201]
17. S-6509-35-0 shall be implemented concurrent with this ATCs. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-6509-35-0

LEGAL OWNER OR OPERATOR: HATHAWAY LLC
MAILING ADDRESS: PO BOX 81385
BAKERSFIELD, CA 93380-1385

LOCATION: HEAVY OIL CENTRAL

SECTION: 20 TOWNSHIP: 27S RANGE: 27E

EQUIPMENT DESCRIPTION:

50 MSCF/DAY FLARE WITH A COANDA EFFECT FLARE TIP SERVING THE VAPOR CONTROL SYSTEMS LISTED ON PERMITS S-6509-26 AND S-6509-29

CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. 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]
3. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
5. Flare shall be equipped with a non-resettable, totalizing flare gas volume flow meter. [District Rules 2201 and 4311]
6. A flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311]
7. The flare shall be equipped with a continuous pilot. [District Rule 4311]
8. The flare shall not incinerate more than 50 Mscf/day of gas. [District Rules 2201, 4102, and 4311]
9. Emission rates from this unit shall not exceed any of the following limits: NOx (as NO2) - 0.068 lb/MMBtu; VOC (as methane) - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu or PM10 - 0.008 lb/MMBtu. [District Rule 2201]
10. Gas sulfur content shall not exceed 10 gr/100 scf. [District Rules 2201 and 4801]

CONDITIONS CONTINUE ON NEXT PAGE

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Sayed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

S-6509-35-0; Mar 11 2014 11:38AM - DAVIDSOS : Joint Inspection NOT Required

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

11. The operator shall notify the APCO of an unplanned flaring event within 24 hours after the start of the next business day or within 24 hours of their discovery, whichever occurs first. The notification shall include the flare source identification, the start date and time, and the end date and time. [District Rule 4311]
12. The operator of a flare subject to flare minimization plans pursuant to Section 5.8 shall submit an annual report to the APCO that summarizes all Reportable Flaring Events as defined in Rule 4311 Section 3.0 that occurred during the previous 12 month period. The report shall be submitted within 30 days following the end of the twelve month period of the previous year. [District Rule 4311]
13. Copies of approved flare minimization plan pursuant to Rule 4311 Section 6.5 shall be made readily available to the APCO, ARB, and EPA upon request for a minimum of 5 years. [District Rule 4311]
14. Permittee shall maintain accurate daily records of volume, type, higher heating value, and sulfur content and of gas flared. [District Rule 2201]
15. The operator of a flare shall submit an annual report to the APCO as specified in Rule 4311 Section 6.2.3 within 30 days following the end of each 12 month period. [District Rule 4311]
16. 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 Rule 2201]

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