



JAN 03 2013

Mr. Phil Acosta
Vintage Production California, LLC
9600 Ming Avenue, Suite 300
Bakersfield, CA 93311

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1737
Project # S-1123486**

Dear Mr. Acosta:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. The applicant is requesting that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This modification authorizes the daily increase of produced gas sent to the flare.

After addressing any EPA comments made during the 45-day comment period, the Authority to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

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

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

DW: KR/cf

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585



JAN 03 2013

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St.
San Francisco, CA 94105

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1737
Project # S-1123486**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Vintage Production California, LLC located within Vintage's Light Oil Central Stationary Source in Kern County, which has been issued a Title V permit. Vintage Production California, LLC is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. This modification authorizes the daily increase of produced gas sent to the flare.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authority to Construct # S-1737-157-4 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

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Mr. Gerardo C. Rios
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Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "David Warner", with a long horizontal flourish extending to the right.

David Warner
Director of Permit Services

DW: KR/cf

Enclosures



JAN 03 2013

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1737
Project # S-1123486**

Dear Mr. Tollstrup:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. The applicant is requesting that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This modification authorizes the daily increase of produced gas sent to the flare.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authority to Construct # S-1737-157-4 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 30-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

DW: KR/cf

Enclosures

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**NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED SIGNIFICANT MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed significant modification of Vintage Production California, LLC for its Light oil and gas production located within Vintage's Light Oil Central Stationary Source in Kern County, California. This modification authorizes the daily increase of produced gas sent to the flare.

The District's analysis of the legal and factual basis for this proposed action, project #S-1123486, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. This will be the public's only opportunity to comment on the specific conditions of the modification. If requested by the public, the District will hold a public hearing regarding issuance of this modification. For additional information, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308-9725.

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Increase Daily Gas Flow Limit For a Produced Gas Flare

Facility Name:	Vintage Production California, LLC	Date:	November 26, 2012
Mailing Address:	9600 Ming Avenue, Suite 300 Bakersfield, CA 93311	Engineer:	Kris Rickards
Contact Person:	Phil Acosta	Lead Engineer:	Allan Phillips <i>ASUPR A Q E</i>
Telephone:	661-869-8065	Ashley Dahlstrom (Consultant)	661-282-2200
E-Mail:	phil_acosta@oxy.com	adahlstrom@insenv.com	NOV 26 2012
Application #(s):	S-1737-157-4		
Project #:	S-1123486		
Deemed Complete:	October 1, 2012		

I. Proposal

Vintage Production California, LLC (VPC) has requested an Authority to Construct (ATC) permit to authorize an increase in the daily limit of produced gas sent to the waste gas flare listed on permit S-1737-157. No annual increase to gas volume is proposed.

Additionally, VPC is requesting to convert the emission factors to lb/1,000 scf and delete a duplicate condition on the permit (discussed in the Rule 4311 compliance section).

Disposition of Outstanding ATCs

ATCs S-1737-157-2 and '-3 have been implemented and '-3 serves as the base document. Current PTO S-1737-157-1 and ATC S-1737-157-3 are included in **Appendix B**.

VPC received their Title V Permit on September 23, 1999. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. VPC must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 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 (6/18/09)

Rule 4409 Components at light crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities (4/20/05)
Rule 4623 Storage of Organic Liquids (05/19/05)
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 within VPC's Light Oil Central Stationary Source at the NW/4 of Section 3, T28S, R25E. 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

VOC emissions from the tanks are controlled to by a shared vapor control system. The vapor control system collects vapors from the tanks and routes the uncondensed vapors to a VOC control device that reduces inlet VOC emissions by at least 95% by weight. Flares listed on permits S-1737-167 and '-180 will provide at least 99% control.

V. Equipment Listing

Pre-Project Equipment Description:

S-1737-157-3: 1,500 BBL FIXED ROOF WASH TANK (T-01) WITH VAPOR CONTROL SHARED WITH S-1737-158, '-159, '-160, '-161, AND OPTIONAL PORTABLE TANKS S-1737-181, '-182, '-183, AND/OR '-184 VENTING TO GAS SALES LINE, 41.7 MMBTU/HR COANDA TIP FLARE, FLARES S-1737-167 AND '-180 AND/OR 2.0 MMBTU/HR PRODUCTION HEATER (S-1737-160)

Proposed Modification:

S-1737-157-4: MODIFICATION OF 1,500 BBL FIXED ROOF WASH TANK (T-01) WITH VAPOR CONTROL SHARED WITH S-1737-158, '-159, '-160, '-161, AND OPTIONAL PORTABLE TANKS S-1737-181, '-182, '-183, AND/OR '-184 VENTING TO GAS SALES LINE, 41.7 MMBTU/HR COANDA TIP FLARE, FLARES S-1737-167 AND '-180 AND/OR 2.0 MMBTU/HR PRODUCTION HEATER (S-1737-160): INCREASE DAILY FLOWRATE LIMIT TO 4 MMSCF/DAY, DELETE CONDITION 19, CHANGE EMISSION FACTORS FROM LB/MMBTU TO LB/MMSCF

Post Project Equipment Description:

S-1737-157-4: 1,500 BBL FIXED ROOF WASH TANK (T-01) WITH VAPOR CONTROL SHARED WITH S-1737-158, '-159, '-160, '-161, AND OPTIONAL PORTABLE TANKS S-1737-181, '-182, '-183, AND/OR '-184 VENTING TO GAS SALES LINE, 41.7 MMBTU/HR COANDA TIP FLARE, FLARES S-1737-167 AND '-180 AND/OR 2.0 MMBTU/HR PRODUCTION HEATER (S-1737-160)

VI. Emission Control Technology Evaluation

The tank vapor control system collects vapors from the tanks, removes entrained liquid in knockout vessels and scrubber vessels, condenses gas in heat exchangers, and routes the uncondensed vapors to a control device for incineration or to a gas sales pipeline. The efficiency of the vapor control systems are at least 95%.

The flare is equipped with a Coanda effect tip and the pilot light will be fueled by the produced gas stream. The Coanda effect flare tip draws in large amounts of air in order to increase turbulent mixing and promote complete combustion of hydrocarbons. This reduces carbon monoxide (CO) emissions and smoke/particulate matter (PM10) which are caused by high temperatures and incomplete combustion.

The VOC combustion efficiency for flares is typically greater than 99%. The gas combusted in the flare is expected to have a low sulfur content (0.3 gr S/100 scf maximum, as limited by permit condition).

VII. General Calculations

A. Assumptions

- Operating Schedule is 24 hrs/day, 8,760 hrs/yr (per applicant)
- Pre-project gas flow rate is 3.0 MMscf/day and 438.0 MMscf/year (current permit)
- Post project gas flow rate is 4.0 MMscf/day and 438.0 MMscf/year (proposed)
- Gross heating value of produced gas is 1,000 Btu/scf (District Practice, APR 1720)
- Sulfur content of incinerated gas is less than 0.3 gr-S/100 scf (current permit)
- Pilot fuel emissions are negligible as ignition is automatic (Rule 4311 Staff Report, June 15, 2006)
- EPA F-factor (adjusted to 60 °F) is 8,578 dscf/MMBtu (40 CFR 60 Appendix B)
- Molar specific volume of air is 379.5 scf/lb-mole
- Fugitive emissions are equal to 0.5 lb/day (current permit)

B. Emission Factors

Flare emission factors are taken from the following conditions listed on the current permit to operate and summarized in the table below:

- Emission rates for the 41.7 MMBtu/hr flare shall not exceed any of the following: PM10: 0.020 lb/MMBtu, NO_x (as NO₂): 0.068 lb/MMBtu, VOC: 0.033 lb/MMBtu, or CO: 0.038 lb/MMBtu. [District Rule 2201]

- Sulfur content of gas burned in the 41.7 MMBtu/hr flare or the heater shall not exceed 0.3 gr/100 scf as sulfur. [District Rule 2201]

Flare Emission Factors			
	lb/MMBtu	lb/MMscf	Source
NO _x	0.068	68	Current Permit
*SO _x	0.00086	0.86	Current Permit
PM ₁₀	0.020	20	Current Permit
CO	0.038	38	Current Permit
VOC	0.033	33	Current Permit

$$* 0.3 \text{ gr} \cdot S \left(\frac{\text{lb}}{7,000 \text{ gr}} \right) \frac{\text{scf}}{1,000 \text{ Btu}} \left(\frac{10^6 \text{ Btu}}{\text{MMBtu}} \right) \frac{64 \text{ lb} \cdot \text{SO}_2}{32 \text{ lb} \cdot S} = 0.00086 \frac{\text{lb} \cdot \text{SO}_x}{\text{MMBtu}}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The potential to emit for the operation is calculated as follows, and summarized in the table below:

PE1 = Gas Incinerated (MMscf/day) * EF (lb/MMscf); or,

PE1 = Gas Incinerated (MMscf/year) * EF (lb/MMscf)

Daily PE1			
	Flare Emissions (lb/day)	Fugitive Emissions (lb/day)	Daily Emissions (lb/day)
NO _x	204.0	0.0	204.0
SO _x	2.6	0.0	2.6
PM ₁₀	60.0	0.0	60.0
CO	114.0	0.0	114.0
VOC	99.0	0.5	99.5

Annual PE1			
	Flare Emissions (lb/year)	Fugitive Emissions (lb/year)	Annual Emissions (lb/year)
NO _x	29,784	0	29,784
SO _x	377	0	377
PM ₁₀	8,760	0	8,760
CO	16,644	0	16,644
VOC	14,454	183	14,637

2. Post Project Potential to Emit (PE2)

The potential to emit for the operation is calculated as follows, and summarized in the table below:

PE2 = Gas Incinerated (MMscf/day) * EF (lb/MMscf); or,

PE2 = Gas Incinerated (MMscf/year) * EF (lb/MMscf)

Daily PE2			
	Flare Emissions (lb/day)	Fugitive Emissions (lb/day)	Daily Emissions (lb/day)
NO _x	272.0	0.0	272.0
SO _x	3.4	0.0	3.4
PM ₁₀	80.0	0.0	80.0
CO	152.0	0.0	152.0
VOC	132.0	0.5	132.5

Annual PE2			
	Flare Emissions (lb/year)	Fugitive Emissions (lb/year)	Annual Emissions (lb/year)
NO _x	29,784	0	29,784
SO _x	377	0	377
PM ₁₀	8,760	0	8,760
CO	16,644	0	16,644
VOC	14,454	183	14,637

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	69,037	1,133	12,952	164,459	57,795

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

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

The SSPE2 is calculated in Appendix F and presented in the following table.

SSPE2 (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	69,037	1,133	12,952	164,459	57,795

5. 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. However, for the purposes of determining major source status, the SSPE2 shall not include 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.”

Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	69,037	1,133	12,952	164,459	57,795
SSPE2	69,037	1,133	12,952	164,459	57,795
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	Yes

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

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.

As shown in Section VII.C.5 above, the facility is a Major Source for NO_x and VOC only.

a. BE NO_x

Clean Emissions Unit, Located at a Major Source

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.

The flare tip utilizes the Coanda effect, which meets the requirements for achieved-in-practice BACT.

Therefore, BE = PE1 = 29,784 lb/year.

b. BE SO_x

Unit Located at a Non-Major Source

As shown in Section VII.C.5 above, the facility is not a major source for SO_x emissions.

Therefore Baseline Emissions BE = PE1 = 377 lb/year.

c. BE PM₁₀

Unit Located at a Non-Major Source

As shown in Section VII.C.5 above, the facility is not a major source for PM₁₀ emissions.

Therefore BE = PE1 = 8,760 lb/year.

d. BE CO

Unit Located at a Non-Major Source

As shown in Section VII.C.5 above, the facility is not a major source for CO emissions.

Therefore BE = PE1 = 16,644 lb/year.

e. BE VOC

Clean Emissions Unit, Located at a Major Source

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.

The flare tip utilizes the Coanda effect, which meets the requirements for achieved-in-practice BACT.

The tank is equipped with a vapor control system that routes produced gas to either a sales line, a production heater, or a flare, which meets the requirements for technologically feasible BACT.

Therefore, BE = PE1 = 14,637 lb/year.

Baseline Emissions are summarized in the following table:

BE (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
S-1737-157-4	29,784	377	8,760	16,644	14,637

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 not a major source for SO_x or PM₁₀, this project does not constitute an SB 288 major modification for these pollutants.

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 SB 288 Major Modification calculation.

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	29,784	50,000	No
VOC	14,637	50,000	No

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

8. Federal Major Modification

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

Since this facility is not a Major Source for SO_x and PM₁₀, this project does not constitute a Federal Major Modification for these pollutants. Additionally, since the facility is not a major source for PM₁₀ (140,000 lb/year), it is not a major source for PM_{2.5} (200,000 lb/year).

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

Step 1

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

$$\text{Emission Increase} = \text{PAE} - \text{BAE} - \text{UBC}$$

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation. If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit. VPC has indicated that the PAE equals PE2 for this unit.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period. The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete. No adjustments are necessary for the flare.

UBC: Since this project does not result in an increase in design capacity or annual potential to emit, and it does not impact the ability of the emission unit to operate at a higher annual utilization rate, the UBC is the portion of PAE that the emission unit could have accommodated during the baseline period.

Baseline Actual Emissions:

VPC has provided historical gas volume incinerated in the flare (see Appendix J) which results in a 2-year average (08/2010 – 08/2012) annual volume of:

$$(8.904+60.81)/2 = \mathbf{34.857 \text{ MMscf/year}}$$

Unused Baseline Capacity:

VPC claims that four permit exempt 1.5 MMBtu/hr process heaters are fired on collected gas from the vapor collection system listed on permit S-1737-157 in addition to gas being sent to a gas sales line, flares listed on permits S-1737-167 or '-180 (these are both transportable units currently not on site), a 2.0 MMBtu/hr production heater listed on '-160 (this is not currently connected to the vapor control system), or the flare listed on S-1737-157 that is being modified in this project.

Since the four 1.5 MMBtu/hr process heaters connected to the vapor recovery system burned recovered gas that could have been incinerated in the flare, this diverted gas will be considered the unused baseline capacity.

VPC has estimated that these process heaters ran 24 hours/day and 365 days per year (VPC estimation as records of operation were not kept). VPC has also stated that no other equipment consumed gas besides the permit exempt heaters and the flare listed on permit S-1737-157. Therefore, the unused baseline capacity for the flare can be calculated as follows:

Operating Schedule: 24 hrs/day, 365 days/year

4 heaters @ 1.5 MMBtu/hr per heater = 6 MMBtu/hr

6 MMBtu/hr * 24 hrs/day * 365 days/year = 52,560 MMBtu/year or **52.560 MMscf/year** could have been incinerated in the flare in addition to what was incinerated in the flare.

The final route that collected gas historically followed was to the gas sales line. VPC has provided historical records of the volume of gas sent to the sales line (see Appendix J). The gas sales line accepted an annual average of **52.110 MMscf/year** of gas from this gas collection system.

Projected Actual Emissions:

The following are the amounts of gas combusted in the flare over the past two years (as included in Appendix J):

2010: 5.965 MMscf
2011: 14.014 MMscf
2012: 80.490 MMscf (extrapolated using year to date gas records from 2012)

Average Increase: $(80.490 \text{ MMscf} - 5.965 \text{ MMscf})/3 \text{ years} = 24.842 \text{ MMscf/year}$

VPC has assumed a steady increase in production similar to the past 3 years and projected the following actual amount of gas that will be combusted in the flare as a result over the next 5 years:

2013:	80.490	MMscf + 24.842 MMscf	= 105.332	MMscf
2014:	105.332	MMscf + 24.842 MMscf	= 130.174	MMscf
2015:	130.174	MMscf + 24.842 MMscf	= 155.016	MMscf
2016:	155.016	MMscf + 24.842 MMscf	= 179.858	MMscf
2017:	179.858	MMscf + 24.842 MMscf	= 204.700	MMscf

Using the 5th year projected actual gas consumption and previous results, the emissions increase is calculated based on gas consumption as follows:

Gas Increase = PAE – BAE - UBC
= 204.700 – 34.857 – 52.560 – 52.110
= **65.173 MMscf/year**

Using the flare emission factors discussed in Section VII.B, the emissions increase is calculated and summarized in the following table:

Flare Emission Factors			
	Gas Increase (MMscf/year)	EF (lb/MMscf)	Emissions Increase (lb/year)
NO _x	65.173	68	4,432
VOC	65.173	33	2,151

These emissions increases are compared to the Federal Major Modification Thresholds in the following table:

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x	4,432	0	Yes
VOC	2,151	0	Yes

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

9. 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

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

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

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

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

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

Where,

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

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

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

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

Where,

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

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

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

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

Flare AIPE			
	PE2 (lb/day)	PE1 (lb/day)	AIPE (lb/day)
NO _x	272.0	204.0	68.0
SO _x	3.4	2.6	0.8
PM ₁₀	80.0	60.0	20.0
CO	152.0	114.0	38.0
VOC	132.0	99.0	33.0

Tank Vapor Recovery System AIPE			
	PE2 (lb/day)	PE1 (lb/day)	AIPE (lb/day)
VOC	0.5	0.5	0.0

As demonstrated in the preceding tables, the AIPE is greater than 2.0 lb/day for NO_x, PM₁₀, CO, and VOC emissions for the flare only. 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. Therefore BACT is not triggered for CO.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does not constitute an SB 288 or Major Modification for any emissions and does constitute a Federal Major Modification for NO_x and VOC. Therefore BACT is triggered for NO_x and VOC.

2. BACT Guideline

BACT Guideline 1.4.2, applies to waste gas flares incinerating produced gas (See Appendix C).

3. Top-Down BACT Analysis

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

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

- NO_x: Coanda effect flare
- PM₁₀: Coanda effect flare and pilot fired solely on produced natural gas
- VOC: Coanda effect flare

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	69,037	1,133	12,952	164,459	57,795
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	No	Yes

2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for NO_x and 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, BE from the flare and tank are equal to the PE1 since the units are Clean Emissions Units. Also, there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

Offsets Required (lb/year) = $(PE2 - PE1) \times DOR$

Since PE2 = PE1 for all pollutants there will be no offset requirements 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 VII.C.7, this project does not constitute an SB 288 Major Modification but does constitute a Federal Major Modification; therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	69,037	69,037	20,000 lb/year	No
SO _x	1,133	1,133	54,750 lb/year	No
PM ₁₀	12,952	12,952	29,200 lb/year	No
CO	164,459	164,459	200,000 lb/year	No
VOC	57,795	57,795	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	69,037	69,037	0	20,000 lb/year	No
SO _x	1,133	1,133	0	20,000 lb/year	No
PM ₁₀	12,952	12,952	0	20,000 lb/year	No
CO	164,459	164,459	0	20,000 lb/year	No
VOC	57,795	57,795	0	20,000 lb/year	No

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

2. Public Notice Action

As discussed above, public noticing is required for this project for NO_x and VOC emissions increases greater than the Federal Major Modification thresholds for these pollutants. 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 Modified Rule 2201 (DEL) Conditions:

- Gas rate to the 41.7 MMBtu/hr flare shall not exceed ~~3.04.0~~ 4.0 MMscf per day nor 438.0 MMscf per year. [District Rule 2201]
- Emission rates for the 41.7 MMBtu/hr flare shall not exceed any of the following: PM10: 0.020 lb/MMBtu/lb/MMscf, NO_x (as NO₂): 0.068 lb/MMBtu/lb/MMscf, VOC: 0.033 lb/MMBtu/lb/MMscf, or CO: 0.038 lb/MMBtu/lb/MMscf. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

No change to existing 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. No change to existing recordkeeping conditions is required to demonstrate compliance with Rule 2201.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2520 Federally Mandated Operating Permits

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

Since this modification results in a Federal Major Modification (or Title I Modification), it does not qualify as a minor permit modification and is significant.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment application.

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. However, no subparts of 40 CFR Part 60 apply to produced gas-fired flares.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity).

As the Coanda effect flare is fired solely on produced gas, smokeless operation is expected and visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. The following condition will remain on the facility-wide permit to ensure compliance with this rule:

- No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (2/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101]

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 E**), 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.

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.

Emissions from the flare are the result of burning gaseous fuel only. Particulate emissions greater than 0.1 gr/dscf are not expected. The following condition will be listed on the permit to ensure compliance with this rule:

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

Rule 4301 Fuel Burning Equipment

The purpose of this rule is to limit the emission of air contaminants from fuel burning equipment. Fuel burning equipment is defined in the rule as "any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer."

The purpose of the flare is not to produce heat or power by indirect heat transfer; therefore, Rule 4301 does not apply to this equipment.

Rule 4311 Flares

Rule 4311 limits the emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx), and sulfur from the operation of flares.

Section 5.1 states flares permitted to operate only during an emergency are not subject to the requirements of Section 5.6 and 5.7.

The flare in this project is not designated an emergency flare; therefore this section is not applicable.

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 ATC to ensure compliance:

- The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the 41.7 MMBtu/hr flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3]

Section 5.3 requires that the flare outlet be equipped with an automatic ignition system, or operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. The following modified conditions will be listed on the ATC to ensure compliance (the pilot flame requirement is duplicated in the latter condition):

- ~~The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311, 5.2]~~
- The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the 41.7 MMBtu/hr flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3]

Section 5.4 requires that except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an alternative equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. The following condition will be listed on the ATC to ensure compliance:

- Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present, shall be installed and operated. [District Rule 4311, 5.4]

Section 5.5 requires flares that use flow-sensitive automatic ignition systems and which do not use a continuous pilot flame to use purge gas for purging. The following condition will be listed on the ATC to ensure compliance:

- Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5]

Section 5.6 states that open flares (air-assisted, steam-assisted, or non-assisted) in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. The requirements of this section shall not apply to Coanda effect flares. Since this flare has a Coanda effect tip, this section is not applicable.

Section 5.7 states that ground-level enclosed flares meet the defined emission standards. This flare is not a ground-level enclosed flare; therefore, this section does not apply.

Section 5.8 states that flaring is prohibited unless it is consistent with an approved flare minimization plan (FMP), pursuant to Section 6.5, and all commitments listed in that plan have

been met. Subsection 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 operator has submitted a flare minimization plan that has been approved by the APCO.

Section 5.9 applies to petroleum refinery SO₂ performance targets. This flare does not serve a petroleum refinery; therefore this section is not applicable.

Section 5.10 requires the operator of a flare subject to flare minimization requirements pursuant to Section 5.8 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 41.7 MMBtu/hr flare shall be equipped with flared gas flow meter. [District Rules 2201 and 4311]

Section 5.11 requires the operator of a petroleum refinery or a flare with a flaring capacity equal to or greater than 50 MMBtu/hr to monitor the flare pursuant to Sections 6.6, 6.7, 6.8, 6.9, and 6.10. This flare is not located at a petroleum refinery nor does it have a flaring capacity equal to or greater than 50 MMBtu/hr; therefore this section is not applicable.

Section 6.1 requires the following records to be retained on-site for a minimum of five years:

- Copy of the compliance determination conducted pursuant to Section 6.4.1
- Copy of the source testing result conducted pursuant to Section 6.4.2
- For flares used during an emergency, record of the duration of flare operation, amount of gas burned, and the nature of the emergency situation
- Operators claiming an exemption pursuant to Section 4.3 shall record annual throughput, material usage, or other information necessary to demonstrate an exemption under that section
- Effective on and after July 1, 2011, a copy of the approved flare minimization plan pursuant to Section 6.5
- Effective on and after July 1, 2011, where applicable, monitoring data collected pursuant to Sections 5.10, 6.6, 6.7, 6.8, 6.9, and 6.10

This flare is not subject to 6.4, is not an emergency flare, and is not exempt under Section 4.3. A flare minimization plan has been received by the District.

The following condition will ensure compliance with this section:

- Permittee shall maintain accurate records of the daily amounts and annual vapor H₂S concentration of the gas burned in the 41.7 MMBtu/hr flare and production heater. [District Rules 2201 and 4311]

Section 6.2.1 requires the operator to notify the District 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. This is a full-time use flare; therefore, no unplanned firing events can occur.

Section 6.2.2, effective on and after July 1, 2012, and annually thereafter, requires the operator of a flare subject to flare minimization plans pursuant to Section 5.8 to submit an annual report to the District that summarizes all Reportable Flaring Events as defined in 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.

The report shall include, but is not limited to all of the following:

- The results of an investigation to determine the primary cause and contributing factors of the flaring event;
- Any prevention measures considered or implemented to prevent recurrence together with a justification for rejecting any measures that were considered but not implemented;
- If appropriate, an explanation of why the flaring was an emergency and necessary to prevent accident, hazard or release of vent gas to the atmosphere, or where, due to a regulatory mandate to vent a flare, it cannot be recovered, treated and used as a fuel gas at the facility; and
- The date, time, and duration of the flaring event.

Section 6.2.3 effective on and after July 1, 2012, and annually thereafter, 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 the following:

- The total volumetric flow of vent gas in standard cubic feet for each day.
- Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition pursuant to Section 6.6.
- If vent gas composition is monitored by a continuous analyzer or analyzers pursuant to Section 5.11, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used pursuant to Section 6.3.4, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month.
- If the flow monitor used pursuant to Section 5.10 measures molecular weight, the average molecular weight for each hour of each month.
- For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine flow.
- Flare monitoring system downtime periods, including dates and times.
- For each day and for each month provide calculated sulfur dioxide emissions.
- A flow verification report for each flare subject to this rule. The flow verification report shall include flow verification testing pursuant to Section 6.3.5.

VPC has submitted a FMP and continued compliance is expected.

Section 6.3 lists test methods an operator can use to demonstrate compliance with this rule. Compliance with this section is expected.

Section 6.4 requires records of compliance with 5.6 to be provided to the District upon request and lists further requirement for enclosed flares, which is not applicable to this open flare.

Section 6.5 requires operators of flares >5.0 MMBtu/hr to submit a flare minimization plan (FMP) by July 1, 2010. VPC has submitted a FMP; therefore compliance with this section has been achieved.

Section 6.6 requires the operator to monitor vent gas composition using one of the following five methods as appropriate:

- Sampling that meets the following requirements:
 - If the flow rate of vent gas flared in any consecutive 15-minute period continuously exceeds 330 standard cubic feet per minute (SCFM), a sample shall be taken within 15 minutes. The sampling frequency thereafter shall be one sample every three hours and shall continue until the flow rate of vent gas flared in any consecutive 15-minute period is continuously 330 SCFM or less. In no case shall a sample be required more frequently than once every 3 hours.
 - Samples shall be analyzed pursuant to Section 6.3.4.
- Integrated sampling that meets the following requirements:
 - If the flow rate of vent gas flared in any consecutive 15 minute period continuously exceeds 330 SCFM, integrated sampling shall begin within 15 minutes and shall continue until the flow rate of vent gas flared in any consecutive 15 minute period is continuously 330 SCFM or less.
 - Integrated sampling shall consist of a minimum of one aliquot for each 15-minute period until the sample container is full. If sampling is still required pursuant to Section 6.6.2.1, a new sample container shall be placed in service within one hour after the previous sample was filled. A sample container shall not be used for a sampling period that exceeds 24 hours.
 - Samples shall be analyzed pursuant to Section 6.3.4.
- Continuous analyzers that meet the following requirements:
 - The analyzers shall continuously monitor for total hydrocarbon methane, and depending upon the analytical method used pursuant to Section 6.3.4, hydrogen sulfide or total reduced sulfur.
 - The hydrocarbon analyzer shall have a full-scale range of 100% total hydrocarbon.
 - Each analyzer shall be maintained to be accurate to within 20% when compared to any field accuracy tests or to within 5% of full scale.
- Continuous analyzers employing gas chromatography that meet the following requirements:
 - The gas chromatography system shall monitor for total hydrocarbon, methane, and hydrogen sulfide.
 - The gas chromatography system shall be maintained to be accurate within 5% of full scale.
- Monitor sulfur content using a colorimetric tube system on a daily basis, and monitor vent gas hydrocarbon on a weekly basis by collecting samples and having them tested pursuant to a method in Section 6.3.4.

Additionally, if flares share a common header, a sample from the header will be deemed representative of vent gas composition for all flares served by the header.

Continued compliance using these methods is expected.

Section 6.7 requires the operator to monitor the volumetric flows of purge and pilot gases with flow measuring devices. The following condition will ensure compliance with this section (pilot is fired on produced natural gas):

- The 41.7 MMBtu/hr flare shall be equipped with flared gas flow meter. [District Rules 2201 and 4311]

Section 6.8 requires operators of flares with water seals to monitor water level and pressure. The flare is not operated with a water seal; therefore this section is not applicable.

Section 6.9 requires operators of flares to comply with the following as applicable:

- Periods of flare monitoring system inoperation greater than 24 continuous hours shall be reported by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating.
- During periods of inoperation of continuous analyzers or auto-samplers installed pursuant to Section 6.6, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed pursuant to Section 6.3.4. During periods of inoperation of flow monitors required by Section 5.10, flow shall be calculated using good engineering practices.
- Maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device in question. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure.
- All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages.

VPC does not operate any continuous monitors, recorders, or analyzers on this flare.

Section 6.10 applies to operators of petroleum refinery flares. This flare is not operated at a refinery; therefore this section is not applicable.

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

The purpose of this rule is to limit VOC emissions from leaking components at light crude oil production facilities, natural gas production facilities, and natural gas processing facilities.

The components in service at this source may come in contact with organic liquid with an API gravity >30 degrees; therefore these units are subject to Rule 4409 (all conditions are listed on the facility-wide permit).

Section 3.20 specifies the following emissions levels as a leak:

Table 1 - Rule 4409 Gas Leak Standards			
Type of Component	Major Gas Leak (ppmv methane)	Minor Gas Leak	
		Components in Liquid Service (ppmv as methane)	Components in Gas/Vapor Service (ppmv as methane)
Valves	> 10,000	1,000 to 10,000	2,000 to 10,000
Threaded Connections	> 10,000	1,000 to 10,000	2,000 to 10,000
Flanges	> 10,000	1,000 to 10,000	2,000 to 10,000
Pipes	> 10,000	1,000 to 10,000	2,000 to 10,000
Pumps	> 10,000	1,000 to 10,000	2,000 to 10,000
Compressors	> 10,000	1,000 to 10,000	2,000 to 10,000
Pressure Relief Devices (PRDs)	> 10,000	200 to 10,000	400 to 10,000
Polished Rod Stuffing Boxes	> 10,000	1,000 to 10,000	1,000 to 10,000
Other Components not listed above	> 10,000	1,000 to 10,000	2,000 to 10,000

Section 5.1.1 requires that an operator shall not use any component that leaks in excess of the applicable leak standards of this rule, or that is found to be in violation of the provisions specified in Section 5.1.3. Components that have been found leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this rule. Therefore, the following condition will be listed on the permit to ensure compliance:

- The permittee shall not use any components that leak in excess of the applicable leak standards as specified in this permit. Components that have been found leaking VOCs in excess of the applicable leak standards of rule 4409 may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this permit, and do not exceed the NSR 10,000 screening level limit. [District Rules 2201 and 4409, 5.1.1]
- For valves, threaded connections, flanges, pipes, pumps, compressors, and other components subject to the requirements of Rule 4409, but not specified in this permit; a major gas leak is a detection of > 10,000 ppmv as methane; a minor gas leak is a detection of 1,000 to 10,000 ppmv as methane when the component is in liquid service; a minor gas leak is a detection of 2,000 to 10,000 ppmv as methane when the component is in gas/vapor service. [District Rule 4409, 5.1.1]

- For pressure relief devices (PRDs); a major gas leak is a detection of > 10,000 ppmv as methane; a minor gas leak is a detection of 200 to 10,000 ppmv as methane when the component is in liquid service; a minor gas leak is a detection of 400 to 10,000 ppmv as methane when the component is in gas/vapor service. [District Rule 4409, 5.1.1]

Section 5.1.2 requires that each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. Therefore, the following condition will be listed on the permit to ensure compliance:

- Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4409, 5.1.2]

Section 5.1.3.1.1 specifies that the operator shall be in violation of this rule if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 exist at the facility.

Section 5.1.3.1.2 goes on to specify that notwithstanding the provision of Section 5.1.3.1.1, minor gas leaks from polished rod stuffing boxes (PRSB) found during any District inspection shall not be counted toward determination of compliance with this rule provided the operator repairs, replaces, or removes leaking PRSB from VOC service as soon as practicable but not later than the time frame specified in this rule. The following condition is listed on the permit to ensure compliance:

- Minor gas leaks from PRSBs detected during any District inspection shall not be counted toward determination of compliance with this rule provided the permittee repairs, replaces, or removes leaking PRSBs from VOC service as soon as practicable but not later than seven calendar days. [District Rule 4409, 5.1.3.1.2]

Section 5.1.3.2.1 specifies that except for annual operator inspections described in Section 5.1.3.2.3, any operator inspection that demonstrates one or more of the conditions in Section 5.1.4 exist at the facility shall not constitute a violation of this rule if the leaking components are repaired as soon as practicable but not later than the time frame specified in this rule. Such components shall not be counted towards determination of compliance with the provisions of Section 5.1.4.

Section 5.1.3.2.2 specifies that leaking components detected during operator inspection pursuant Section 5.1.3.2.1 that are not repaired, replaced, or removed from operation as soon as practicable but not later than the time frame specified in this rule shall be counted toward determination of compliance with the provisions of Section 5.1.4.

Therefore, the following conditions will be listed on the permit to ensure compliance:

- Leaks detected during quarterly operator inspections shall not be counted towards determination of compliance with the provisions of Rule 4409 provided the leaking components are repaired as soon as practicable but not later than the time frame specified in this permit. Leaks detected during quarterly operator inspections that are not repaired, replaced, or removed from operation as soon as practicable but not later than the time frame specified in this rule shall be counted toward determination of compliance with the provisions of Rule 4409. [District Rule 4409, 5.1.3.2.1 and 5.1.3.2.2]

Section 5.1.3.2.3 specifies that any operator inspection conducted annually for a component type (including operator annual inspections pursuant to Section 5.2.6, 5.2.7, 5.2.8, or 5.2.9) that demonstrates one or more of the conditions in Section 5.1.4 exist at the facility shall constitute a violation of this rule regardless of whether or not the leaking components are repaired, replaced, or removed from operation within the allowable repair time frame specified in this rule. Therefore, the following condition will be listed on the permit to ensure compliance:

- Leaking components at this facility detected during annual operator inspections, as required by Rule 4409 for a specific component type, that exceed the leak standards specified in this permit, shall constitute a violation of this rule. This violation is regardless of whether or not the leaking components are repaired, replaced, or removed from operation within the allowable repair time frame specified in this permit. [District Rule 4409, 5.1.3.2.3]

Section 5.1.4 specifies that for the purpose of this rule, a component shall be considered leaking if one or more of the conditions specified in Sections 5.1.4.1 through 5.1.4.4 exist at the facility.

Section 5.1.4.1 specifies that a component shall be considered leaking if an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. Therefore, the following condition will be listed on the permit to ensure compliance:

- An open-ended line, or a valve located at the end of the line, that is not sealed with either a blind flange, a plug, a cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended line is a leak. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4409, 5.1.4.1]

Section 5.1.4.2 specifies that a component shall be considered leaking with a major liquid leak (defined as a visible mist or a continuous flow of liquid that is not seal lubricant).

Therefore, the following condition will be listed on the permit to ensure compliance:

- A leak from a component is when there is a major liquid leak from the component. A major liquid leak from a component is when a visible mist or a continuous flow of liquid, that is not seal lubricant, leaks from the component. [District Rule 4409, 5.1.4.2]

Section 5.1.4.3 specifies that a component shall be considered to have a gas leak if emissions are greater than 50,000 ppmv as methane. Therefore, the following condition will be listed on the permit to ensure compliance:

- A leak from a component is when gas emissions greater than 50,000 ppmv, as methane, leaks from the component. [District Rule 4409, 5.1.4.3]

Section 5.1.4.4 specifies that a component shall be considered leaking if a component has a leak described in Sections 5.1.4.4.1 through 5.1.4.4.3 and numbering in excess of the maximum allowable number or percent specified in Table 2. This facility is not a natural gas production facility, does not have polishing rod stuffing boxes (PRSB), or production wells. This is a light oil production tank facility.

Table 2 - Rule 4409 Maximum Number or Percent of Leaking Components Per Inspection Period		
Component	Maximum Number of Leaks for 200 or Fewer Components Inspected	Maximum Percent or Number of Leaks for more than 200 Components Inspected
Valves	1	0.5 % of number inspected
Threaded Connections	1	0.5 % of number inspected
Flanges	1	0.5 % of number inspected
Pumps	2	1.0 % of number inspected
Compressors	1	1 leak
PRDs	1	1 leak
Polished Rod Stuffing Boxes	4	2 % of number inspected
Other Components not listed above	1	1 leak
Pipes at Light Crude Oil or Gas Production Facilities	Maximum Number of Leaks for 200 or fewer production wells inspected	Maximum Number of Leaks for more than 200 production wells inspected
	2	1 % of number inspected
Pipes at Natural Gas Processing Facilities	Maximum Number of Leaks	
	2	

Therefore, the following conditions will be listed on the permit to ensure compliance:

- A minor liquid leak from a component is when more than three drops of liquid per minute, that is not seal lubricant and is not a major liquid leak, leaks from the component. [District Rule 4409, 5.1.4.4]
- When 200 or fewer valves are inspected, a leak from a valve is when more than one valve has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 valves are inspected, a leak from a valve is when more than 0.5 % (rounded up to the nearest whole number) of the valves have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]

- When 200 or fewer threaded connections are inspected, a leak from a threaded connection is when more than one threaded connection has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 threaded connections are inspected, a leak from a threaded connection is when more than 0.5 % (rounded up to the nearest whole number) of the threaded connections have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
- When 200 or fewer flanges are inspected, a leak from a flange is when more than one flange has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 flanges are inspected, a leak from a flange is when more than 0.5 % (rounded up to the nearest whole number) of the flanges have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
- When 200 or fewer pumps are inspected, a leak from a pump is when more than two pumps have a minor liquid leak, a minor gas leak, or a gas leak greater than 10,000 ppmv and less than or equal to 50,000 ppmv. When greater than 200 pumps are inspected, a leak from a pump is when more than 1.0 % (rounded up to the nearest whole number) of the pumps have a minor liquid leak, a minor gas leak, or a gas leak greater than 10,000 ppmv and less than or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
- When compressors, PRDs, or other components not specified in this permit are inspected, a leak from these components is when more than one component has a minor liquid leak, a minor gas leak, or a gas leak greater than 10,000 ppmv and less than or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
- When pipes at natural gas processing facilities are inspected, a leak from a pipe is when more than two have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
- When 200 or fewer PRSBs are inspected, a leak is when more than four have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 PRSBs are inspected, a leak is when more than 2.0 % (rounded up to the nearest whole number) of the PRSBs have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
- When 200 or fewer wells at light crude oil or gas production facilities are inspected, a leak from a pipe is when more than two or more pipes have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 wells at light crude oil or gas production facilities are inspected, a leak from a pipe is when more than 1.0 % (rounded up to the nearest whole number) of the pipes have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]

Section 5.2.1 requires that for manned light oil production facilities, gas production facilities, and gas processing facilities, an operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, pressure relief valves (should say PRDs instead of PRVs) in service at least once every 24 hours except when operators do not report to the facility for that given 24 hours. Therefore, the following condition will be listed on the permit to ensure compliance:

- For manned facilities all accessible operating pumps, compressors, and PRDs, in service, shall be audio-visually inspected for leaks at least once every 24 hours except when operators do not report to the facility during a 24 hour period. [District Rule 4409, 5.2.1]

Section 5.2.2 requires that for unmanned light oil production facilities, gas production facilities, or gas processing facilities, the operator shall audio-visually inspect for leaks all accessible operating pumps, compressors, PRDs in service at least once per calendar week. Therefore, the following condition will be listed on the permit to ensure compliance:

- For unmanned facilities all accessible operating pumps, compressors, and PRDs, in service, shall be audio-visually inspected for leaks at least once per calendar week. [District Rule 4409, 5.2.2]

Section 5.2.3 requires that any audio-visual inspection of all accessible operating pumps, compressors, and PRDs performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected using the test method specified in Section 6.3.1 not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of this rule. Therefore, the following condition will be listed on the permit to ensure compliance:

- All accessible operating pumps, compressors, and PRDs, in service, that are found to be leaking by audio-visual inspection shall be attempted to be repaired immediately. The leaking component shall then be tested within 24 hours and, if found leaking again, shall be repaired as soon as practicable but not later than the timeframe specified in this permit. [District Rule 4409, 5.2.3]

Section 5.2.4 requires that notwithstanding the requirements of Sections 5.2.1, 5.2.2, and 5.2.3, the operator shall inspect all components using the test method specified in Section 6.3.1 at least once every calendar quarter, except for inaccessible components, unsafe-to-monitor components, or pipes. Inaccessible components and unsafe-to-monitor components shall be inspected in accordance with the provisions of Sections 5.2.6 and 5.2.7, respectively. Pipes shall be inspected in accordance with the provisions of Section 5.2.8. Therefore, the following condition will be listed on the permit to ensure compliance:

- Except for inaccessible components, unsafe-to-monitor components, or pipes, all components, in service, shall be tested for leaks at least once every calendar quarter. [District Rule 4409, 5.2.4]

Section 5.2.5 requires that the operator shall inspect, immediately after placing into service, all new, replaced, or repaired fittings, flanges, and threaded connections using the test method specified in Section 6.3.1. Therefore, the following condition will be listed on the permit to ensure compliance:

- All new, replaced, or repaired fittings, flanges, and threaded connections shall be tested for leaks immediately after being placed into service. [District Rule 4409, 5.2.5]

Section 5.2.6 requires that the operator shall inspect all inaccessible components at least once every 12 months using the test method specified in Section 6.3.1. Therefore, the following condition will be listed on the permit to ensure compliance:

- All inaccessible components shall be tested for leaks at least once every 12 months. [District Rule 4409, 5.2.6]

Section 5.2.7 requires that the operator shall inspect all unsafe-to-monitor components during each turnaround using the test method specified in Section 6.3.1. Therefore, the following condition will be listed on the permit to ensure compliance:

- All unsafe-to-monitor components shall be tested for leaks during each turnaround. [District Rule 4409, 5.2.7]

Section 5.2.8 requires that the operator shall visually inspect all pipes for leaks at least once every 12 months. Therefore, the following conditions will be listed on the permit to ensure compliance:

- All pipes shall be visually inspected for leaks at least once every 12 months. [District Rule 4409, 5.2.8]

Section 5.2.8.1 requires that any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected using the test method specified in Section 6.3.1 within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of this rule. Therefore, the following condition will be listed on the permit to ensure compliance:

- All pipes, in service, that are found to be leaking by visual inspection shall be attempted to be repaired immediately. The leaking pipe shall then be tested within 24 hours and, if found leaking again, shall be repaired as soon as practicable but not later than the timeframe specified in this permit. [District Rule 4409, 5.2.8.1]

Section 5.2.8.2 requires that the operator may conduct the annual pipe inspection required by Section 5.2.8 in conjunction with the annual pipe inspection required by the Department of Oil, Gas, and Geothermal Resources (DOGGR) pursuant to California Code of Regulation Title 14, Division 2, Subchapter 2, Section 1774 (Oilfield Facilities and Equipment Maintenance), or by the Spill Prevention Control and Countermeasure Plan (SPCC) pursuant to 40 Code of Federal Regulation Part 112 (Oil Prevention and Response: Non- Transportation-Related Onshore and Offshore Facilities). Records of annual pipe inspection required by DOGGR or SPCC may be used to document the inspection required by Section 5.2.8. The operator shall maintain the records of such inspections at the facilities. The records shall be made available to the APCO, ARB, and US EPA upon request. Therefore, the following condition will be listed on the permit to ensure compliance:

- The annual pipe inspection required by either the Department of Oil, Gas, and Geothermal Resources (DOGGR) pursuant to California Code of Regulation Title 14, Division 2, Subchapter 2, Section 1774 (Oilfield Facilities and Equipment Maintenance), or by the Spill Prevention Control and Countermeasure Plan (SPCC) pursuant to 40 Code of Federal Regulation Part 112 (Oil Prevention and Response: Non- Transportation-Related Onshore and Offshore Facilities) can be used as the annual pipe inspection required by District Rule 4409. [District Rule 4409, 5.2.8.2]

Section 5.2.9 requires that notwithstanding the requirement of Section 5.2.4, the operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually for a component type, or an operator who is already on an annual inspection frequency on or before (rule adoption date) may apply for a written approval from the APCO to continue conducting annual inspections for a component type, provided the operator meets all the criteria specified in Sections 5.2.9.1 through 5.2.9.3. This approval shall apply to accessible component types specifically designated by the APCO, except pumps,

compressors, and PRDs which shall continue to be inspected on a quarterly basis. Sections 5.2.9.1 through 5.2.9.3 specify the following requirements:

- 1) The operator was not in violation of any provision of Sections 5.1 during five consecutive quarterly inspections for that component type.
- 2) The operator did not receive a Notice of Violation from the APCO during the previous 12 months violating any provisions of this rule for that component type.
- 3) The written request shall include pertinent documentation to demonstrate that the operator has successfully met the requirements of Sections 5.2.9.1 and 5.2.9.2.
- 4) The annual inspection frequency approved by the APCO pursuant to Section 5.2.9 shall revert to quarterly inspection frequency for a component type if either one of the following occurs:
 - 5) The operator inspection or District inspection demonstrates that a violation of the provisions of Sections 5.1, 5.2, or 5.3 exists for that component type; or
 - 6) The APCO issued a Notice of Violation for violating any of the provisions of this rule during the annual inspection period for that component type.

Section 5.2.10 requires that the annual inspection frequency approved by the APCO pursuant to Section 5.2.9 shall revert to quarterly inspection frequency for a component type if either one of the following occurs:

- 1) The operator inspection or District inspection demonstrates that a violation of the provisions of Sections 5.1, 5.2, or 5.3 exists for that component type; or
- 2) The APCO issued a Notice of Violation for violating any of the provisions of this rule during the annual inspection period for that component type.

Therefore, the following condition will be listed on the permit to ensure compliance:

- Except for pumps, compressors, and PRDs, the permittee may apply for written approval from the District to change the inspection frequency of accessible components from quarterly to annually for a specific component type provided the following two qualifying requirements are met. During the previous five consecutive quarterly inspections, for the specific component type, there shall be no more leaks than as allowed by this permit. The permittee also shall not have received a Notice of Violation (NOV) from the District during the previous 12 months for violating any provisions of District Rule 4409 for the specific component type. If these two qualifying requirements have not been met, then the inspection frequency shall revert back to quarterly. The written request shall include pertinent documentation to demonstrate that the operator has successfully met the two qualifying requirements. [District Rule 4409, 5.2.9 and 5.2.10]

Section 5.2.11 requires that when the inspection frequency changes from annual to quarterly inspections pursuant to Section 5.2.10, the operator shall notify the APCO in writing within five (5) calendar days after changing the inspection frequency. The written notification shall include the reason(s) and date of change to quarterly inspection frequency.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The permittee shall notify the District in writing within five calendar days after changing the inspection frequency for a specific component type. The written notification shall include the reason(s) and date of change to a quarterly inspection frequency. [District Rule 4409, 5.2.11]

Section 5.2.12 requires that the operator shall initially inspect a PRD that releases to the atmosphere using the test method specified in Section 6.3.1 as soon as practicable but not later than 24 hours after the time of the release. The operator shall re-inspect the PRD using the test method specified in Section 6.3.1 not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the date of the release and is leak-free (is leak free should not be in this statement). If the PRD is found to be leaking at either inspection, the PRD leak shall be treated as if the leak was found during quarterly operator inspections. Therefore, the following condition will be listed on the permit to ensure compliance:

- A PRD that releases to the atmosphere shall be inspected by the permittee for leaks as soon as practicable but not later than 24 hours after the time of the release. The permittee shall reinspect the PRD for leaks not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the date of the initial release. If the PRD is found by the permittee to be leaking during either inspection, the PRD leak shall be treated as if the leak was found during the required quarterly operator inspections. [District Rule 4409, 5.2.12]

Section 5.2.13 requires that except for PRDs subject to the requirements of Section 5.2.12, a component shall be inspected not later than 15 calendar days after repairing the leak or replacing the component using the test method specified in Section 6.3.1. Therefore, the following condition will be listed on the permit to ensure compliance:

- Except for PRDs, a component shall be inspected for leaks not later than 15 calendar days after repairing the leak or replacing the component. [District Rule 4409, 5.2.13]

Section 5.2.14 requires that a District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. Any attempt by an operator to count such District inspections as part of the mandatory operator's inspections is considered a willful circumvention of the rule and is a violation of this rule. Therefore, the following condition will be listed on the permit to ensure compliance:

- District inspections shall not be counted as an operator inspection required by District Rule 4409. Any attempt by an operator to count such District inspections as part of the operator's mandatory inspections is considered a willful circumvention of the rule and is a violation of this rule. [District Rule 4409, 5.2.14]

Section 5.3.1 requires that upon detection of a leaking component, the operator shall affix to that component a weatherproof readily visible tag. The tag shall meet the following requirements:

- 1) The tag shall remain affixed to the component until all the conditions specified in Sections 5.3.2.1 through 5.3.2.3 have been met.
- 2) The leaking component has been repaired or replaced; and

- 3) The component has been re-inspected using the test method in Section 6.3.1; and
- 4) The component is found to be in compliance with the requirements of this rule.

The tag shall include the following information:

- 1) Date and time of leak detection.
- 2) Date and time of leak measurement.
- 3) For gaseous leaks, indicate the leak concentration in ppmv.
- 4) For liquid leaks, indicate whether it is a major liquid leak or a minor liquid leak.
- 5) For essential components, unsafe-to-monitor components, or critical components, so indicate on the tag.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The operator, upon detection of a leaking component, shall affix to that component a weatherproof, readily visible tag, bearing the date and time when the leak was detected and the date and time of the leak measurement. For gaseous leaks, the tag shall indicate the leak concentration in ppmv. For liquid leaks, the tag shall indicate whether it is a major liquid leak or a minor liquid leak. The tag shall indicate, when applicable, whether the component is an essential component, an unsafe-to-monitor component, or a critical component. The tag shall remain in place until the leaking component is repaired or replaced and reinspected and found to be in compliance with the requirements of rule 4409. [District Rule 4409, 5.3.1]

Section 5.3.4 requires that an operator shall minimize all component leaks immediately to the extent possible, but not later than one (1) hour after detection of leaks in order to stop or reduce leakage to the atmosphere.

Section 5.3.5 requires that if the leak has been minimized but the leak still exceeds the applicable leak standards of this rule, an operator shall comply with at least one of the requirement of Sections 5.3.5.3, 5.3.5.4 or 5.3.5.5 as soon as practicable but not later than the time period specified in Table 3.

- 1) The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the repair period specified in Table 3.
- 2) The start of the repair period shall be the time of the initial leak detection.
- 3) Repair or replace the leaking component; or
- 4) Vent the leaking component to a closed vent system as defined in Section 3.0.
- 5) Remove the leaking component from operation.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The operator shall minimize all component leaks immediately, to the extent possible, but not later than one hour after detection of the leak in order to stop or reduce leakage to the atmosphere. If the leak has been minimized but the leak still exceeds the applicable leak standards specified in this permit, the operator shall do one of the following within the timeframes specified within this permit: 1) repair or replace the leaking component; 2) vent the leaking component to a closed vent system; 3) or remove the leaking component from operation. A closed vent system is a District approved system that is not open to the atmosphere. It is composed of hard-piping, ductwork connections and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a District approved control device that has an overall VOC collection and destruction or removal efficiency of at least 95%, or that transports gases or vapors back to a process system. [District Rule 4409, 5.3.4 and 5.3.5]

Table 3 - Rule 4409 Repair Period		
Type of Leak	Repair Period in Calendar Days	Extended Repair Period in Calendar Days
Minor Gas Leak	7	7
Major Gas Leak greater than 10,000 ppmv but equal to or less than 50,000 ppmv	3	2
Major Gas Leak greater than 50,000 ppmv	2	0
Minor Liquid Leak	3	0
Major Liquid Leak	2	0

Therefore, the following condition will be listed on the permit to ensure compliance:

- The operator shall repair minor gas leaks within seven days. The operator shall repair major gas leaks, which are > 10,000 ppmv but < or equal to 50,000 ppmv, within three days. The operator shall repair major gas leaks, which are > 50,000 ppmv, within two days. The operator shall repair minor liquid leaks within three days. The operator shall repair major liquid leaks within two days. The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period. The start of the repair period shall be the time of the initial leak detection. [District Rule 4409, 5.3.4 and 5.3.5]

Section 5.3.5 further states that for each calendar quarter, the operator may be allowed to extend the repair period as specified in Table 3, for a total number of leaking components, not to exceed 0.05 % of the number of components inspected, by type, rounded upward to the nearest integer where required. Therefore, the following condition will be listed on the permit to ensure compliance:

- For each calendar quarter, the operator may extend the repair period for a total number of leaking components, not to exceed 0.05 % of the number of components inspected, by type, rounded upward to the nearest whole number. The repair period for minor gas leaks can be extended by seven additional days. The repair period for major gas leaks, which are > 10,000 ppmv but < or equal to 50,000 ppmv, can be extended by two additional days. [District Rule 4409, 5.3.5]

Section 5.3.6 requires that if the leaking component is an essential component or a critical component and which cannot be immediately shut down for repairs, the operator shall:

- 1) Minimize the leak within one hour after detection of leaks; and
- 2) If the leak has been minimized, but the leak still exceeds the applicable leak standards of this rule, the essential component or critical component shall be repaired or replaced to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier.

Therefore, the following condition will be listed on the permit to ensure compliance:

- If a leaking component is an essential component or a critical component and which cannot be shut down immediately for repairs, the operator shall do the following: 1) minimize the leak within one hour after detection of the leak; 2) and if the leak has been minimized, but the leak still exceeds the applicable leak standards of Rule 4409 as specified in this permit, the essential component or critical component shall be repaired or replaced to eliminate the leak during the next process unit turnaround. The repair shall occur no later than one year from the date of the original leak detection. [District Rule 4409, 5.3.6]

Section 5.3.7 requires that for any component that has incurred five repair actions for major gas leaks or major liquid leaks, or combination of major gas leaks and major liquid leaks within a continuous 12-month period, the operator shall comply with at least one of the requirements specified in Sections 5.3.7.1, 5.3.7.2, 5.3.7.3, or 5.3.7.4 by the applicable deadlines specified in Sections 5.3.7.5 and 5.3.7.6. If the original leaking component is replaced with a new like-in-kind component before incurring five repair actions for major leaks within 12-consecutive months, the repair count shall start over for the new component. An entire compressor or pump need not be replaced provided the compressor part(s) or pump part(s) that have incurred five repair actions as described in Section 5.3.7 are brought into compliance with at least one of the requirements of Sections 5.3.7.1 through 5.3.7.6.

- 1) Replace or retrofit the component with the control technology specified in Table 4. Notify the APCO in writing prior to replacing or retrofitting the component; or
- 2) Replace the component with Achieved-in-Practice Best Available Control Technology (BACT) equipment, as determined in accordance with Rule 2201 (New and Modified Stationary Source Review Rule), and as approved by the APCO in writing; or
- 3) Vent the component to an APCO-approved closed-vent system as defined in Section 3.0; or
- 4) Remove the component from operation.
- 5) For any component that is accessible, is not unsafe-to-monitor, is not an essential component, is not a critical component, the operator shall comply with the requirement of Section 5.3.7.1, Section 5.3.7.2, Section 5.3.7.3, or Section 5.3.7.4 as soon as practicable but not later than twelve (12) months after the date of detection of the fifth major leak within a continuous 12- month period as indicated in Section 5.3.7.

- 6) For any inaccessible component, unsafe-to-monitor component, essential component, or critical component the operator shall comply with the requirement of Section 5.3.7.1, Section 5.3.7.2, Section 5.3.7.3 or Section 5.3.7.4 as soon as practicable but not later than the next turnaround or not later than two (2) years after the date of detection of the fifth major leak within a continuous 12-month period as indicated in Section 5.3.7, whichever comes earlier.

Table 4 - Rule 4409 Component Control Technology Replacement/Retrofit	
Component Type	Control Technology
Compressors	Replace existing seal with dual mechanical seal, oil film seal, gas seal, or face-type seal
Pumps	Replace with seal-less pump or replace with dual mechanical seal
PRDs	Replace the PRD and install a rupture disc in the line which precedes the PRD such that the PRD is in series with and follows the rupture disc
Valves	Replace with sealed bellows valve, or graphite or Teflon Chevron seal rings in a live-loaded packing gland
Threaded Connections	Weld connections or replace threaded connections with flanges
Sampling Connections	Replace with closed-loop sampling system

Therefore, the following condition will be listed on the permit to ensure compliance:

- For any component that has incurred five repair actions for major gas leaks or major liquid leaks, or a combination of major gas leaks and major liquid leaks within a continuous 12-month period, the operator shall do one of the following four options. Options 1a through 1f require written notification to the District, option 2 requires written notification to the District and written District approval, options 3 and 4 do not require written notification to the District: 1a) For compressors replace the existing seal with either a dual mechanical seal, an oil film seal, a gas seal, or a face-type seal; 1b) for pumps replace the pump with a seal-less pump or replace the seal with a dual mechanical seal; 1c) for PRDs replace the PRD and install a rupture disc in the line which precedes the PRD such that the PRD is in series with and follows the rupture disc; 1d) for valves replace the valve with a sealed bellows valve, or for seal rings install graphite or Teflon chevron seal rings in a live-loaded packing gland; 1e) for threaded connections weld the connections or replace threaded connections with flanges; 1f) for sampling connections replace the sampling connection with a closed-loop sampling system; 2) Replace the component with Achieved-in-Practice Best Available Control Technology (BACT) equipment; 3) Vent the component to a District approved closed-vent system; 4) Remove the component from operation. For any component that is accessible, is not unsafe-to-monitor, is not an essential component, or is not a critical component, the operator shall comply with these requirements as soon as practicable but not later than twelve months after the date of detection of the fifth major leak within a continuous 12-month period. For any component that is inaccessible, is unsafe-to-monitor, is essential, or is a critical component, the operator shall comply with these requirements as soon as practicable but not later than the next turnaround or not later than two years after the date of detection of the fifth major leak within a continuous 12-month period, whichever comes first. [District Rule 4409, 5.3.7]

Section 5.4.1 requires that all major components and critical components shall be physically identified clearly and visibly for inspection, repair, and recordkeeping purposes. The physical identification shall consist of labels, tags, manufacturer's nameplate identifier, serial number, or model number, or other system approved by the APCO that enables an operator or the APCO to locate each individual component. The operator shall replace tags or labels that become missing or unreadable as soon as practicable but not later than 24 hours after discovery. Therefore, the following condition will be listed on the permit to ensure compliance:

- All major components and critical components shall be physically identified clearly and visibly for inspection, repair, and recordkeeping purposes. The physical identification shall consist of labels, tags, manufacturer's nameplate identifier, serial number, or model number, or other system approved by the District that enables an operator or the District to locate each individual component. The operator shall replace physical identifications that become missing or unreadable as soon as practicable but not later than 24 hours after discovery. [District Rule 4409, 5.4.1]

Section 6.1.1 requires that by October 20, 2005, an operator whose existing components is either subject to this rule or whose existing components are exempt pursuant to Section 4.2 of this rule on or before April 20, 2005 shall submit an Operator Management Plan (OMP) for approval by the APCO. The facility has already complied with this requirement of the Rule by submitting an OMP. Therefore, no condition will need to be listed on the permit to ensure compliance.

Section 6.1.2 requires that the operator shall keep a copy of the APCO-approved Operator Management Plan at the facility and make it available to the APCO, ARB, and US EPA upon request. Therefore, the following condition will be listed on the permit to ensure compliance:

- The operator shall keep a copy of the District approved Operator Management Plan (OMP) at the facility and make it available to the District, ARB, and EPA upon request. [District Rule 4409, 6.1.2]

Section 6.1.3 requires that the operator shall describe in the Operator Management Plan all components subject to this rule and all components that are exempt pursuant to Section 4.2 of this rule. The Plan shall contain a description of the procedures that the operator will use to comply with the requirements of this rule. The facility has already complied with this requirement of the Rule by submitting an OMP. Therefore, no condition will need to be listed on the permit to ensure compliance.

Section 6.1.4 requires that by January 30 of each year, the operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan. Therefore, the following condition will be listed on the permit to ensure compliance:

- By January 30th of each year the operator shall submit to the District for approval, in writing, an annual report indicating any changes to the existing OMP on file at the District. [District Rule 4409, 6.1.4]

Section 6.2.1 requires that the operator shall maintain an inspection log containing, at a minimum, all of the following information:

- 1) Total number of components inspected, and total number and percentage of leaking components found by component types.

- 2) Location, type, name or description of each leaking component and description of any unit where the leaking component is found.
- 3) Date of leak detection and method of 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) Date of repair, replacement, or removal from operation of leaking components.
- 6) 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 earlier.
- 7) Methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier.
- 8) After the component is repaired or is replaced, the date of re-inspection and the leak concentration in ppmv.
- 9) Inspector's name, business mailing address, and business telephone number.
- 10) The facility operator responsible for the inspection and repair program shall sign and date the inspection log certifying the accuracy of the information recorded in the log.

Therefore, the following condition will be listed on the permit to ensure compliance:

- 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. [District Rule 4409, 6.2.1]

Section 6.2.2 requires that records of leaks detected during quarterly or annual operator inspection, and each subsequent repair and re-inspection, shall be submitted to the APCO, ARB, and US EPA upon request.

Therefore, the following condition will be listed on the permit to ensure compliance:

- Records of leaks detected during quarterly or annual operator inspections, and each subsequent repair and re-inspection, shall be submitted to the District, ARB, and EPA upon request. [District Rule 4409, 6.2.2]

Section 6.2.3 requires that records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration. Therefore, the following condition will be listed on the permit to ensure compliance:

- 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 4409, 6.2.3]

Section 6.2.4 requires that copies of all records required by Section 6.2 of this rule shall be retained for a minimum of five (5) years after the date of an entry, and the records shall be made available to the APCO, ARB, and US EPA upon request. Therefore, the following condition will be listed on the permit to ensure compliance:

- All records required by this permit shall be retained on-site for a minimum of five years and made available for District, ARB, and EPA inspection upon request. [District Rule 4409, 6.2.4]

Equivalent test methods other than specified in Sections 6.3.1 through 6.3.8 may be used provided such test methods have received prior approval from the EPA, ARB, and APCO.

Section 6.3.1 requires that measurements of gaseous leak concentrations shall be conducted according to US EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in US EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Therefore, the following condition will be listed on the permit to ensure compliance:

- All measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instructions not more than 30 days prior to its use. [District Rule 4409, 6.3.1]

Section 6.3.2 requires that the VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The VOC content by weight percent shall be determined using ASTM D-1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids. [District Rule 4409, 6.3.2]

Section 6.3.3 requires that the percent by volume liquid evaporated at 150 °C shall be determined using ASTM Method D 86-82. Therefore, the following condition will be listed on the permit to ensure compliance:

- The percent by volume liquid evaporated at 302 °F (150 °C) shall be determined using ASTM D-86. [District Rule 4409, 6.3.3]

Section 6.3.4 requires that the TVP of any organic liquid shall be determined by measuring the Reid Vapor Pressure (RVP) using ASTM D 323-94 (Test Method for Vapor Pressure for Petroleum Products), and converting the RVP to TVP at the maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance with the procedures in Appendix A. Appendix A is an excerpt from the oil and gas section of "California Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulation for AB 2588", dated August 1989. Therefore, the following condition will be listed on the permit to ensure compliance:

- The TVP of any organic liquid shall be determined by measuring the Reid Vapor Pressure (RVP) using ASTM D-323, and converting the RVP to TVP at the maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance with the procedures specified in Appendix A of District Rule 4409. [District Rule 4409, 6.3.4]

Section 6.3.5 requires that the API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287-92 (2000) e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method) or ASTM 1298-85 (Standard Practice for Density, Relative Density, or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057-95 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products". Therefore, the following condition will be listed on the permit to ensure compliance:

- The API gravity of crude oil or petroleum distillate shall be determined by using ASTM D-287 or ASTM 1298. Sampling for API gravity shall be performed in accordance with ASTM D-4057. [District Rule 4409, 6.3.5]

Section 6.3.6 requires that the control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by US EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case US EPA Method 25a may be used. US EPA Method 18 may be used in lieu of US EPA Method 25 or US EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported.

Therefore, the following condition will be listed on the permit to ensure compliance:

- The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4409, 6.3.6]

Section 6.3.7 requires that halogenated exempt compounds shall be analyzed by US EPA Method 18 or ARB Method 422 "Determination of Volatile Organic Compounds in Emission from Stationary Sources". Therefore, the following condition will be listed on the permit to ensure compliance:

- Halogenated exempt compounds shall be analyzed by EPA Method 18 or ARB Method 422. [District Rule 4409, 6.3.7]

Continued compliance with these requirements is expected.

Rule 4623 Storage of Organic Liquids

This rule limits volatile organic compound (VOC) emissions from the storage of organic liquids. It applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.

Section 5.1 requires that no organic liquid shall be placed, held, or stored in any tank unless the tank is equipped with a VOC control system identified in Table 1. This section also requires that tanks operate in a leak-free condition except as allowed in Section 5.2. The following condition will ensure compliance with this section:

- The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rule 4623]
- All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 4623]
- A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623]

Section 5.2 lists requirements for pressure relief valves. This tank is not equipped with a pressure relief valve; therefore this section is not applicable.

Section 5.3 lists requirements for external floating roof tanks. This is a fixed roof tank; therefore this section is not applicable.

Section 5.4 lists requirements for internal floating roof tanks. This is a fixed roof tank; therefore this section is not applicable.

Section 5.5 lists requirements for floating roof deck fittings. This is a fixed roof tank; therefore this section is not applicable.

Section 5.6 lists requirements for vapor recovery systems. Fixed roof tanks shall be fully enclosed and shall be maintained in a leak-free condition. An APCO-approved vapor recovery system shall consist of a closed system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be maintained in a leak-free condition.

The VOC control device shall be one of the following:

- A condensation or vapor return system that connects to one of the following: a gas processing plant, a field gas pipeline, a pipeline distributing Public Utility Commission quality gas for sale, an injection well for disposal of vapors as approved by the California Department of Conservation, Division of Oil Gas, and Geothermal Resources, or
- A VOC control device that reduces the inlet VOC emissions by at least 95 percent by weight as determined by the test method specified in Section 6.4.6.

Additionally 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 and all piping, valves, and fittings shall be constructed and maintained in a leak-free condition.

The following conditions will ensure compliance with this section of the rule:

- The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device the reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rule 4623]
- All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 4623]
- A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623]
- 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 4623]

Section 5.7 lists voluntary tank preventive inspection and maintenance, and tank interior cleaning requirements. The following conditions will ensure compliance with this section:

- Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2201 and 4623]
- 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]
- 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]
- 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]
- 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]
- If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623]
- Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 and 4623]
- 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 Rules 4623 and 2080]
- This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rules 4623 and 2080]

- This tank shall be degassed before commencing interior cleaning by 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 2) 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]
- During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623]
- To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rules 4623]
- This tank shall be in compliance with the applicable requirements of District Rule 4623 at all times during draining, degassing, and refilling the tank with an organic liquid having a TVP of 0.5 psia or greater. [District Rule 4623]
- While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]
- Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]
- 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]

Section 6.2 lists TVP and API gravity testing for uncontrolled fixed roof tanks. This is not an uncontrolled fixed roof tank; therefore this section of the rule is not applicable.

Section 6.3 requires that all records be retained for a period of five years. The following condition will be listed on the permits to ensure compliance:

- The permittee shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2201 and 4623]

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume. Using the ideal gas equation, the proposed flare sulfur compound emissions are calculated as follows (using limits of 1 gr-S/100 dscf and 1,275 Btu/dscf):

$$\frac{0.3 \text{ gr} \cdot S}{100 \text{ scf}} \left(\frac{\text{lb}}{7,000 \text{ gr}} \right) \frac{379.5 \text{ scf}}{\text{lb} \cdot \text{mole}} \left(\frac{\text{lb} \cdot \text{mole}}{32 \text{ lb} \cdot S} \right) = 5.1 \times 10^{-6} \text{ or } 5.1 \text{ ppm as } S$$

Since 5.1 ppmv is \leq 2,000 ppmv, this flare is expected to comply with Rule 4801. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- Sulfur content of gas burned in the 41.7 MMBtu/hr flare or the heater shall not exceed 0.3 gr/100 scf as sulfur. [District Rules 2201 and 4801]

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 EPA review, issue ATC S-1737-157-4 subject to the permit conditions on the attached draft ATC in **Appendix A**.

X. Billing Information

This permit's annual fee is currently based on the capacity of the storage tank, 63,000 gallons. This permit also lists a flare with a 41.7 MMBtu/hr tip. According to Rule 3020, when one or more fee schedules apply, the higher fee will be assessed. Therefore, the fee schedule will change from the stationary container schedule to the fuel burning equipment schedule, 3020-02-H.

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1737-157-4	3020-02-H	41.7 MMBtu/hr	\$1,030.00

Appendices

- A: Draft ATC
- B: Current PTO and Outstanding ATC
- C: BACT Guidelines
- D: BACT Analyses
- E: HRA Summary
- F: SSPE Calculations
- G: Quarterly Net Emissions Change
- H: Emissions Profile
- I: Compliance Certification
- J: Historical Gas Records

Appendix A

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1737-157-4

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL CENTRAL
KERN COUNTY, CA

SECTION: NW03 **TOWNSHIP:** 28S **RANGE:** 25E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 1,500 BBL FIXED ROOF WASH TANK (T-01) WITH VAPOR CONTROL SHARED WITH S-1737-158, '-159, '-160, '-161, AND OPTIONAL PORTABLE TANKS S-1737-181, '-182, '-183, AND/OR '-184 VENTING TO GAS SALES LINE, 41.7 MMBTU/HR COANDA TIP FLARE, FLARES S-1737-167 AND '-180 AND/OR 2.0 MMBTU/HR PRODUCTION HEATER (S-1737-160); INCREASE DAILY FLOWRATE LIMIT TO 4 MMSCF/DAY, DELETE CONDITION 19, CHANGE EMISSION FACTORS FROM LB/MMBTU TO LB/MMSCF

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rule 4623] Federally Enforceable Through Title V Permit
4. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

DRAFT

DAVID WARNER, Director of Permit Services

S-1737-157-4 : Oct 18 2012 12:50PM - RICKARDK : Joint Inspection NOT Required

5. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623] Federally Enforceable Through Title V Permit
6. 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 4623] Federally Enforceable Through Title V Permit
7. VOC fugitive emissions from the components in gas service on tank and tank vapor collection system) shall not exceed 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2201] Federally Enforceable Through Title V Permit
10. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
11. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
12. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2201 and 4623] Federally Enforceable Through Title V Permit
13. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
14. 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] Federally Enforceable Through Title V Permit
15. 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] Federally Enforceable Through Title V Permit
16. 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] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

17. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
18. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
19. Permittee shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rules 4623 and 2080] Federally Enforceable Through Title V Permit
20. This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rules 4623 and 2080] Federally Enforceable Through Title V Permit
21. This tank shall be degassed before commencing interior cleaning by 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 2) 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] Federally Enforceable Through Title V Permit
22. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] Federally Enforceable Through Title V Permit
23. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rules 4623] Federally Enforceable Through Title V Permit
24. This tank shall be in compliance with the applicable requirements of District Rule 4623 at all times during draining, degassing, and refilling the tank with an organic liquid having a TVP of 0.5 psia or greater. [District Rule 4623] Federally Enforceable Through Title V Permit
25. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623] Federally Enforceable Through Title V Permit
26. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit
27. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Gas rate to the production heater shall not exceed 40,000 scf per day. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The 41.7 MMBtu/hr flare shall be equipped with flared gas flow meter. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit
30. Gas rate to the 41.7 MMBtu/hr flare shall not exceed 4.0 MMscf per day nor 438.0 MMscf per year. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

31. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
32. Emission rates for the 41.7 MMBtu/hr flare shall not exceed any of the following: PM10: 20 lb/MMscf, NOx (as NO2): 68 lb/MMscf, VOC: 33 lb/MMscf, or CO: 38 lb/MMscf. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Sulfur content of gas burned in the 41.7 MMBtu/hr flare or the heater shall not exceed 0.3 gr/100 scf as sulfur. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
34. The sulfur content of the gas being incinerated in the 41.7 MMBtu/hr flare shall be determined using ASTM Test Methods D3246, D4084, D4810, double GC for H2S and mercaptans, or other method approved by the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Permittee shall measure sulfur content of gas incinerated at least once per year. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
36. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the 41.7 MMBtu/hr flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3] Federally Enforceable Through Title V Permit
37. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present, shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
38. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
39. 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] Federally Enforceable Through Title V Permit
40. Permittee shall maintain accurate records of the daily amounts and annual vapor H2S concentration of the gas burned in the 41.7 MMBtu/hr flare and production heater. [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit
41. The permittee shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2201 and 4623] Federally Enforceable Through Title V Permit
42. Formerly S-1132-82-0
43. Formerly S-4241-25-0

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Appendix B

Current PTO and Outstanding ATC

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1737-157-1

EXPIRATION DATE: 02/28/2014

SECTION: NW03 **TOWNSHIP:** 28S **RANGE:** 25E

EQUIPMENT DESCRIPTION:

63,000 GALLON (1,500 BBL) FIXED ROOF WASH TANK (T-01) WITH VAPOR CONTROL SHARED WITH S-1737-158, '-159, '-160, AND '-161 VENTING TO GAS SALES LINE, 41.7 MMBTU/HR COANDA TIP FLARE, AND/OR 2.0 MMBTU/HR PRODUCTION HEATER (S-1737-160)

PERMIT UNIT REQUIREMENTS

1. The tank shall be equipped with a fully enclosed fixed roof and shall be maintained in a leak-free condition. [District Rule 4623] Federally Enforceable Through Title V Permit
2. The tank shall be equipped with a vapor loss prevention system capable of collecting all VOC emissions and preventing their emissions to the atmosphere at an efficiency of at least 95% by weight. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The two-phase and three-phase separators shall vent to the vapor control system. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Fugitive VOC emissions shall be less than 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
5. 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 4623, 5.6.2] Federally Enforceable Through Title V Permit
6. All piping, valves, and fittings shall be constructed and maintained in a Leak-Free condition. [District Rules 2201 and 4623, 5.6.3] Federally Enforceable Through Title V Permit
7. A leak-free condition is defined as a condition without a gas leak or a liquid leak. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane 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 more than 3 drops per minute. [District Rule 4623] Federally Enforceable Through Title V Permit
8. The operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

10. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Gases from the vapor control system shall be incinerated in the 2.0 MMBtu/hr production heater (S-1737-160), 41.7 MMBtu/hr smokeless flare and/or shall be sent to gas sales line. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Gas rate to the production heater shall not exceed 40,000 scf per day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Flare shall be equipped with flared gas flow meter. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Gas rate to the flare shall not exceed 3.0 MMscf per day nor 438.0 MMscf per year. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Emission rates for the flare shall not exceed any of the following: PM10: 0.020 lb/MMBtu, NOx (as NO2): 0.068 lb/MMBtu, VOC: 0.033 lb/MMBtu, or CO: 0.038 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Sulfur content of gas burned in the flare or the heater shall not exceed 0.3 gr/100 scf as sulfur. [District Rule 2201] Federally Enforceable Through Title V Permit
17. The sulfur content of the gas being incinerated shall be determined using ASTM Test Methods D3246, D4084, D4810, double GC for H2S and mercaptans, or other method approved by the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Permittee shall measure sulfur content of gas incinerated at least once per year. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
19. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
20. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3] Federally Enforceable Through Title V Permit
21. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present, shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
22. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
23. The operator of a fixed roof tank shall maintain all records of required monitoring data and support information. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Permittee shall maintain accurate records of the daily amounts and annual vapor H2S concentration of the gas burned in the flare and production heater. [District Rule 2201] Federally Enforceable Through Title V Permit
25. All records required to be maintained by this permit shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rule 4623] Federally Enforceable Through Title V Permit
26. Formerly S-1132-82-0
27. Formerly S-4241-25-0

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

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1737-157-3

ISSUANCE DATE: 09/12/2012

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL CENTRAL
KERN COUNTY, CA

SECTION: NW03 TOWNSHIP: 28S RANGE: 25E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 1,500 BBL FIXED ROOF WASH TANK (T-01) WITH VAPOR CONTROL SHARED WITH S-1737-158, '-159, '-160, '-161, AND OPTIONAL PORTABLE TANKS S-1737-181, '-182, '-183, AND/OR '-184 VENTING TO GAS SALES LINE, 41.7 MMBTU/HR COANDA TIP FLARE, AND/OR 2.0 MMBTU/HR PRODUCTION HEATER (S-1737-160): ALLOW VAPOR CONTROL SYSTEM TO VENT TO FLARES S-1737-167 AND '-180

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in leak-free condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rule 4623] Federally Enforceable Through Title V Permit
3. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rules 4623] Federally Enforceable Through Title V Permit
4. A leak-free condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S-1737-157-3 : Oct 17 2012 4:57PM - RICKARDK : Joint Inspection NOT Required

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5. 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 4623] Federally Enforceable Through Title V Permit
6. VOC fugitive emissions from the components in gas service on tank and tank vapor collection system) shall not exceed 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Except as otherwise provided in this permit, the operator shall ensure that the vapor recovery system is functional and is operating as designed at all times. [District Rule 2201] Federally Enforceable Through Title V Permit
9. All piping, fittings, and valves on this tank shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the leaking provisions of this permit. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
10. Any component found to be leaking on two consecutive annual inspections is in violation of the District Rule 4623, even if it is under the voluntary inspection and maintenance program. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
11. Operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 2201 and 4623] Federally Enforceable Through Title V Permit
12. 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] Federally Enforceable Through Title V Permit
13. 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] Federally Enforceable Through Title V Permit
14. 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] Federally Enforceable Through Title V Permit
15. 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] Federally Enforceable Through Title V Permit
16. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
17. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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 Rules 4623 and 2080] Federally Enforceable Through Title V Permit
19. This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rules 4623 and 2080] Federally Enforceable Through Title V Permit
20. This tank shall be degassed before commencing interior cleaning by 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 2) 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] Federally Enforceable Through Title V Permit
21. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] Federally Enforceable Through Title V Permit
22. To facilitate connection to an external APCO-approved recovery system, a suitable tank fitting, such as a manway, may be temporarily removed for a period of time not to exceed 1 hour. [District Rules 4623] Federally Enforceable Through Title V Permit
23. This tank shall be in compliance with the applicable requirements of District Rule 4623 at all times during draining, degassing, and refilling the tank with an organic liquid having a TVP of 0.5 psia or greater. [District Rule 4623] Federally Enforceable Through Title V Permit
24. While performing tank cleaning activities, operators may only use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623] Federally Enforceable Through Title V Permit
25. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] Federally Enforceable Through Title V Permit
26. The permittee shall keep accurate records of the dates of inspection and monitoring and the components inspected and monitored. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Gas rate to the production heater shall not exceed 40,000 scf per day. [District Rule 2201] Federally Enforceable Through Title V Permit
28. The 41.7 MMBtu/hr flare shall be equipped with flared gas flow meter. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Gas rate to the 41.7 MMBtu/hr flare shall not exceed 3.0 MMscf per day nor 438.0 MMscf per year. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Emission rates for the 41.7 MMBtu/hr flare shall not exceed any of the following: PM10: 0.020 lb/MMBtu, NOx (as NO2): 0.068 lb/MMBtu, VOC: 0.033 lb/MMBtu, or CO: 0.038 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Sulfur content of gas burned in the 41.7 MMBtu/hr flare or the heater shall not exceed 0.3 gr/100 scf as sulfur. [District Rule 2201] Federally Enforceable Through Title V Permit
32. The sulfur content of the gas being incinerated in the 41.7 MMBtu/hr flare shall be determined using ASTM Test Methods D3246, D4084, D4810, double GC for H2S and mercaptans, or other method approved by the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. Permittee shall measure sulfur content of gas incinerated at least once per year. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
34. The flame shall be present at all times when combustible gases are vented through the 41.7 MMBtu/hr flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
35. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the 41.7 MMBtu/hr flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3] Federally Enforceable Through Title V Permit
36. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present, shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
37. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
38. 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] Federally Enforceable Through Title V Permit
39. Permittee shall maintain accurate records of the daily amounts and annual vapor H₂S concentration of the gas burned in the 41.7 MMBtu/hr flare and production heater. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2201 and 4623] Federally Enforceable Through Title V Permit
41. Authority to Construct S-1737-157-2 shall be implemented prior to or concurrent with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
42. Formerly S-1132-82-0
43. Formerly S-4241-25-0

Appendix C

BACT Guidelines

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.	Precombustion SOx scrubbing system (non-emergency flares only.)	
VOC	Steam assisted or Air-assisted or Coanda effect burner, when steam unavailable		

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

***This is a Summary Page for this Class of Source**

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.3.1*

Last Update 10/1/2002

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

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

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

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

***This is a Summary Page for this Class of Source**

Appendix D

BACT Analyses

BACT Analysis for NO_x Emissions:

Oxides of nitrogen (NO_x) are generated from the high temperature combustion of the produced gas. A majority of the NO_x emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO_x emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.4.2, 4th Quarter 1998 identifies achieved in practice BACT for NO_x emissions from waste gas flares incinerating produced gas as follows:

- 1) Steam assisted or air-assisted or coanda effect burner, when steam is unavailable

Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

Step 3 - Rank remaining options by control effectiveness

- 1) Steam assisted or air-assisted or coanda effect burner, when steam is unavailable

Step 4 - Cost Effectiveness Analysis

A cost effective analysis is required for technologically feasible control options that are not proposed. There are no technologically feasible options available; therefore, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for NO_x emissions from waste gas flares incinerating produced gas is a flare that is steam assisted or air-assisted or coanda effect burner, when steam is unavailable. The applicant has proposed to install a waste gas flare incinerating produced gas with a Coanda effect tip; therefore BACT for NO_x emissions is satisfied.

BACT Analysis for PM₁₀ Emissions:

Particulate matter (PM₁₀) emissions result from the incomplete combustion of various elements in the gas.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.4.2, 4th Quarter 1998 identifies achieved in practice BACT for PM₁₀ emissions from waste gas flares incinerating produced gas as follows:

- 1) Steam assisted or air-assisted or coanda effect burner, when steam is unavailable and a pilot light fired solely on LPG or natural gas

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 1) Steam assisted or air-assisted or coanda effect burner, when steam is unavailable and a pilot light fired solely on LPG or natural gas

d. Step 4 - Cost Effectiveness Analysis

A cost effective analysis is required for technologically feasible control options that are not proposed. There are no technologically feasible options available; therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for PM₁₀ emissions from waste gas flares incinerating produced gas is a flare that is steam assisted or air-assisted or coanda effect burner, when steam is unavailable and a pilot light fired solely on LPG or natural gas. The applicant has proposed to install a waste gas flare incinerating produced gas with a Coanda effect tip and a pilot fired on produced natural gas (gas is assumed equivalent at <0.3 gr-S/100 scf); therefore BACT for PM₁₀ emissions is satisfied.

BACT Analysis for VOC Emissions:

Volatile organic compounds (VOC) emissions are generated from the incomplete combustion of the fuel.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.4.2, 4th Quarter 1998 identifies achieved in practice BACT for VOC emissions from waste gas flares incinerating produced gas as follows:

- 1) Steam assisted or air-assisted or coanda effect burner, when steam is unavailable

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 1) Steam assisted or air-assisted or coanda effect burner, when steam is unavailable

d. Step 4 - Cost effectiveness analysis

A cost effective analysis is required for technologically feasible control options that are not proposed. There are no technologically feasible options available; therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for VOC emissions from waste gas flares incinerating produced gas is a flare that is steam assisted or air-assisted or coanda effect burner, when steam is unavailable. The applicant has proposed to install a waste gas flare incinerating produced gas with a Coanda effect tip; therefore BACT for VOC emissions is satisfied.

Appendix E

HRA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Kris Rickards, AQE– Permit Services
 From: Joe Aguayo, AQS – Technical Services
 Date: October 18, 2012
 Facility Name: Vintage Production California LLC
 Location: NW03, T28S, R25E
 Application #(s): S-1737-157-4
 Project #: S-1123486

A. RMR SUMMARY

RMR Summary			
Categories	Coanda Flare (Unit 157-4)	Project Totals	Facility Totals
Prioritization Score	<1.0	<1.0	>1.0
Acute Hazard Index	0.01	0.01	0.06
Chronic Hazard Index	N/A ¹	N/A	0.06
Maximum Individual Cancer Risk (10 ⁻⁶)	N/A ¹	N/A	2.1
T-BACT Required?	No		
Special Permit Conditions?	No		

¹The Chronic Hazard Index and Cancer Risk was not calculated since there was no increase to this unit's yearly throughput.

Proposed Permit Conditions

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

Unit # 157-4

No special conditions are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on October 1, 2012, to perform a Risk Management Review for a proposed modification to a Coanda flare (unit 157-4). The modification consisted of increasing the daily fuel limit from 3 MMscf/day to 4 MMscf/day.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions calculated using emission factors for external combustion of natural gas through a flare were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Bakersfield to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 157-4			
Source Type	Point	Location Type	Urban
Stack Height (m)	5.8	Closest Receptor (m)	304.8
Stack Diameter. (m)	1.01*	Type of Receptor	Residential
Stack Exit Velocity (m/s)	20.0*	Fuel Type	NG
Stack Exit Temp. (°K)	1273*	Burner Rating (MMBtu/hr)	15.4

*Based on EPA guidance and default values for flares.

III. Conclusion

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

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

IV. Attachments

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

Appendix F

SSPE Calculations

Appendix G

Quarterly Net Emissions Change

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.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

PE2_{quarterly} = PE2_{annual} ÷ 4 quarters/year

PE1_{quarterly} = PE1_{annual} ÷ 4 quarters/year

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	7,446	7,446	0
SO _x	94	94	0
PM ₁₀	2,190	2,190	0
CO	4,161	4,161	0
VOC	3,659	3,659	0

Appendix H

Emissions Profile

Permit #: S-1737-157-4	Last Updated
Facility: VINTAGE PRODUCTION CALIFORNIA	10/16/2012 RICKARDK

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	29784.0	377.0	8760.0	16644.0	14637.0
Daily Emis. Limit (lb/Day)	272.0	3.4	80.0	152.0	132.5
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:					

Appendix I

Compliance Certification

RECEIVED
SEP 10 2012
SJVAPCD
Southern Region

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: Vintage Production California LLC	FACILITY ID: S-1737
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name:	
3. Agent to the Owner:	

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

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

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

Denny Brown
Signature of Responsible Official

9/10/12
Date

Denny Brown
Name of Responsible Official (please print)

Operations Manager
Title of Responsible Official (please print)

Modification of existing flare, S-1737-157, to increase daily flare gas fuel limit.

Mailing Address: Central Regional Office * 1990 E. Gettysburg Avenue * Fresno, California 93726-0244 * (559) 230-5900 * FAX (559) 230-6061

TVFORM-009
Rev: July 2005

Appendix J

Historical Gas Consumption Records

Historical Volume of Gas Sent to Gas Sales Line

Aug - 2010 to Jul - 2011 (MMscf)	Aug - 2011 to Jul - 2012 (MMscf)
47.575	55.946
42.405	54.826
43.54	64.436
43.701	59.426
44.264	61.587
43.653	55.343
47.604	45.445
47.48	58.316
41.668	57.783
42.781	66.141
50.009	66.51
46.654	63.548

52.110 MMscf/2-year average

08/14/2010 - 08/13/2011	08/14/2011 - 08/13/2012		
0.074	0.01	0.116	0.57
0.056	0.009	0.107	1.417
0.17	0.092	0.583	1.57
0.06	0.206	0.05	0.734
0.107	0.291	0.029	0.111
0.109	0.201	0.19	0.159
0.05	1.997	0.11	0.24
0.042	1.313	0.013	0.174
0.086	0.074	0.035	0.047
0.054	0.417	0.093	0.078
0.03	0.107	1.55	0.114
0.05	0.127	2.366	2.495
0.143	0.075	0.717	2.832
0.025	0.164	0.023	2.821
0.103	0.097	0.031	0.554
0.079	0.187	0.039	2.103
0.074	0.069	0.133	2.818
0.104	0.083	0.4	2.835
0.02	0.397	0.256	2.368
0.148	0.453	0.218	1.95
0.2	0.339	0.201	2.714
0.164	0.071	0.057	2.806
0.417	0.035	0.138	Sum = 60.81
0.069	0.322	0.409	
0.099	0.351	0.17	
0.216	0.368	0.167	
0.373	0.333	0.239	
0.347	0.413	0.204	
0.285	0.401	0.138	
0.218	0.392	0.102	
0.936	0.454	0.033	
1.885	0.279	0.036	
1.786	0.407	0.018	
0.325	0.36	0.025	
Sum = 8.904	0.447	0.013	
	0.462	0.035	
	0.42	0.053	
	0.12	0.181	
	0.19	1.602	
	0.106	2.306	
	0.114	1.357	
	0.055	0.552	
	0.069	0.129	
	0.087	0.029	
	0.223	0.86	

Values taken from historical records provided by VPC

2011 ANNUAL FLARING AT NORTH SHAFTER
PTO # 1737-157, Condition # 8 & SJVUAPCD Rule 4311

Date	Volume Flared (MMSCF)	Duration of Flare Event (hrs:min)		Permitted Maximum Daily Limit (MMSCF)	Visible Emissions Check
01/22/2011	0.060	1	0	3	No visible emissions
01/26/2011	0.107	3	0	3	No visible emissions
02/02/2011	0.109	3	20	3	No visible emissions
02/03/2011	0.050	24	0	3	No visible emissions
02/05/2011	0.042	1	30	3	No visible emissions
02/09/2011	0.086	1	10	3	No visible emissions
02/11/2011	0.054	0	30	3	No visible emissions
02/23/2011	0.030	1	0	3	No visible emissions
03/02/2011	0.050	0	30	3	No visible emissions
03/09/2011	0.143	4	0	3	No visible emissions
03/21/2011	0.025	0	30	3	No visible emissions
03/31/2011	0.103	10	0	3	No visible emissions
04/01/2011	0.079	7	0	3	No visible emissions
04/02/2011	0.047	1	0	3	No visible emissions
04/03/2011	0.104	2	0	3	No visible emissions
04/23/2011	0.020	1	0	3	No visible emissions
05/17/2011	0.148	23	0	3	No visible emissions
05/18/2011	0.200	24	0	3	No visible emissions
05/20/2011	0.164	4	0	3	No visible emissions
05/21/2011	0.417	7	0	3	No visible emissions
05/25/2011	0.069	1	15	3	No visible emissions
06/06/2011	0.099	2	0	3	No visible emissions
07/22/2011	0.216	15	30	3	No visible emissions
07/23/2011	0.373	24	0	3	No visible emissions
07/24/2011	0.347	24	0	3	No visible emissions
07/25/2011	0.285	24	0	3	No visible emissions
07/26/2011	0.218	17	10	3	No visible emissions
07/27/2011	0.936	24	0	3	No visible emissions
07/28/2011	1.885	24	0	3	No visible emissions
07/29/2011	1.786	24	0	3	No visible emissions
07/30/2011	0.325	5	30	3	No visible emissions
08/28/2011	0.010	0	15	3	No visible emissions
08/29/2011	0.009	0	15	3	No visible emissions
09/10/2011	0.092	1	30	3	No visible emissions
10/04/2011	0.206	5	30	3	No visible emissions
10/07/2011	0.291	8	45	3	No visible emissions
10/21/2011	0.201	3	13	3	No visible emissions
11/17/2011	1.997	17	0	3	No visible emissions
11/18/2011	1.313	22	30	3	No visible emissions
11/21/2011	0.074	0	45	3	No visible emissions
12/03/2011	0.418	6	0	3	No visible emissions
12/04/2011	0.107	1	45	3	No visible emissions
12/09/2011	0.127	4	45	3	No visible emissions
12/11/2011	0.075	0	20	3	No visible emissions
12/12/2011	0.164	5	0	3	No visible emissions
12/15/2011	0.097	2	0	3	No visible emissions
12/20/2011	0.187	4	0	3	No visible emissions
12/30/2011	0.069	1	0	3	No visible emissions
				3	
				3	
YTD Total MMSCF Flared	14.014	Annual Flare Limit		438	Difference
					(423.99)

389.5 - Total Hours of Flaring

**2012 ANNUAL FLARING AT NORTH SHAFTER
PTO # 1737-157, Condition # 8 & SJVUAPCD Rule 4311**

Date	Volume Flared (MMSCF)	Duration of Flare Event (hrs:min)		Permitted Maximum Daily Limit (MMSCF)	Visible Emissions Check
01/08/2012	0.083	1	40	3	No visible emissions
01/09/2012	0.397	20	10	3	No visible emissions
01/10/2012	0.453	24	0	3	No visible emissions
01/11/2012	0.339	18	15	3	No visible emissions
01/13/2012	0.071	3	0	3	No visible emissions
01/15/2012	0.035	2	0	3	No visible emissions
02/10/2012	0.322	16	0	3	No visible emissions
02/12/2012	0.351	24	0	3	No visible emissions
02/13/2012	0.368	24	0	3	No visible emissions
02/14/2012	0.333	24	0	3	No visible emissions
02/15/2012	0.413	24	0	3	No visible emissions
02/16/2012	0.401	24	0	3	No visible emissions
02/17/2012	0.392	24	0	3	No visible emissions
02/18/2012	0.454	24	0	3	No visible emissions
02/19/2012	0.279	24	0	3	No visible emissions
02/20/2012	0.407	24	0	3	No visible emissions
02/21/2012	0.360	24	0	3	No visible emissions
02/22/2012	0.447	24	0	3	No visible emissions
02/23/2012	0.462	24	0	3	No visible emissions
02/24/2012	0.454	24	0	3	No visible emissions
02/25/2012	0.420	10	0	3	No visible emissions
02/28/2012	0.120	11	0	3	No visible emissions
02/29/2012	0.190	13	0	3	No visible emissions
03/01/2012	0.106	15	0	3	No visible emissions
03/03/2012	0.114	13	20	3	No visible emissions
03/04/2012	0.055	6	30	3	No visible emissions
05/02/2012	0.069	4	0	3	No visible emissions
05/08/2012	0.087	5	30	3	No visible emissions
05/09/2012	0.223	2	0	3	No visible emissions
05/13/2012	0.116	1	0	3	No visible emissions
05/21/2012	0.107	1	5	3	No visible emissions
05/22/2012	0.583	4	0	3	No visible emissions
05/23/2012	0.050	3	0	3	No visible emissions
05/24/2012	0.029	7	0	3	No visible emissions
05/25/2012	0.190	17	0	3	No visible emissions
05/26/2012	0.110	24	0	3	No visible emissions
05/27/2012	0.013	7	0	3	No visible emissions
05/28/2012	0.035	17	0	3	No visible emissions
05/29/2012	0.093	24	0	3	No visible emissions
05/30/2012	1.550	24	0	3	No visible emissions
05/31/2012	2.366	24	0	3	No visible emissions
06/01/2012	0.717	7	0	3	No visible emissions
06/08/2012	0.023	16	0	3	No visible emissions
06/09/2012	0.031	24	0	3	No visible emissions
06/10/2012	0.039	24	0	3	No visible emissions
06/11/2012	0.133	24	0	3	No visible emissions
06/12/2012	0.400	24	0	3	No visible emissions
06/13/2012	0.256	24	0	3	No visible emissions
06/14/2012	0.218	24	0	3	No visible emissions
06/15/2012	0.201	24	0	3	No visible emissions
06/16/2012	0.057	8	0	3	No visible emissions
06/17/2012	0.138	16	0	3	No visible emissions
06/18/2012	0.409	24	0	3	No visible emissions
06/19/2012	0.170	8	0	3	No visible emissions
06/20/2012	0.167	16	0	3	No visible emissions
06/21/2012	0.239	24	0	3	No visible emissions
06/22/2012	0.204	24	0	3	No visible emissions

