



OCT 24 2018

Ms. Melinda Hicks
Kern Oil & Refining Company
7724 E Panama Lane
Bakersfield, CA 93307

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
Facility Number: S-37
Project Number: S-1182997

Dear Ms. Hicks:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project authorizes a new amine system.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

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

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

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

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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Facility Name: Kern Oil & Refining Co. Date: October 19, 2018
Mailing Address: 7724 E Panama Lane Engineer: Richard Edgehill
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Application #(s): S-37-169-0
Project #: 1182997
Deemed Complete: August 7, 2018

I. Proposal

Kern Oil & Refining Co (Kern Oil) has requested an Authority to Construct (ATC) permit to add a second amine system. The project results in an increase in fugitive emissions.

BACT, offsets, and public notice are required.

Kern Oil facility S-37 operates under a Title V Permit. This project is a Federal Major Modification and therefore it is classified as a Title V Significant Modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Kern must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC(s) issued with this project.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)

Subpart Ja Standards of Performance for Petroleum Refineries – **not applicable** - the new amine system does not include a FCC catalyst regenerator, fuel gas combustion device, or Claus sulfur recovery plant

Subpart GGGa –Standards of Performance for Equipment Leaks of VOC at Petroleum Refineries (and by reference Subpart VVa Standards of

Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry)

Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4455 Components at Petroleum Refineries, Gas Liquid Processing Facilities, and Chemical Plants (4/30/05)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

Kern Oil & Refining Co. is located at 7724 East Panama Lane, Bakersfield. The facility is not located within a 1000 ft of a school.

A project location map is included in **Attachment I**.

IV. Process Description

Kern Oil operates a petroleum refining operation engaged in production of gasoline and various petroleum distillates, including diesel fuel. Kern is proposing to add a second amine system.

The facility currently has one amine system (PTO S-37-120-3). The amine system is a closed loop system that removes H₂S from plant sour fuel gas from various processes and directs the H₂S to the sulfur recovery plant. First, the amine solution absorbs H₂S in an absorption vessel. Then the rich amine (rich in H₂S) is sent to a regeneration vessel where the H₂S is removed and piped to the sulfur recovery plant. Finally, the lean (H₂S -free) amine solution is sent back to the absorption vessel to absorb more H₂S.

Proposed Modification

This project authorizes a second amine system. The new amine system will consist of absorption vessels, a regeneration vessel, and various other components such as heat exchangers, pumps, and knockout vessels.

There will be an increase in fugitive emissions.

A process diagram is included in **Attachment II**.

V. Equipment Listing

S-37-169-0: AMINE SYSTEM NO.2 WITH ABSORBER VESSELS, KNOCKOUTS, HEAT EXCHANGERS, AND ASSOCIATED PIPING AND COMPONENTS WITH TREATED

VAPOR RECOVERY GAS USED AS FUEL GAS FOR PROCESS HEATERS OR
FLARED IN S-37-7

VI. Emission Control Technology Evaluation

Fugitive emissions are controlled with a stringent Rule 4455 I&M Program.

VII. General Calculations

A. Assumptions

Emissions from the new amine system consist of fugitive VOC emissions only. Operation is 24 hr/day, 365 hr/yr.

B. Emission Factors

VOC emissions from fugitive components are calculated according to the Correlation Equation Method described in the CAPCOA publication *California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities* (February 1999). Table IV-3a CAPCOA - Revised 1995 EPA Protocol Refinery Correlation Equations for Refineries and Marketing Terminals.

Values used in the calculations are listed in the Tables below. The fugitive emissions calculations are included in **Attachment III**.

Equipment	#	% Default Zeros	% Pegged	% in Correlation Range	Correlation Screening Value (ppm)	Default Zero Factor (kg/hr)	Pegged Factor (kg/hr)
Valves	305	50	0.15	49.85	100	0.0000078	0.064
Compressor Pump seals	9	50	0.15	49.85	500	0.000019	0.089
Others	128	50	0.15	49.85	200	0.000004	0.082
Connectors	142	50	0.15	49.85	100	0.0000075	0.03
Flanges	276	50	0.15	49.85	400	0.00000031	0.095
Open-ended lines	0	50	0.15	49.85	1,000	0.000002	0.033

Equipment	Correlation Equation
Valves	$2.27E-06(SV)^{0.747}$
Compressor Pump seals	$5.07E-06(SV)^{0.622}$
Others	$8.69E-06(SV)^{0.642}$
Connectors	$1.53E-06(SV)^{0.736}$
Flanges	$4.53E-06(SV)^{0.706}$
Open-ended lines	$1.90E-06(SV)^{0.724}$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The permit unit is new and therefore PE1 = 0.

2. Post Project Potential to Emit (PE2)

VOC: 9.4 lb/day, 3,431 lb/yr

Emissions profiles are included in **Attachment IV**.

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

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

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

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

Since facility emissions are already above the Offset and Major Source Thresholds for VOC emissions, SSPE2 calculations are not necessary.

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

Rule 2201 Major Source Determination (lb/year)*					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	137,851	82,487	38,407	779,518	387,232
SSIPE	0	0	0	0	3,431
SSPE2	137,851	82,487	38,407	779,518	390,663
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	Yes	Yes

*SSPE calculator

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

Rule 2410 Major Source Determination:

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

PSD Major Source Determination (tons/year)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase	69	194	41	390	19	19
PSD Major Source Thresholds	100	100	100	100	100	100
PSD Major Source ? (Y/N)	N	Y	N	Y	N	N

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

6. Baseline Emissions (BE)

The BE calculation (in lb/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.

The amine operation is a new emissions unit and therefore BE = 0.

7. SB 288 Major Modification

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

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	0	50,000	No
SO _x	Na	80,000	No
PM ₁₀	Na	30,000	No
VOC	3,431	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.

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

$$\begin{aligned} \text{Emission Increase} &= \text{PE2} \\ &= 3,431 \text{ lb/yr} \end{aligned}$$

Since there is an increase in VOC emissions, this project constitutes a Federal Major Modification. Federal Offset quantities are calculated below.

Federal Offset Quantities:

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

VOC		Federal Offset Ratio	1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-37-169	0	3,431	3,431
			0
			0
			0
Net Emission Change (lb/year):			3,431
Federal Offset Quantity: (NEC * 1.5)			5,147

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

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

I. Project Location Relative to Class 1 Area

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

II. Project Emission Increase – Significance Determination

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

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO₂	SO₂	CO	PM	PM₁₀
Total PE from New and Modified Units	0	0	0	0	0
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	N	N	N	N	N

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

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. As permit unit S-37-169 is new

$$\text{QNEC} = \text{PE}2/4 = 3,431/4 = 857.75 \text{ lb/qtr.}$$

VIII. Compliance Determination

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 Adjusted Increase in Permitted Emissions (AIPE) exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install a new diesel-fired IC engine with a PE greater than 2 lb/day for VOC. BACT is triggered for VOC.

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

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project constitutes a Federal Major Modification for VOC emissions. Therefore, BACT is triggered for VOC for all emissions units in the project for which there is an emission increase.

2. BACT Guideline

The following BACT Guidelines (see **Attachment V**) are applicable:

7.2.2 Petroleum Refining – Valves and Connectors

7.2.3 Petroleum Refining – Pumps and Compressor Seals

3. Top-Down BACT Analysis

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

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

S-37-169

For new fugitive emissions components (valves, connectors, pump and compressor seals) the following is required:

Leak defined as a reading of methane, in excess of 100 ppmv for valves and connectors and in excess of 500 ppmv for pump and compressor seals above background when measured per EPA Method 21 and an Inspection and Maintenance Program pursuant to District Rule 4455.

B. Offsets

1. Offset Applicability

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

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

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

2. Quantity of Offsets Required

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

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

The facility is proposing to install a new emissions unit; therefore BE = 0. Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

$$\begin{aligned} \text{PE2 (VOC)} &= 3,382 \text{ lb/year} \\ \text{BE (VOC)} &= 0 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year} \end{aligned}$$

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

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

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([3,431 - 0] + 0) \times 1.5 \\ &= 3,431 \times 1.5 \\ &= 5,147 \text{ lb VOC/year} \end{aligned}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (5,147 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 1,286.75 \text{ lb/qtr} \end{aligned}$$

As shown in the calculation above, the quarterly amount of offsets required for this project, when evenly distributed to each quarter, results in fractional pounds of offsets being required each quarter. Since offsets are required to be withdrawn as whole pounds, the quarterly amounts of offsets need to be adjusted to ensure the quarterly values sum to the total annual amount of offsets required.

To adjust the quarterly amount of offsets required, the fractional amount of offsets required in each quarter will be summed and redistributed to each quarter based on the number of days in each quarter. The redistribution is based on the Quarter 1 having the fewest days and the Quarters 3 and 4 having the most days. The redistribution method is summarized in the following table:

Redistribution of Required Quarterly Offsets (where X is the annual amount of offsets, and $X \div 4 = Y.z$)				
Value of z	Quarter 1	Quarter 2	Quarter 3	Quarter 4
.0	Y	Y	Y	Y
.25	Y	Y	Y	Y+1
.5	Y	Y	Y+1	Y+1
.75	Y	Y+1	Y+1	Y+1

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

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
1,286	1,287	1,287	1,287	5,147

The applicant has stated that the facility plans to use ERC certificate S-4966-1 to offset the increases in VOC emissions associated with this project. The above certificate has available quarterly VOC credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #S-4966-1	45,681	47,927	46,196	44,813

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

Proposed Rule 2201 (offset) Conditions:

- *{GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,286 lb, 2nd quarter - 1,287 lb, 3rd quarter - 1,287 lb, and 4th quarter - 1,287 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201]*
- *ERC Certificate Number S-4966-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]*

3. ERC Withdrawal Calculations

The applicant must identify the ERC Certificate(s) to be used to offset the increase of VOC emissions for the project. As indicated in previous section, the applicant is proposing to use ERC certificate #S-4966-1 to mitigate the increases of VOC emissions associated with this project. See **Attachment VII** for detailed ERC Withdrawal Calculations.

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,
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant, and/or
- e. Any project which results in a Title V significant permit modification

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

As demonstrated in Sections VII.C.7 and VII.C.8, this project is an SB 288 or Federal Major Modification. Therefore, public noticing for SB 288 or Federal Major Modification purposes is required.

b. PE > 100 lb/day

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

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	137,851	137,851	20,000 lb/year	No
SO _x	82,487	82,487	54,750 lb/year	No
PM ₁₀	38,407	38,407	29,200 lb/year	No
CO	779,518	779,518	200,000 lb/year	No
VOC	387,232	390,663	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	137,851	137,851	0	20,000 lb/year	No
SO _x	82,487	82,487	0	20,000 lb/year	No
PM ₁₀	38,407	38,407	0	20,000 lb/year	No
CO	779,518	779,518	0	20,000 lb/year	No
VOC	390,663	387,232	3,431	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.

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

2. Public Notice Action

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

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

Total fugitive emissions rate from valves, pumps, flanges, others, and connectors from components in this permit unit shall be periodically calculated as described below using the California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities (February 1999), Table IV-3a:CAPCOA-Revised 1995 EPA Correlation Equations and Factors for Refineries and Marketing Terminals (as described in the following conditions) and shall not exceed 9.3 lb/day. [District Rules 2201 and 4102] Y

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 monitoring is required to demonstrate compliance with Rule 2201.

District Rule 4455 requires monitoring for leaks from fugitive emissions components.

3. Recordkeeping

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

Permit holder shall maintain accurate records of component counts and resultant emissions according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-3a (Feb 1999), CAPCOA-Revised 1995 EPA Correlation Equations and Factors for Refineries and Marketing Terminals. Permit holder shall update such records when new components are installed. Components shall be screened and leak rate shall be measured at least once each quarter. If compliance with the daily emission limit is shown during each of five (5) consecutive quarterly inspections, the inspection frequency may be changed from quarterly to annual. If any annual inspection shows non-compliance with the daily emission limit, then quarterly inspections shall be resumed. [District Rule 2201] Y

All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Y

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. There is no air quality standard for VOCs and therefore an AAQA is not required.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other

Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this facility is a new major source and this project does constitute a Federal Major Modification, therefore this requirement is applicable. Kern Oil's Compliance Certification is included in **Attachment VIII**.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a new amine system.

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

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII.C.9 above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

The project is Federal Major Modification and therefore is also a Title V Significant Modification. As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The Title V Compliance Certification form is included in **Attachment VIII**.

Rule 4001 New Source Performance Standards (NSPS)

The facility is currently in compliance with Subparts GGGa and VVa. The requirements are listed on the facility wide permit. project is not expected to change the compliance status and therefore continued compliance is expected.

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

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to solvent recovery facilities at oil refineries.

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). The new amine system is not expected to have any visible emissions. Continued compliance is expected.

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 one. According to the Technical Services Memo for this project (**Attachment IX**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
S-37-169	1.29E-06	Yes

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

For this project T-BACT is triggered for VOC. T-BACT is satisfied with BACT for VOC which is "leak defined as a reading of methane, in excess of 100 ppmv for valves and connectors and in excess of 500 ppmv for pump and compressor seals above background when measured per EPA Method 21 and an Inspection and Maintenance Program pursuant to District Rule 4455" (see **Attachment IX**).

There are no special requirements.

Rule 4455 Components at Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants

This rule limits VOC emissions from leaking components at petroleum refineries, gas liquid process facilities and chemical plants, and is applicable to components that contain or contact VOC at such facilities. Rule requirements are included on the facility wide PTO S-37-0-3.

Compliance with this rule is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

District is a Lead Agency and Project not Covered Under Cap-and-Trade

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. Therefore, the District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (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)).

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project’s potential for litigation risk, which in turn may be based on a project’s potential to generate public concern, its potential for significant impacts, and the project proponent’s ability to pay for the costs of litigation without a letter of credit, among other factors.

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs S-37-169-0 subject to the permit conditions on the attached draft ATC in **Attachment X**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-37-169	3020-01-D	160 hp	\$362.00

Attachments

- I: Location Map
- II: Process Diagram
- III: Fugitive Emissions
- IV: Emissions Profiles
- V: BACT Guideline
- VI: BACT Analysis
- VII: ERC Withdrawal Calculations
- VIII: Statewide and Title V Compliance Certification
- IX: HRA
- X: Draft ATCs

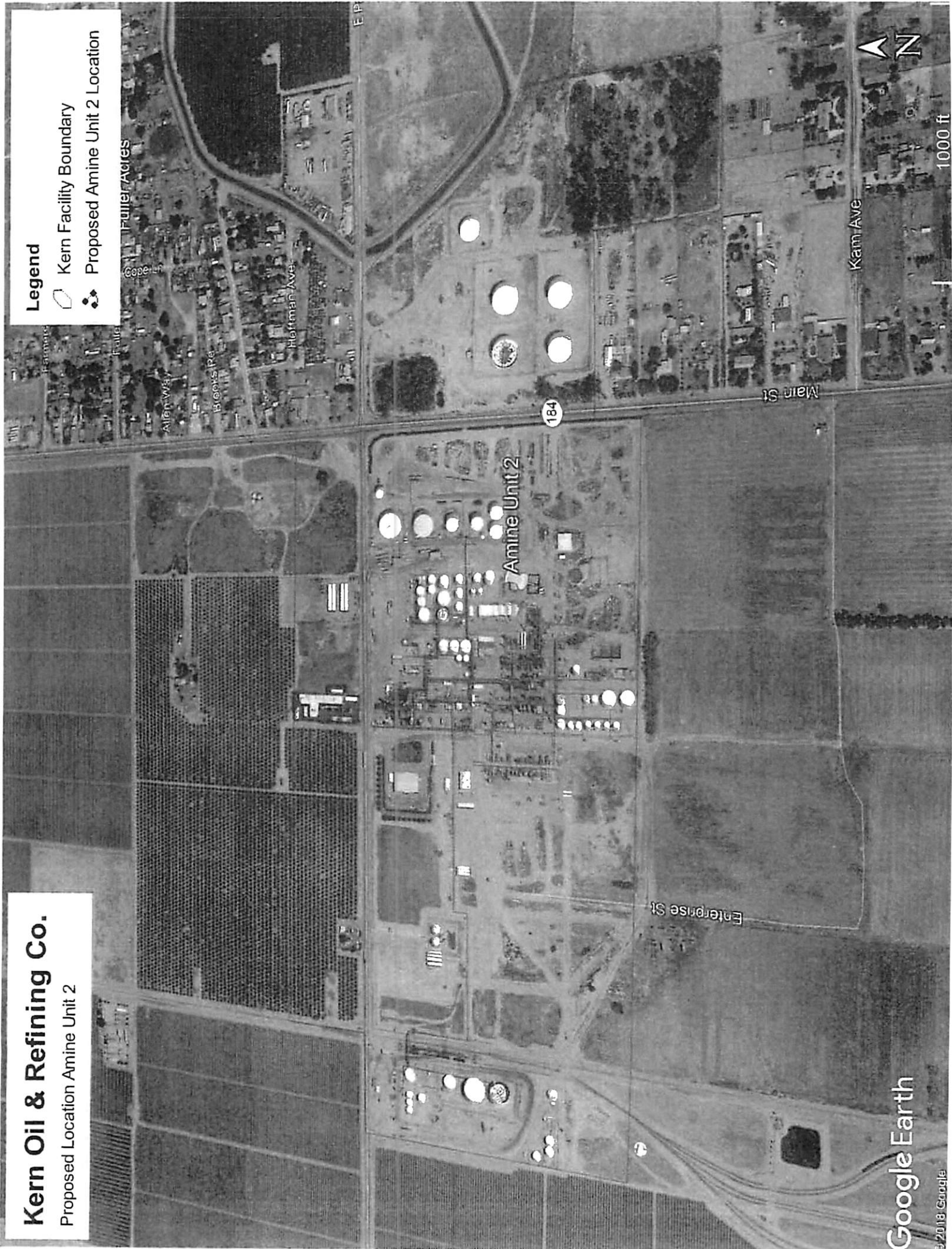
ATTACHMENT I
Location Map

Kern Oil & Refining Co.

Proposed Location Amine Unit 2

Legend

-  Kern Facility Boundary
-  Proposed Amine Unit 2 Location



ATTACHMENT II
Process Diagram

ATTACHMENT III
Fugitive Emissions Calculations

**Kern Oil Refining Company
Secondary Amine System
Component Inventory and Emissions**

Emission Calculations

Amine System	Service	Component Count	% Default Zero	% Pegged	% in Correlation Range	Default Zero	Pegged 10,000 ppmv	Correlation	VOC Emissions
			%	%	%	(lb/day)	(lb/day)	(lb/day)	(lb/day)
Valves	All	305	50%	0.15%	49.85%	0.063	1.549	0.570	2.18
Compressor Seals/Pump Seals	All	9	50%	0.15%	49.85%	0.005	0.064	0.574	0.64
Others	All	128	50%	0.15%	49.85%	0.014	0.833	0.880	1.73
Connectors	All	142	50%	0.15%	49.85%	0.028	0.338	0.170	0.54
Flanges	All	276	50%	0.15%	49.85%	0.002	2.081	2.266	4.35
Open-Ended Lines	All	0	50%	0.15%	49.85%	0.000	0.000	0.000	0.00
Amine System Total									9.4

Fugitive Component Inventory:

Unit	Amine System
Valves	305
Compressor Seals/Pump Seals	9
Open-Ended Lines	0
Flanges	276
Connectors	142
Others	128

$$(305)(0.0015)(0.064 \frac{lb}{hr})$$

conv *conv hr*

$$\left(\frac{15}{4536 kg}\right) \left(\frac{24 hr}{day}\right) = 1.549$$

pegged

Emission Factors

Equipment Type	Service	Default Zero	Correlation Screening Value	Correlation	Pegged 10,000 ppmv
		(lb/hr)	(ppm)	(lb/hr)	(lb/hr)
Valves	All	1.72E-05	100	1.56E-04	1.41E-01
Compressor Seals/Pump Seals	All	4.19E-05	500	5.33E-03	1.96E-01
Others	All	8.82E-06	200	5.75E-04	1.81E-01
Connectors	All	1.65E-05	100	1.00E-04	6.61E-01
Flanges	All	6.83E-07	400	6.86E-04	2.09E-01
Open-Ended Lines	All	4.41E-06	1000	6.22E-04	7.28E-01

$$0.5(305)(.0000078)$$

$$\left(\frac{15}{4536}\right) \left(\frac{24 hr}{day}\right) = 0.063$$

zero

Notes:

- The "Pegged" emissions from the amine unit are based on the standard 10,000 ppmv pegged factor defined by EPA.
- Correlation Screening Values for Valves, Compressor Seals/Pump Seals, and Connectors have been defined as BACT.

$$0.4985(305)$$

$$0.00000227(100) = 0.227$$

$$\frac{15}{0.4536 kg} \cdot 24 \frac{hr}{day}$$

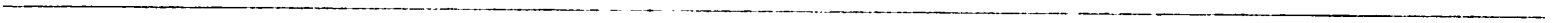
ATTACHMENT IV
Emissions Profiles

Permit #: S-37-169-0	Last Updated
Facility: KERN OIL & REFINING CO.	10/19/2018 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	3431.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	9.4
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	857.0
Q2:	0.0	0.0	0.0	0.0	858.0
Q3:	0.0	0.0	0.0	0.0	858.0
Q4:	0.0	0.0	0.0	0.0	858.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					1286.0
Q2:					1287.0
Q3:					1287.0
Q4:					1287.0

ATTACHMENT V
BACT Guidelines



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

Best Available Control Technology (BACT) Guideline 7.2.2*

Last Update: 11/27/2006

Petroleum Refining - Valves & Connectors

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Leak defined as a reading of methane in excess of 100 ppmv above background when measure per EPA Method 21 and an Inspection and Maintenance Program pursuant to District Rule 4455		

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 7.2.3*

Last Update: 11/27/2006

Petroleum Refining - Pump and Compressor Seals

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Leak defined as a reading of methane in excess of 500 ppmv above background when measure per EPA Method 21 and an Inspection and Maintenance Program pursuant to District Rule 4455		

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**

ATTACHMENT VI BACT Analysis

Top-Down Analysis for VOC Emissions

BACT Guideline 7.2.2 Petroleum Refining – Valves and Connectors
BACT Guideline 7.2.3 Petroleum Refining – Pumps and Compressor Seals

Step 1 - Identify All Possible Control Technologies

Leak defined as a reading of methane, in excess of 100 ppmv for valves and connectors (500 ppmv for pumps and compressor seals) above background when measured per EPA Method 21 and an Inspection and Maintenance Program pursuant to District Rule 4455.

Step 2 - Eliminate Technologically Infeasible Options

There is no technologically infeasible option.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Leak defined as a reading of methane, in excess of 100 ppmv for valves and connectors (500 ppmv for pumps and compressor seals) above background when measured per EPA Method 21 and an Inspection and Maintenance Program pursuant to District Rule 4455.

Step 4 - Cost Effectiveness Analysis

Since the applicant has chosen the most effective control technology listed in step 3 as a technologically feasible option; a cost effectiveness analysis is not required.

Step 5 - Select BACT

For the new fugitive emissions components - Leak defined as a reading of methane, in excess of 100 ppmv for valves and connectors (500 ppmv for pumps and compressor seals) above background when measured per EPA Method 21 and an Inspection and Maintenance Program pursuant to District Rule 4455.

ATTACHMENT VII
ERC Withdrawal Calculations

VOC	1 st Quarter (lb)	2 nd Quarter (lb)	3 rd Quarter (lb)	4 th Quarter (lb)
ERC S-4966-1	45,681	47,927	46,196	44,813
Offsets Required (Includes distance offset ratio)	1,286	1,287	1,287	1,287
Amount Remaining	44,395	46,640	44,909	43,526
Credits reissued under ERC C-YYYY-1	44,395	46,640	44,909	43,526

ATTACHMENT VIII
Statewide and Title V Compliance Certification


Project S-1182997 Addendum

Statement of Statewide Compliance

Kern Oil & Refining Co. (Kern) is the sole owner and operator of a petroleum refining facility, ID S-37, located at 7724 E. Panama Lane in Bakersfield, CA. Kern has Notices of Violation outstanding; however all issues associated with these are currently being addressed.

Kern certifies that all major stationary sources in the state and all stationary sources in the air basin which are owned or operated by Kern Oil & Refining Co., or by an entity controlling, controlled by, or under common control with Kern Oil & Refining Co., are in compliance, or are on approved schedule for compliance with all applicable emission limitations and standards under the Clean Air Act (42 USC 7401 et seq.) and all applicable emission limitations and standards which are part of the State Implementation Plan approved by the Environmental Protection Agency.

This certification is made on information and belief and is based upon a review of Kern's major source facility by employees who have responsibility for compliance and environmental requirements. This certification is as of the date of its execution.



David A. McCoy
VP Refining

9/10/2018

Date



San Joaquin Valley Air Pollution Control District



TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

ADMINISTRATIVE AMENDMENT MINOR MODIFICATION SIGNIFICANT MODIFICATION

COMPANY NAME: Kern Oil & Refining Co.		FACILITY ID: S-37
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: David A. McCoy		

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial applicable 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.
- For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

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

Signature of Responsible Official

7/12/2018
Date

David A. McCoy
Name of Responsible Official (please print)

Vice President Refining
Title of Responsible Official (please print)

ATTACHMENT IX
HRA

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Richard Edgehill – Permit Services
 From: Ye Vang – Technical Services
 Date: September 20, 2018
 Facility Name: KERN OIL & REFINING CO.
 Location: PANAMA LN & WEEDPATCH HWY, BAKERSFIELD
 Application #(s): S-37-169-0
 Project #: S-1182997

1. Summary

1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
169	0.65	0.03	0.00	1.29E-06	Yes	No
Project Totals	0.65	0.03	0.00	1.29E-06		
Facility Totals	267.15	0.99	0.09	1.80E-05		

1.2 Proposed Permit Requirements

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

Unit # 169 - 0

- No special requirements.

T-BACT is required for this unit because of emissions of Benzene, which is a VOC.

2. Project Description

Technical Services received a request on September 20, 2018 to perform a Risk Management Review (RMR) for the following:

- Unit -169-0: Amine system no.2 with absorber vessels, knockouts, heat exchangers, and associated piping and components with treated vapor recovery gas.

3. RMR Report

3.1 Analysis

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that

an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than 1.0. If a preliminary analysis demonstrates that either the unit(s) or the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required

If a refined assessment is greater than one in a million but less than 20 in one million for carcinogenic impacts (Cancer Risk) and less than 1.0 for the Acute and Chronic hazard indices (Non-Carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For unit's that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented.

Toxic emissions for this project were calculated using the following methods:

- Toxic emissions for this proposed unit were calculated using emission factors derived from a 2015 SDS for Natural Gas Condensate provided by EP Energy.

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 07-11 from Arvin (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Source Process Rates					
Unit ID	Process ID	Process Material	Process Units	Hourly Process Rate	Annual Process Rate
169	1	Amine	VOC	0.39	3,382

Area Source Parameters					
Unit ID	Unit Description	Release Height (m)	X-Length (m)	Y -Length (m)	Area (m ²)
169	Amine System	7.01	15.24	4.27	65.03

4. Conclusion

4.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. However, the cancer risk for one or more units in this project is greater than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT).**

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

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

5. Attachments

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

ATTACHMENT X
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-37-169-0

LEGAL OWNER OR OPERATOR: KERN OIL & REFINING CO.
MAILING ADDRESS: 7724 E PANAMA LN
BAKERSFIELD, CA 93307-9210

LOCATION: PANAMA LN & WEEDPATCH HWY
BAKERSFIELD, CA 93307-9210

EQUIPMENT DESCRIPTION:

AMINE SYSTEM NO.2 WITH ABSORBER VESSELS, KNOCKOUTS, HEAT EXCHANGERS, AND ASSOCIATED PIPING AND COMPONENTS WITH TREATED VAPOR RECOVERY GAS USED AS FUEL GAS FOR PROCESS HEATERS OR FLARED IN S-37-7

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,286 lb, 2nd quarter - 1,287 lb, 3rd quarter - 1,287 lb, and fourth quarter - 1,287 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-4966-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

DRAFT

Arnaud Marjolle, Director of Permit Services
S-37-169-0: Oct 19 2010 3:12PM - EDGEHILL - Joint Inspection NOT Required

5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
6. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
7. Total fugitive emissions rate from valves, pumps, flanges, others, and connectors from components in this permit unit shall be periodically calculated as described below using the California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities (February 1999), Table IV-3a: CAPCOA-Revised 1995 EPA Correlation Equations and Factors for Refineries and Marketing Terminals (as described in the following conditions) and shall not exceed 9.4 lb/day. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
8. A leak shall be defined as a reading of methane, in excess of 100 ppmv for valves and connectors and in excess of 500 ppmv for pump and compressor seals above background when measured per EPA Method 21 and an Inspection and Maintenance Program pursuant to District Rule 4455. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Permit holder shall maintain accurate records of component counts and resultant emissions according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-3a (Feb 1999), CAPCOA-Revised 1995 EPA Correlation Equations and Factors for Refineries and Marketing Terminals. Permit holder shall update such records when new components are installed. Components shall be screened and leak rate shall be measured at least once each quarter. If compliance with the daily emission limit is shown during each of five (5) consecutive quarterly inspections, the inspection frequency may be changed from quarterly to annual. If any annual inspection shows non-compliance with the daily emission limit, then quarterly inspections shall be resumed. [District Rule 2201] Federally Enforceable Through Title V Permit
10. This permit unit shall comply with applicable District Rule 4001 (NSPS, Subpart GGGa) requirements on facility wide permit S-37-0. [District Rule 4001] Federally Enforceable Through Title V Permit
11. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

DRAFT