



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



JUN 12 2018

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

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
Facility Number: S-37
Project Number: S-1181577

Dear Ms. Hicks:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project authorizes installation of IC engine and electrical motor driven compressors.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates 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 Authorities 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 (559) 230-5900.

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

Seyed Sadredin
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San Joaquin Valley Air Pollution Control District Authority to Construct Application Review

Facility Name:	Kern Oil & Refining Co.	Date:	May 29, 2018
Mailing Address:	7724 E Panama Lane Bakersfield, CA 93307	Engineer:	Richard Edgehill
Contact Person:	Melinda Hicks	Lead Engineer:	Richard Karrs
Telephone:	661-845-0761		
Fax:	661-845-0330		
E-Mail:	mhicks@kernoil.com		
Application #(s):	S-37-3-10, '-118-5, '-119-6, '-163-0, '-164-0, ' and '-165-0		
Project #:	1181577		
Deemed Complete:	April 6, 2018		

I. Proposal

Kern Oil & Refining Co (Kern) has requested an Authority to Construct (ATC) permit for the replacement of steam-driven and electric compressors serving the Kerosene Hydrotreater Unit (KHT) S-37-3, Naphtha Hydrotreater (NHT) Unit S-37-118, and Naphtha Reformer Unit (NRU) S-37-119 with new compressors powered by new 310 hp natural gas-fired IC engines that will have separate ATCs (ATC S-37-163-0 through '-165-0). Kern has also requested that the steam-driven compressor listed on S-37-119 be replaced with an electric compressor.

PTO S-37-87-6, authorizing an IC engine serving the compressor listed in S-37-3, will be cancelled by the project.

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

Disposition of Outstanding ATCs

ATC S-37-119-5, authorizing retrofit of a heater with a clear sign burner, has been implemented and will serve as the base document. The ATC and current PTOs are included in **Attachment I**.

Kern S-37 operates under a Title V PTO. 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. Kern must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (02/18/16)
Rule 2410	Prevention of Significant Deterioration (06/16/11)
Rule 2520	Federally Mandated Operating Permits (06/21/01)
Rule 4001	New Source Performance Standards (04/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (02/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4455	Components at Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants (4/20/05)
Rule 4701	Stationary Internal Combustion Engines — Phase 1 (8/21/03)
Rule 4702	Stationary Internal Combustion Engines — Phase 2 (8/18/11)
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 facility is located at 7724 E. Panama Lane, in Bakersfield. The equipment is not located within 1,000 feet of the outer boundary of any K-12 school. Therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification is not required. Location photos showing the equipment being replaced are included in **Attachment II**.

IV. Process Description

Kern Oil & Refining Company's primary business is the refining of crude oil. The existing compressors being replaced serve the KHT unit S-37-3 as a hydrogen compressor, the NHT as a hydrogen compressor (S-37-118), and the NRU as a reformer recycle compressor (S-37-119).

Proposed Modification

The steam driven ('-118) and electric compressors ('-3 and '-119) serving permit units S-37-3, '-118, and '-119 will be replaced by IC engine-driven compressors. A steam-driven compressor serving S-37-119 will be replaced by an electric compressor.

V. Equipment Listing

Pre-Project Equipment Description

S-37-3-9: KEROSENE HYDROTREATER UNIT (KHT) INCLUDING A SPLITTER, A REACTOR, A SEPARATOR, 3 ACCUMULATORS, 11.4 MMBTU/HR CHARGE HEATER WITH ZEECO GLSF-10 LOW NOX BURNERS AND 12.5 MMBTU/HR SPLITTER REBOILER HEATER WITH ZEECO GLSF-10 LOW NOX BURNERS

- S-37-87-6: ~~120 BHP INGERSOLL RAND MODEL 4JVG NATURAL GAS FIRED IC ENGINE EQUIPPED WITH 3 WAY CATALYST SERVING THE EAST HYDROGEN COMPRESSOR AT THE UNIFIER UNIT (#S-37-3) - TO BE CANCELLED~~
- S-37-118-4: NAPHTHA FEED PRETREATMENT UNIT (NAPHTHA HYDROTREATER) WITH 12.6 MMBTU/HR CHARGE HEATER WITH JOHN ZINK COOLSTAR LOW NOX BURNER, 11.1 MMBTU/HR STRIPPER REBOILER HEATER WITH JOHN ZINK COOLSTAR LOW NOX BURNER, REACTOR VESSEL, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS
- S-37-119-4: NAPHTHA REFORMER UNIT WITH 25.7 MMBTU/HR CHARGE HEATER #1 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 13.4 MMBTU/HR CHARGE HEATER #2 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.9 MMBTU/HR CHARGE HEATER #3 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.3 MMBTU/HR SPLITTER/STABILIZER HEATER WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, REACTOR VESSELS, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS

Proposed Modification

- S-37-3-10: MODIFICATION OF KEROSENE HYDROTREATER UNIT (KHT) INCLUDING A SPLITTER, A REACTOR, A SEPARATOR, 3 ACCUMULATORS, 11.4 MMBTU/HR CHARGE HEATER WITH ZEECO GLSF-10 LOW NOX BURNERS AND 12.5 MMBTU/HR SPLITTER REBOILER HEATER WITH ZEECO GLSF-10 LOW NOX BURNERS: REPLACE ELECTRIC COMPRESSOR WITH IC ENGINE-DRIVEN COMPRESSOR S-37-163
- S-37-118-5: MODIFICATION OF NAPHTHA FEED PRETREATMENT UNIT (NAPHTHA HYDROTREATER) WITH 12.6 MMBTU/HR CHARGE HEATER WITH JOHN ZINK COOLSTAR LOW NOX BURNER, 11.1 MMBTU/HR STRIPPER REBOILER HEATER WITH JOHN ZINK COOLSTAR LOW NOX BURNER, REACTOR VESSEL, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS: REPLACE STEAM-DRIVEN COMPRESSOR WITH IC ENGINE-DRIVEN COMPRESSOR S-37-164
- S-37-119-6: MODIFICATION OF NAPHTHA REFORMER UNIT WITH 25.7 MMBTU/HR CHARGE HEATER #1 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 13.4 MMBTU/HR CHARGE HEATER #2 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.9 MMBTU/HR CHARGE HEATER #3 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.3 MMBTU/HR SPLITTER/STABILIZER HEATER WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, REACTOR VESSELS, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS: REPLACE ONE STEAM DRIVEN COMPRESSOR

AND ONE ELECTRIC COMPRESSOR WITH ONE ELECTRIC COMPRESSOR
AND ONE IC ENGINE DRIVEN COMPRESSOR S-37-165

Post-Project Equipment Description

S-37-3-9: KEROSENE HYDROTREATER UNIT (KHT) INCLUDING A SPLITTER, A REACTOR, A SEPARATOR, 3 ACCUMULATORS, 11.4 MMBTU/HR CHARGE HEATER WITH ZEECO GLSF-10 LOW NOX BURNERS AND 12.5 MMBTU/HR SPLITTER REBOILER HEATER WITH ZEECO GLSF-10 LOW NOX BURNERS AND COMPRESSOR POWERED BY IC ENGINE S-37-163

S-37-118-4: NAPHTHA FEED PRETREATMENT UNIT (NAPHTHA HYDROTREATER) WITH 12.6 MMBTU/HR CHARGE HEATER WITH JOHN ZINK COOLSTAR LOW NOX BURNER, 11.1 MMBTU/HR STRIPPER REBOILER HEATER WITH JOHN ZINK COOLSTAR LOW NOX BURNER, REACTOR VESSEL, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS AND COMPRESSOR POWERED BY IC ENGINE S-37-164

S-37-119-4: NAPHTHA REFORMER UNIT WITH 25.7 MMBTU/HR CHARGE HEATER #1 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 13.4 MMBTU/HR CHARGE HEATER #2 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.9 MMBTU/HR CHARGE HEATER #3 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.3 MMBTU/HR SPLITTER/STABILIZER HEATER WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, REACTOR VESSELS, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS AND COMPRESSOR POWERED BY IC ENGINE S-37-165

S-37-163-0: 310 HP WAUKESHA MODEL F18SE, NATURAL GAS-FIRED IC ENGINE EQUIPPED WITH NONSELECTIVE CATALYTIC REDUCTION (NSCR) POWERING THE EAST HYDROGEN COMPRESSOR AT THE KHT (#S-37-3)

S-37-164-0: 310 HP WAUKESHA MODEL F18SE, NATURAL GAS-FIRED IC ENGINE EQUIPPED WITH NONSELECTIVE CATALYTIC REDUCTION (NSCR) POWERING NAPHTHA HYDROTREATER RECYCLE COMPRESSOR (#S-37-118)

S-37-165-0: 310 HP WAUKESHA MODEL F18SE, NATURAL GAS-FIRED IC ENGINE EQUIPPED WITH NONSELECTIVE CATALYTIC REDUCTION (NSCR) POWERING NAPHTHA REFORMER RECYCLE COMPRESSOR (#S-37-119)

Permits to be Cancelled:

~~S-37-87-6: 120 BHP INGERSOLL RAND MODEL 4JVG NATURAL GAS FIRED IC ENGINE EQUIPPED WITH 3-WAY CATALYST SERVING THE EAST HYDROGEN COMPRESSOR AT THE UNIFIER UNIT (#S-37-3)~~

VI. Emission Control Technology Evaluation

The new IC engines are equipped with NSCR capable of achieving exhaust concentrations of 5 ppmv NO_x @ 15% O₂, 56 ppmv CO @ 15% O₂, and 12 ppmv VOC @15% O₂.

Leaks from new fugitive emissions components will be subject to the I&M program requirements of Rule 4455 with BACT leak threshold of 100 ppmv for valves and flanges and 500 ppmv for pumps and compressors.

VII. General Calculations

A. Assumptions

- Operation: 24 hr/day, 365 day/year
- EPA F-factor (adjusted to 60° F): 8,578 dscf/MMBtu (40 CFR Appendix B)
- Fuel Heating Value: 1,000 Btu/scf (District Policy APR 1720)
- Conversion Btu to bhp-hr: 2,542.5 Btu/bhp-hr (AP-42 Appendix A-14)
- Thermal Efficiency of Engine: Commonly 35%
- Molar Volume: 379.5 dscf/lb-mol
- The S-37-3, '-118 and '-119 heaters are not being modified by the project. Therefore, formal calculations are not required. Emissions from the heater are restated (as PE2) for completion of the PAS emissions profiles.

B. Emission Factors

Pre-Project

The compressors listed in S-37-3, S-37-118 and -119 are steam driven or electric. Only fugitive emissions are associated with these units. The fugitive emissions from the compressors are calculated using California Implementation Guidelines for Estimating Mass Emissions of fugitive Hydrocarbon Leaks at Petroleum Facilities, CAPCOA/CARB Table IV-3a: CAPCOA -Revised 1995 EPA Protocol Refinery Correlation Equations. (**Attachment III**)

The heater emissions factors for units '-3 and '-118 are listed in the PE2 calculations section.

S-37-87		
	EF	Source
NO _x	25 ppm @ 15% O ₂	Current PTO
SO _x	0.00002 lbs/hp-hr	Current PTO
PM ₁₀	0.00014 lbs/hp-hr	Current PTO
CO	2000 ppm @ 15% O ₂	Current PTO
VOC	250 ppm @ 15% O ₂	Current PTO

Post-Project

IC Engines S-37-163-0, '164-0 and '165-0			
Pollutant	Emission Factor		Source
	ppm @ 15% O2	g/hp-hr	
NO _x	5	0.061	Applicant and BACT
SO _x		*0.0093	
PM ₁₀		0.06	Applicant and AP-42 (7/00) Table 3.2-3
CO	56	0.414	Applicant and BACT
VOC	12	0.051	Applicant and BACT

$$0.00285 \quad \frac{lb-SO_x}{MMBtu} \times \frac{1MMBtu}{1,000,000Btu} \times \frac{2,5425Btu}{bhp-hr} \times \frac{1bhpinput}{0.35bhpout} \times \frac{4536g}{lb} = 0.0093 \quad \frac{g-SO_x}{bhp-hr}$$

C. Calculations

1. Pre Project Potential to Emit (PE1)

Pre-Project S-37-3 (Fugitive Emissions)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
VOC	90.3	32,946

Pre-Project S-37-118 (Fugitive Emissions)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
VOC	30.6	11,181

Pre-Project S-37-119 (Fugitive Emissions)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
VOC	77.5	28,288

Pre-Project S-37-87 from PAS emission profile		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	1.9	694
SO _x	0.1	37
PM ₁₀	0.4	146
CO	92.4	33,726
VOC	6.6	2,409

2. Post Project Potential to Emit (PE2)

S-37-3 KHT Unit

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.030	26.6	24	19.2
SO _x	0.01800	26.6	24	11.5
PM ₁₀	0.0076	26.6	24	4.9
CO	0.037	26.6	24	23.6
VOC	0.0055	26.6	24	3.5

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.030	26.6	8,760	6,990
SO _x	0.01800	26.6	8,760	4,194
PM ₁₀	0.0076	26.6	8,760	1,771
CO	0.037	26.6	8,760	8,622
VOC	0.0055	26.6	8,760	1,282

Fugitive emissions

	Daily Emissions (lb/day)	Annual Emissions (lb/yr)
KHT Unit (project 1164331)	PE1 = 90.3	PE 1 = 32,946
Electric compressor (removed)	-2.8	-1,021
IC engine compressor (installed)	+2.4	+ 860
	PE2 = 89.9	PE2 = 32,785

PE2		
Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	19.2	6,990
SO _x	11.5	4,194
PM ₁₀	4.9	1,771
CO	23.6	8,622
VOC	89.9 + 3.5 = 93.4	32,785 + 1282 = 34,067

S-37-118 NHT Unit

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.031	23.7	24	17.3
SO _x	0.01690	23.7	24	9.6
PM ₁₀	0.0076	23.7	24	4.3
CO	0.111	23.7	24	63.1
VOC	0.0055	23.7	24	3.1

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.031	23.7	8,760	6,332
SO _x	0.01690	23.7	8,760	3,509
PM ₁₀	0.0076	23.7	8,760	1,578
CO	0.111	23.7	8,760	23,045
VOC	0.0055	23.7	8,760	1,142

Fugitive Emissions

	Daily Emissions (lb/day)	Annual Emissions (lb/yr)
NHT project 1040995	PE1 = 30.6	PE 1 = 11,181
Electric compressor (removed)	-2.8	-1,006
IC engine compressor (installed)	+2.3	+ 843
	PE2 = 30.1	PE2 = 11,018

PE2		
Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	17.3	6332
SO _x	9.6	3509
PM ₁₀	4.3	1578
CO	63.1	23,045
VOC	30.1 + 3.1 = 33.2	11,018 + 1,142 = 12,160

S-37-119 Naphtha Reformer Unit (NRU)

Heater Emissions (project 1163610, clear sign burner)

PE2		
Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	37.3	13,575
SO _x	18.9	6,994
PM ₁₀	10.2	3,749
CO	22.1	54,694
VOC	7.5	2,723

	Daily Emissions (lb/day)	Annual Emissions (lb/yr)
NRU (project 1163610)	PE1 = 77.5	PE 1 = 28,288
Electric compressor (removed)	- 4.6	- 1,668
Steam driven Compressor (removed)	- 3.0	- 1090
Electric Compressor installed)	+2.5	+ 920
IC engine compressor (installed)	+3.8	+ 1,401
	PE2 = 76.2	PE2 = 27,851

PE2		
Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	37.3	13,575
SO _x	18.9	6,994
PM ₁₀	10.2	3,749
CO	22.1	54,694
VOC	7.5 + 76.2 = 83.7	2,723 + 27,851 = 30,574

Proposed IC Engines S-37-163-0 through '-165 PE2					
Pollutant	Emissions Factor	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	Daily Emissions (lb/day)
NO _x	0.061 g/hp-hr	310	24	453.6	1.0
SO _x	0.0093 g/hp-hr	310	24	453.6	0.2
PM ₁₀	0.06 g/hp-hr	310	24	453.6	1.0
CO	0.414 g/hp-hr	310	24	453.6	6.8
VOC	0.051 g/hp-hr	310	24	453.6	0.8

Proposed IC Engines S-37-163 through '-165					
Pollutant	Emissions Factor	Rating (bhp)	Annual Hours of Operation (hrs/year)	Conversion (g/lb)	Annual Emissions (lb/year)
NO _x	0.061 g/hp-hr	310	8760	453.6	365
SO _x	0.0093 g/hp-hr	310	8760	453.6	56
PM ₁₀	0.06 g/hp-hr	310	8760	453.6	359
CO	0.414 g/hp-hr	310	8760	453.6	2,478
VOC	0.051 g/hp-hr	310	8760	453.6	305

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. The following SSPE1 totals were obtained from SJVUAPCD (SSPE2 for project S1170679):

SSPE1 (lb/year)					
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC
SSPE1	148,399	93,495	39,252	740,670	382,965

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

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

SSPE2 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	148,399	93,495	39,252	740,670	382,965
S-37-87	-694	-37	-146	-33,726	-2,409
S-37-3	0	0	0	0	32,785 – 32,946 = -161
S-37-118	0	0	0	0	11,018 – 11,181 = -163
S-37-119	0	0	0	0	27,851 – 28,288 = -437
S-37-163	365	56	359	2,478	305
S-37-164	365	56	359	2,478	305
S-37-165	365	56	359	2,478	305
SSPE2	148,800	93,626	40,183	714,378	380,710

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	PM _{2.5}	CO	VOC
SSPE1	148,399	93,495	39,252	39,252	740,670	382,965
SSPE2	148,800	93,626	40,183	40,183	714,378	380,710
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	Yes	No	No	No	Yes	Yes

Note: PM2.5 assumed to be equal to PM10

This source is an existing Major Source for NO_x, CO, and VOC and will remain a Major Source for these pollutants. The source is not becoming a new major source for any pollutants.

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)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase				>100		
PSD Major Source Thresholds	100	100	100	100	100	100
PSD Major Source ? (Y/N)				Y		

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

6. Baseline Emissions (BE)

The annual BE is performed pollutant by pollutant for each unit within the project to determine the amount of offsets required, when the SSPE1 is greater than the offset threshold.

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.8 of District Rule 2201.

Fugitive Emissions

The applicant has demonstrated that the Rule 4455 leak thresholds, when used in the EPA Correlation Equations for refineries, represent 95% control over the Refinery Average Emissions Factors for valves (please refer to project S-1170673). Therefore,

valves are clean emissions units and BE = PE1 for valves. BE = HAE = 0 is assumed for the other components.

BE S-37-3 Existing Compressor		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
(VOC Valves)	0.73	266

BE S-37-118 Existing Compressor		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
VOC (Valves)	0.67	244

BE S-37-119 Existing Electric Compressors		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
VOC Electric (Valves)	1.02	372
VOC Steam Driven (Valves)	0.7	255
Total	1.7	627

S-37-87 NO_x, CO, and VOC (Baseline Emissions)

S-37-87 is not Highly Utilized, Fully-Offset, or a Clean Emissions Unit; therefore BE is HAE. HAE is calculated as follows:

HAE = Average 2015 and 2016 emissions based on source test results (**Attachment V**) and fuel usage as calculated below:

2015 Fuel use = 7,110,000 scf

2016 Fuel use = 6,800,000 scf

NO_x EF (source test) = 0.0352 lb/MMBtu (9.58 ppmv @15% O₂)*

CO EF (source test) = 1.3289 lb/MMBtu (593.89 ppmv @ 15% O₂)*

VOC EF (source test) = 0.0012 lb/MMBtu (1.93 ppmv @15% O₂)*

**lower than Rule 4702 limits of 25 ppmv NO_x@ 15% O₂, 2000 ppmv CO@ 15% O₂, 250 ppmv VOC@ 15% O₂, no need for adjustment of HAE*

2015 Emissions:

NO_x: (0.0352 lb/MMBtu)(0.001 MMBtu/scf)(7,110,000 scf/yr) = 250 lb/yr

CO: (1.3289 lb/MMBtu)(0.001 MMBtu/scf) (7,110,000 scf/yr) = 9,448 lb/yr

VOC: (0.0012 lb/MMBtu)(0.001 MMBtu/scf)(7,110,000 scf/yr) = 9 lb/yr

2016 Emissions:

NO_x: (0.0352 lb/MMBtu)(0.001 MMBtu/scf)(6,800,000 scf/yr) = 239 lb/yr

CO: (1.3289 lb/MMBtu)(0.001 MMBtu/scf) (6,800,000 scf/yr) = 9,037 lb/yr

VOC: (0.0012 lb/MMBtu)(0.001 MMBtu/scf)(6,800,000 scf/yr) = 10 lb/yr

Average Annual Emissions (lbs)			
Permit Unit	NO _x	CO	VOC
S-37-87	245	9,242	9

PM₁₀, SO_x

S-37-87 is authorized to combust only PUC-quality natural gas and therefore is a Clean Emissions unit. Therefore, BE = PE1.

BE (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
S-37-87	245	37	146	9,242	9

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 and PM₁₀, this project does not constitute an SB 288 major modification for these air contaminants.

Since this facility is a major source for NO_x and VOC pollutants, 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	365 x 3 = 1,095	50,000	No
VOC	915 (IC engine) + 32,785 ('-3) + 11,018 ('-118) + 27,851 ('-119) = 72,569	50,000	Yes

Applicant has not provided data for the SB 288 Major Modification calculation and stipulates that the project is a SB 288 Major Modification.

8. Federal Major Modification

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

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

Step 1

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

The project's combined total emission increases are calculated and compared to the Federal Major Modification (FMM) 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 *	1,095 (365 x 3)	0	Yes
VOC*	4,329	0	Yes
PM ₁₀	1,077 (359 x 3)	30,000	No
PM _{2.5}	1,077	20,000	No
SO _x	168 ~ 0**	80,000	No

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

** emissions from each IC engine < 0.5 lb/day which rounds to zero

Since there is an increase in NO_x and 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 times the applicable federal offset ratio. There are no special calculations performed for units covered by an SLC. The Federal Offset Quantity includes emissions increases for the 3 new IC engine/compressors minus the emissions decrease due to removal of one IC engine/compressor.

NOx		Federal Offset Ratio	1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-37-163	0	365	365
S-37-164	0	365	365
S-37-165	0	365	365
Total			1,095
S-37-87			-694
Net Emission Change (lb/year):			401
Federal Offset Quantity: (NEC * 1.5)			602

VOC		Federal Offset Ratio	1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-37-3	0	860 PE2 compressor	860
S-37-118	0	843 PE2 compressor	843
S-37-119	0	1,401 + 920 PE2 compressor	2,321
S-37-163	0	305	305
S-37-164	0	305	305
S-37-165	0	305	305
Total			4,329
S-37-87			-2,409
Net Emission Change (lb/year):			1,920
Federal Offset Quantity: (NEC * 1.5)			2,880

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)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀

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 units new to the stationary source and modified units is compared to the PSD significant emission increase thresholds, and if the total potentials to emit from all units new to the stationary source and modified units are below the applicable thresholds, no further PSD analysis is needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO2	SO2	CO	PM	PM10
Total PE from Modified Units	0.5	0.0	3.7	0.5	0.5
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 units new to the stationary source and modified emission units are below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The permit unit is new and therefore the QNEC = PE2/4.

There is no change to combustion emissions from S-37-3, '-118, and '-119.

QNEC (lb/qtr)*					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
S-37-3					
PE2					32,785
PE1					32,946
QNEC	0	0	0	0	-40.25
S-37-118					
PE2					11,018
PE1					11,181
QNEC	0	0	0	0	-40.75
S-37-119					
PE2					27,851
PE1					28,288
QNEC	0	0	0	0	-109.25
S-37-163, '-174, and '-165 (each)					
PE2	365	56	359	2,478	305
PE1	0	0	0	0	0
QNEC	91.25	14	89.75	619.5	76.25

*for '-3, '-118, and '-118 combustion VOC emissions not included in Pes

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:

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install new IC engines each with a PE less than 2 lb/day for NO_x, SO_x, PM₁₀, and VOC. Therefore, BACT is not triggered for NO_x, SO_x, PM₁₀, and VOC. PE > 2 lb/day for CO, BACT is triggered for CO since the SSPE2 for CO is greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

As seen in Section VII.C.2 above, the applicant is proposing to install three new compressors with a fugitive emission PE greater than 2 lb/day for VOC. BACT is triggered for VOC since the PE is greater than 2 lb/day.

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 does constitute a Federal Major Modification for NO_x and VOC. Therefore, BACT is triggered for NO_x and VOC emissions for Federal Major Modification purposes.

2. BACT Guideline

BACT Guideline 3.3.12, applies to the Nonagricultural Fossil Fuel Fired IC Engines > 50 hp.

BACT Guidelines 7.2.2 and 7.2.3, apply to the compressor fugitive emissions.

See **Attachment VI**.

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.

BACT has been satisfied with the following:

IC Engines

NO_x: 5 ppmvd @ 15% O₂ (Achieved in Practice, no Technologically Feasible option)
VOC: 12 ppmvd @ 15% O₂ (Technologically Feasible)
CO: 56 ppmvd @ 15% O₂ (Achieved in Practice, no Technologically Feasible option)

Fugitive Emissions

Petroleum Refining - Valves & Connectors (11/27/2006)

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

Petroleum Refining - Pump and Compressor Seals (11/27/2006)

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

Please see **Attachment VII**.

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	PM₁₀	CO	VOC
SSPE2	148,800	93,626	40,183	714,378	380,880
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	Yes	Yes	Yes	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_x, SO_x, PM₁₀, CO, and VOC. However, emissions increases were demonstrated to be less than 0.5 lb/day for SO_x.

The quantity of offsets in pounds per year for is calculated as follows:

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

VOC

S-37-3 Fugitive Emissions

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

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([860 - 266] + 0) \times 1.5 \\ &= 594 \times 1.5 \\ &= 891 \text{ lb VOC/year}\end{aligned}$$

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

$$\begin{aligned}\text{Quarterly offsets required (lb/qtr)} &= (891 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 222.75 \text{ lb/qtr}\end{aligned}$$

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>
222	223	223	223	891

The applicant has stated that the facility plans to use ERC S-4966-1 to offset the increases in VOC emissions associated with this project. The required amount of offsets have been reserved for the 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 - 222 lb, 2nd quarter – 223 lb, 3rd quarter - 223 lb, and fourth quarter - 223 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC 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]

S-37-118 Fugitive Emissions

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

$$\begin{aligned}
 \text{Offsets Required (lb/year)} &= ([843 - 244] + 0) \times 1.5 \\
 &= 599 \times 1.5 \\
 &= 899 \text{ lb VOC/year}
 \end{aligned}$$

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

$$\begin{aligned}
 \text{Quarterly offsets required (lb/qtr)} &= (899 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\
 &= 224.75 \text{ lb/qtr}
 \end{aligned}$$

Therefore the appropriate quarterly emissions to be offset for each replacement engine are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
224	225	225	225	899

The applicant has stated that the facility plans to use ERC S-4966-1 to offset the increases in VOC emissions associated with this project. The required amount of offsets have been reserved for the 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 - 224 lb, 2nd quarter – 225 lb, 3rd quarter - 225 lb, and fourth quarter - 225 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC 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]

S-37-119 Fugitive Emissions

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

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([1,401 + 920 - 372 - 255] + 0) \times 1.5 \\ &= 1,694 \times 1.5 \\ &= 2,541 \text{ lb VOC/year}\end{aligned}$$

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

$$\begin{aligned}\text{Quarterly offsets required (lb/qtr)} &= (2,541 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 635.25 \text{ lb/qtr}\end{aligned}$$

Therefore the appropriate quarterly emissions to be offset for each replacement engine are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
635	635	635	636	2,541

The applicant has stated that the facility plans to purchase ERCs to offset the increases in VOC emissions associated with this project. The required amount of offsets have been reserved for the 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 - 635 lb, 2nd quarter – 635 lb, 3rd quarter - 635 lb, and fourth quarter - 636 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC 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]

IC Engines S-37-163, ‘-164, and ‘-165

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

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([915 - 9] + 0) \times 1.5 \\ &= 906 \times 1.5 \\ &= 1,359 \text{ lb VOC/year}\end{aligned}$$

Offsets required per engine: $1,359/3 = 453 \text{ lb VOC/year}$

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

$$\begin{aligned}\text{Quarterly offsets required (lb/qtr)} &= (453 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 113.25 \text{ lb/qtr}\end{aligned}$$

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
113	113	113	114	453
113	113	113	114	453
113	113	113	114	453

The applicant has stated that the facility plans to use ERC S-4966-1 to offset the increases in VOC emissions associated with this project. The required amount of offsets have been reserved for the project.

Proposed Rule 2201 (offset) conditions for each replacement engine:

- {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 - 113 lb, 2nd quarter – 113 lb, 3rd quarter - 113 lb, and fourth quarter - 114 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC 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]

PM10

Assuming an offset ratio of 1.0:1, the amount of PM10 ERCs that need to be withdrawn is:

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([1,077 - 146] + 0) \times 1.0 \\ &= 931 \times 1.0 \\ &= 931 \text{ lb PM10/year}\end{aligned}$$

Offsets required per engine: $931/3 = 310 \text{ lb PM10/year}$

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

$$\begin{aligned}\text{Quarterly offsets required (lb/qtr each engine)} &= (310 \text{ lb PM10/year}) \div (4 \text{ quarters/year}) \\ &= 77.5 \text{ lb/qtr}\end{aligned}$$

Therefore the appropriate quarterly emissions to be offset for each replacement engine are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
77	77	78	78	164
77	77	78	78	164
77	77	78	78	164

The applicant has stated that the facility plans to use ERC certificate S-4971-4 to offset the increases in PM10 emissions associated with this project. The above certificate has available quarterly PM10 credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #S-4971-4	2,702	3,199	2,947	4,468

As seen above, the facility has sufficient credits to fully offset the quarterly PM10 emissions increases associated with this project.

Proposed Rule 2201 (offset) conditions for each replacement engine:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 77 lb, 2nd quarter - 77 lb, 3rd quarter - 78 lb, and fourth quarter - 78 lb. These amounts include the applicable offset ratio specified in Rule

2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC Certificate Number S-4971-4 (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]

NOx

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

$$\begin{aligned}\text{Offsets Required (lb/year)} &= ([1,095 - 245] + 0) \times 1.5 \\ &= 850 \times 1.5 \\ &= 1,275 \text{ lb NOx/year}\end{aligned}$$

Offsets required per engine: $1,275/3 = 425 \text{ lb NOx/year}$

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

$$\begin{aligned}\text{Quarterly offsets required (lb/qtr each engine)} &= (425 \text{ lb NOx/year}) \div (4 \text{ quarters/year}) \\ &= 106.25 \text{ lb/qtr}\end{aligned}$$

Therefore the appropriate quarterly emissions to be offset for each replacement engine are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
106	106	106	107	425
106	106	106	107	425
106	106	106	107	425

The applicant has stated that the facility plans to use ERC certificates C-1438-2 and S-2653-2 to offset the increases in NOx emissions associated with this project. The above certificate has available quarterly NOx credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #C-1438-2	2,538	3,586	2,159	172
ERC #S-2653-2	94	277	91	215

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

Proposed Rule 2201 (offset) conditions for each replacement engine:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of

emissions: 1st quarter - 106 lb, 2nd quarter - 106 lb, 3rd quarter - 106 lb, and fourth quarter - 107 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC Certificate Number C-1438-2 and S-2653-2 (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]

CO

Section 4.6.1 of Rule 2201 states that emissions offsets are not required for increases in carbon monoxide in attainment areas provided the applicant demonstrates to the satisfaction of the APCO that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of Ambient Air Quality Standards. Kern understands that the District will perform an Ambient Air Quality Analysis to determine that if this project will result in or contribute to a violation of an Ambient Air Quality Standard for CO. It is not expected that CO offsets are required for this project.

D. Public Notification

1. Applicability

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any emissions unit new to the stationary source 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.
- e. Any project which results in a Title V significant permit modification

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 Sections VII.C.7 and VII.C.8, this project is not an SB 288 Major Modification. Therefore, public noticing for SB 288 Major Modification purposes is not required.

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

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. 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

As detailed in Section VIII.B.1 above, the SSPE1 is greater than the offset threshold for all pollutants; therefore, there were no thresholds surpassed with this project and 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	148,800	148,399	401	20,000 lb/year	No
SO _x	93,626	93,495	131	20,000 lb/year	No
PM ₁₀	40,183	39,252	931	20,000 lb/year	No
CO	714,378	740,670	-26,292	20,000 lb/year	No
VOC	380,710	382,965	-2,255	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 does constitute 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 notice will be required for this project for Federal Major Modification and Title Significant Permit Modification purposes.

E. 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:

S-37-3

- *VOC emission rate from fugitive components associated with this emissions unit shall not exceed 89.9 lb/day. [District Rule 2201]*

S-37-118

- *VOC emission rate from fugitive components associated with this emissions unit shall not exceed 30.1 lb/day. [District Rule 2201]*

S-37-119

- *VOC emission rate from fugitive components associated with this emissions unit shall not exceed 76.7 lb/day. [District Rule 2201]*

IC Engines S-37-163, '-164, and '-165

- *NOx emission concentrations shall not exceed 5 ppm by volume at 15% O₂. [District Rule 2201; District Rule 4701, 5.1; and District Rule 4702, 5.1]*
- *VOC emissions concentrations shall not exceed 12 ppmv at 15% O₂. [District Rule 2201; District Rule 4701, 5.1; and District Rule 4702, 5.1]*
- *CO emission concentrations shall not exceed 56 ppm by volume at 15% O₂. [District Rule 2201; District Rule 4701, 5.1; and District Rule 4702, 5.1]*
- *Unit shall be fired only on natural gas with a sulfur content of less than or equal to 1.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and District Rule 4801]*

F. Compliance Assurance

1. Source Testing

Startup source testing of NOx, CO, and VOC will be required.

District Rule 4701 requires NOx and CO emission testing not less than once every 24 months.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

District Rule 4702 requires periodic monitoring of NO_x and CO and the proposed ATCs include a requirement for monthly monitoring.

- The permittee shall monitor and record the stack concentration of NO_x, CO and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO.] Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 2520, 9.3.2 & 9.4.2; 4701, 5.4; and 4702, 6.5]*
- If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2; 4701, 5.4; and 4702, 6.5]*
- All emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken by the portable analyzer shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4701, 5.4]*

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:

- The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and*

time of NO_x, CO and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 6.2; and 4702, 6.2]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

G. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard.

The proposed location is in an attainment area for NO_x, CO, and SO_x. The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds.

Kern understands that the District will model the data provided above to determine if this project will result in a violation of an ambient air quality standard or will result in exceedance of the preceding PM₁₀ significance levels. The results of the AAQA are included in **Attachment VIII**.

H. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new major source or a source undergoing a 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 major modification, therefore this requirement is applicable. Kern's Compliance Certification is included in **Attachment IX**.

I. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to replace existing equipment. Since the project will involve the replacement of existing equipment, 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. The proposed modification is a Significant Modification to the Title V Permit.

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 on, prior to operating with the proposed modifications. Continued compliance with this rule is expected.

Kern's Title V Certificate of Conformity is included in **Attachment IX**.

Rule 4001 New Source Performance Standards (NSPS)

Subpart Ja - Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

The new compressor drive shaft will vent to flare S-37-7 (fuel gas combustion device). However the flare is not being modified. Please refer to the discussion for project 1170673 which authorized replacement of a compressor.

Subpart GGGa- Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006

The replacement compressor is an "affected unit" and subject to the Subpart. The facility is currently in compliance with Subpart GGGa (VVa). Note that because the compressor drive shaft vents to flare S-37-7, which is a closed vent system as it meets the requirements of 40 CFR 60.18, 40 CFR 60.482-3a(i). Compliance with the subpart is expected.

40 CFR 60 Subpart JJJJ — Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Spark ignited (SI) engines that are modified or reconstructed after June 12, 2006 are subject to the requirements of the subpart. As stated above, the proposed engines were reconstructed after June 12, 2006. Therefore, the Subpart is applicable.

40 CFR 60.4233(e) requires owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) to comply with the emission standards in Table 1 to this subpart for their stationary SI ICE.

Kern proposes the installation of a non-certified SI ICE equipped with NSCR for compliance with BACT standards, the emission limits in Table 1 of this subpart and with 40 CFR 60.4243(g), including periodic NO_x and CO emission monitoring (monthly portable analyzer monitoring) and biennial compliance demonstrations (source testing).

Compliance with the subpart 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 the units in this project.

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 IC engine is fired solely on refinery gas with a low sulfur content, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Also, based on past inspections of the facility 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 VIII**), 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:

A. RMR SUMMARY

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 163-0 (310 BHP NG ICE)	12.6	0.01	0.01	6.27E-07	No	No
Unit 164-0 (310 BHP NG ICE)	12.6	0.01	0.00	6.79E-07	No	No
Unit 165-0 (310 BHP NG ICE)	12.6	0.01	0.00	8.46E-07	No	No
Project Totals	37.8	0.03	0.01	2.15E-06		
Facility Totals	>1	0.90	0.16	19.9E-06		

The project is approvable without TBACT.

Rule 4201 Particulate Matter Concentration

Particulate matter emissions from the IC engines are required to be less than or equal to the rule limit of 0.1 grain per cubic foot of gas at dry standard conditions. Based on compliance status of the existing IC engines and no change in emissions factor or fuel, continued compliance is expected.

Rule 4455 Components at Petroleum Refineries, Gas Liquid Processing Facilities, and Chemical Plants (4/20/2005)

This rule requires periodic inspection of fugitive components and expedient repair of leaking components at refineries and chemical plants. The new and existing fugitive components are subject to this rule and will be included in the facility's inspection and maintenance program. Continued compliance is expected.

Rule 4701 Internal Combustion Engines

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines. Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 25 bhp, which requires a PTO.

The subject engines are also subject to District Rule 4702, Internal Combustion Engines. Since emissions limits of District Rule 4702 and all other requirements are equivalent or more stringent than District Rule 4701 requirements, compliance with District Rule 4702 requirements will satisfy requirements of District Rule 4701.

Rule 4702 Stationary Internal Combustion Engines – Phase 2

The purpose of this Rule is to limit NO_x, CO, and VOC emissions from internal combustion engines rates 25 bhp or greater.

The spark-ignited internal combustion engines are rich-burn and greater than 25 bhp. Therefore, the engines are subject to the requirements of this rule.

Section 5.1 applies to non-agricultural engines rated between 25 and 50 bhp. The engines are rated greater than 50 bhp. Therefore, this section does not apply.

Section 5.2.1 states the operator of a spark-ignited IC engine rated greater than 50 bhp that is used exclusively in non-agricultural operations (AO) shall not operate it in such a manner that results in emissions exceeding the limits in Table 1 for the appropriate engine type until such time that the engine has demonstrated compliance with Table 2 emission limits pursuant to the compliance deadlines in Section 7.5. In lieu of complying with Table 1 emission limits, the operator of a spark-ignited engine shall comply with the applicable emissions limits pursuant to Section 8.0.

The engines will comply with the emission limits specified in Table 2 (discussed below). Since the emissions limits in Table 2 are equal to or more stringent than the emission limits specified in Table 1, compliance with Table 2 emission limits will show compliance with Table 1 emission limits.

Section 5.2.2 states on and after the compliance schedule specified in Section 7.5, the operator of a spark-ignited engine > 50 bhp that is used in non-AO shall comply with all of the applicable requirements of the rule and one of the following, on an engine-by-engine basis:

5.2.2.1 On and after the compliance schedule specified in Section 7.5, the operator of a spark-ignited engine that is used exclusively in non-AO shall comply with the following requirements on an engine-by-engine basis:

- 5.2.2.1.1 NO_x, CO, and VOC emission limits pursuant to Table 2;
- 5.2.2.1.2 SO_x control requirements of Section 5.7, pursuant to the deadlines specified in Section 7.5; and
- 5.2.2.1.3 Monitoring requirements of Section 5.10, pursuant to the deadlines specified in Section 7.5.

5.2.2.2, 5.2.2.3 Emissions fee and alternative emission control plan requirements pursuant to Section 8.0 — not applicable.

Per the compliance schedules in Section 7.5, the earliest compliance date for an engine subject to Table 2 emission limits is January 1, 2014. However, the engines already meet the requirements listed in Section 5.2.2.1. Therefore, compliance with Section 5.2.2 and Table 2 emission limits will be shown.

The proposed emissions are 5 ppmv NO_x @ 15% O₂, 56 ppmv CO @ 15% O₂, and 12 ppmv VOC @ 15%. Therefore, compliance with Table 2 is expected.

Sections 5.2.3, 5.2.4, 5.2.5, and 5.3 apply to spark-ignited AO and CI engines and engines equipped with CEMs. Therefore these sections do not apply.

Sections 5.4 and 5.5 pertain to engines using a percent emission reduction to comply with the NOx emission limits specified in Section 5.2. The ATCs include emissions limits in lb/hr and ppmv @ 15% O2 and therefore percent emission reduction is not being used. These sections of the rule are not applicable.

Section 5.6 applies to operators who elect to pay an annual fee in lieu of complying with the NOx emission limit requirements of Section 5.2.2.1.1. The engines will comply with the NOx emission limit requirement of Section 5.2.2.1.1. Therefore, this section does not apply.

Section 5.7 states that on and after the compliance schedule specified in Section 7.5, operators of non-AO spark-ignited engines and non-AO compression-ignited engines shall comply with one of the following requirements:

- 5.7.1 Operate the engine exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases; or
- 5.7.2 Limit gaseous fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet; or
- 5.7.3 Use California Reformulated Gasoline for all gasoline-fired spark-ignited engines; or
- 5.7.4 Use California Reformulated Diesel for all compression-ignited engines; or
- 5.7.5 Operate the engine on liquid fuel that contains no more than 15 ppm sulfur, as determined by the test method specified in Section 6.4.6; or
- 5.7.6 Install and properly operate an emission control system that reduces SO2 emissions by at least 95% by weight as determined by the test method specified in Section 6.4.6.

The IC engines will combust gas containing no more than 1 gr S/100scf and therefore meet the requirements of Section 5.7.2, 5 gr S/100 scf.

Alternate for NOx and CO monitoring will be revised from quarterly to monthly to satisfy both the Section 5.8.7 (I&M Program) and Section 5.8.9 (quarterly NOx alternate monitoring) requirements of Rule 4702. The new condition is as follows:

Permittee shall monitor and record the stack concentration of NOx (as NO2), CO, and O2 at least once every calendar month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 4701 and 4702]

Current PTO conditions meet the compliance demonstration, testing and recordkeeping requirements of the rule.

Continued compliance is expected.

Rule 4801 Sulfur Compounds

The IC engines will be authorized to combust gas containing no more than 1.0 gr S/100scf. Compliance is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

District is a Lead Agency & Facility is Subject to Cap-and-Trade

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

On December 17, 2009, the District's Governing Board adopted a policy, APR 2005, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*, for addressing GHG emission impacts when the District is Lead Agency under CEQA and approved the District's guidance document for use by other agencies when addressing GHG impacts as lead agencies under CEQA. Under this policy, the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change. Consistent with District Policy 2005, projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emission.

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing or mitigating GHG emissions from targeted industries. Facilities subject to the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. Any

growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

Under District policy APR 2025, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation*, the District finds that the Cap-and-Trade is a regulation plan approved by ARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with District Policy 2005, projects complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

Industries covered by Cap-and-Trade are identified in the regulation under section 95811, Covered Entities:

1. Group 1: Large industrial facilities

These types of facilities are subject to Cap and Trade, and the specific companies covered are listed at <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>, Section 95811 (a), under the "Publicly Available Market Information" section (list maintained by the California Air Resources Board).

2. Group 2: Electricity generation facilities located in California, or electricity importers

These types of facilities are subject to Cap and Trade (section 95811, b).

3. Group 3: Suppliers of Natural Gas, Suppliers of Reformulated Gasoline Blendstock for Oxygenate Blending and Distillate Fuel Oil, Suppliers of Liquefied Petroleum Gas, and Suppliers of Blended Fuels

These entities are subject to Cap and Trade compliance obligations which must cover all fuels (except jet fuels) identified in section 95811 (c) through (f) of the Cap-and-Trade regulation delivered to end users in California, less the fuel delivered to covered entities (group 1 above).

This facility is subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative 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 ATC S-37-3-10, '-118-5, '-119-6, '-163-0, '-164-0, ' and '-165-0 in **Attachment X**.

Attachments

- I: Current PTOs and ATC
- II: Location Maps
- III: Fugitive Emissions Calculations
- IV: Emissions Profiles
- V: Historical Emissions Calculation
- VI: BACT Guidelines
- VII: BACT Analysis
- VIII: HRA and AAQA
- IX: Compliance Certification and Title V Compliance Forms
- X: Draft ATCs

Attachment I
Current PTOs and ATC

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-37-3-9

EXPIRATION DATE: 08/31/2022

SECTION: 25 **TOWNSHIP:** 30S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

KEROSENE HYDROTREATER UNIT (KHT) INCLUDING A SPLITTER, A REACTOR, A SEPARATOR, 3 ACCUMULATORS, 11.4 MMBTU/HR CHARGE HEATER WITH ZEECO GLSF-10 LOW NOX BURNERS AND 12.5 MMBTU/HR SPLITTER REBOILER HEATER WITH ZEECO GLSF-10 LOW NOX BURNERS

PERMIT UNIT REQUIREMENTS

1. Heaters shall be fired only on purchased commercial natural gas, refinery fuel gas, or any combination thereof. [District Rule 2201, 4001] Federally Enforceable Through Title V Permit
2. Sulfur content of fuel combusted in this unit shall not exceed 100 ppmv (as total reduced sulfur), based on a 3 hour rolling average. [District Rules 2201 and 40 CFR Part 60, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
3. All refinery fuel gas combusted in the heaters shall be monitored for H₂S content by a continuous emissions monitoring (CEM) system. CEM shall be installed, calibrated, operated, and reported according to EPA guidelines as specified under 40 CFR 60, Subpart J, Specification 7, and general requirements. CEM results shall be calculated on a rolling three (3) hour basis. [District Rules 2201, 4001, Subpart J, 60.105(a)(4) and 60.105(a)(4)iii] Federally Enforceable Through Title V Permit
4. At least once per year, permittee shall obtain and analyze a representative sample for total reduced sulfur of the fuel combusted in this unit. Each sample shall be analyzed for the following reduced sulfur compounds: carbon disulfide, carbonyl sulfide, dimethyl disulfide, dimethyl sulfide, hydrogen sulfide and methyl mercaptan. For each sample, permittee shall record the analytical results for total sulfur, calculated as the sum of the results for all analytes, expressed as H₂S. Samples shall be analysed using ASTM D6228-98 or other District-approved method. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee shall demonstrate continuous compliance with the sulfur content limit (as total reduced sulfur) of the fuel combusted in this unit by calculation, as the sum of the non-H₂S reduced sulfur compounds (carbon disulfide, carbonyl sulfide, dimethyl disulfide, dimethyl sulfide, methyl mercaptan), based on the most recently conducted fuel sample analysis for total sulfur, and each one hour monitored H₂S result. The calculated hourly fuel sulfur values shall be averaged over a rolling three hour period to determine compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from each heater, except during startup and shutdown, shall not exceed any of the following: NO_x (as NO₂): 25 ppmv @ 3% O₂ or 0.030 lb/MMBtu, VOC: 5.5 lb/MMscf, PM₁₀: 7.6 lb/MMscf or CO: 50 ppmv @ 3% O₂. [District Rules 2201, 2520, 4301, 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
7. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. Daily combustion emissions from this permit unit shall not exceed any of the following: NO_x (as NO₂): 17.2 lb/day, VOC: 3.2 lb/day, PM₁₀: 4.4 lb/day, or CO: 21.3 lb/day. [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.

9. The duration of each startup and shutdown period for each heater shall not exceed 12 hours and 9 hours respectively. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
10. The combustion in the fuel gas combustion devices of gases released as a result of start-up, shutdown, upset, malfunction, or the result of relief valve leakage is exempt from the H₂S or sulfur content requirement. [District Rules 2201, 4001, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
11. The permittee shall record the date and the duration of each startup and each shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
12. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
13. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
14. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
15. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
16. Heater exhaust stacks shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
17. Source testing to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
18. Source testing to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
19. If permittee fails any compliance demonstration for NO_x or CO emission limits when testing not less than once every 36 months, compliance with NO_x and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
20. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

21. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
23. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The following test methods shall be used unless otherwise approved by the APCO and EPA: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
25. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
26. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
27. Nitrogen oxide (NO_x) emission concentrations in ppmv shall be referenced at dry stack gas conditions, and shall be calculated to 3.00 percent by volume stack gas oxygen and averaged over 60 minutes, and lb/MMBtu rates shall be calculated as lb NO₂/MMBtu of heat input (hhv). [District Rule 4305, 5.0, 8.2 and/or 4351, 8.1] Federally Enforceable Through Title V Permit
28. Draeger tubes shall be used as an alternative method for measuring fuel gas H₂S during scheduled maintenance or unscheduled interruptions of CEMs. Draeger tube use shall be limited to no more than 96 continuous hours and fuel gas H₂S shall be checked a minimum of every two hours during scheduled maintenance or unscheduled interruptions of CEMs. Alternate method of measuring fuel gas H₂S shall occur no more than 192 hours in any calendar year. [40CFR60.13(i)] Federally Enforceable Through Title V Permit
29. Operator shall maintain all records of the reason for alternative monitoring and required fuel gas H₂S monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
30. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO_x emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO_x emission limit listed in Rule 4320. [District Rule 4320]
31. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]
32. VOC emission rate from fugitive components associated with this emissions unit shall not exceed 90.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
33. Permit holder shall maintain accurate component count 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), Correlation Equations Method. [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.

34. Operator shall maintain records to demonstrate compliance with fugitive VOC emissions limit of this permit annually. Compliance shall be demonstrated by calculation, using the correlation equations, zero default and 10,000 ppmv pegged factors set forth in the CAPCOA California implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, Table IV-3a, February 1999, and the average emission concentrations of total organic compounds measured for each component during all inspections conducted during the prior 365 day period. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Permit unit shall comply with applicable District Rule 4001 (NSPS, Subpart GGG) requirements on facility wide permit S-37-0. [District Rule 4001] Federally Enforceable Through Title V Permit
36. The requirements of 40 CFR 60 Subpart GGGa do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
37. This unit is subject to Rule 4455 Leak Detection and Repair Conditions on the facility wide permit S-37-0. [District Rule 4455] Federally Enforceable Through Title V Permit
38. Permittee shall comply with all applicable testing, recordkeeping, and reporting requirements specified in Rule 4001 - New Source Performance Standards, including but not limited to Subparts A and J. [District Rule 4001] Federally Enforceable Through Title V Permit
39. Operators shall not depressurize any vessel containing VOCs unless the process unit turnaround is accomplished by employing one of the following operating procedures: The organic vapors shall either be recovered, added to the refinery fuel gas system and combusted; or controlled and piped to an appropriate firebox or incinerated for combustion; or flared, until the pressure within the process vessel is as close to atmospheric pressure as is possible. All process vessels shall be depressurized into the control facilities to less than 1020 mm Hg (5 psig) before venting/opening to atmosphere. All organic compounds which emerge from a refinery process vessel during the purging of said vessel and which otherwise would be emitted to the atmosphere shall be either directed to a flare or incinerator or shall be used for fuel until such disposition of emissions is not technically feasible or is less safe than atmospheric venting. [District Rule 4454, 4.0] Federally Enforceable Through Title V Permit

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-37-87-6

EXPIRATION DATE: 08/31/2022

SECTION: 05 **TOWNSHIP:** 31S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

120 BHP INGERSOLL-RAND MODEL 4JVG NATURAL GAS-FIRED IC ENGINE EQUIPPED WITH 3-WAY CATALYST SERVING THE EAST HYDROGEN COMPRESSOR AT THE UNIFIER UNIT (#S-37-3)

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit
2. Kern Oil and Refining Company shall operate and maintain controls as recommended by the emission control system supplier. [District NSR Rule] Federally Enforceable Through Title V Permit
3. NOx emission concentrations shall not exceed 25 ppm by volume at 15% O2 or exhaust emission concentrations shall be reduced by 96%. [District NSR Rule; District Rule 4701, 5.1; and District Rule 4702, 5.1] Federally Enforceable Through Title V Permit
4. VOC emissions concentrations shall not exceed 250 ppmv at 15% O2. [District NSR Rule; District Rule 4701, 5.1; and District Rule 4702, 5.1] Federally Enforceable Through Title V Permit
5. CO emission concentrations shall not exceed 2000 ppm by volume at 15% O2. [District NSR Rule; District Rule 4701, 5.1; and District Rule 4702, 5.1] Federally Enforceable Through Title V Permit
6. Emissions from the engine shall neither exceed SOx (as SO2) - 0.00002 lb/hp-hr, nor PM10 - 0.00014 lb/hp-hr. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O2 monitors may be allowed if approved by the APCO.] Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 2520, 9.3.2 & 9.4.2; 4701, 5.4; and 4702, 5.6 and 6.5] Federally Enforceable Through Title V Permit
8. If either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 2520, 9.3.2; 4701, 5.4; 4702, 5.6 and 6.5] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

9. All emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken by the portable analyzer shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4701, 5.4 and 4702, 5.6] Federally Enforceable Through Title V Permit
10. NO_x, CO, and VOC emissions shall be measured (source tested) not less than once every 24 months. [District Rules 4701, 6.3.1 and 4702, 6.3.1] Federally Enforceable Through Title V Permit
11. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 25 or EPA Method 18 referenced as methane. [District Rules 1081; 4701, 6.4; and 4702, 6.4] Federally Enforceable Through Title V Permit
12. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
13. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
14. Unit shall be fired only on PUC-regulated natural gas with a sulfur content of less than or equal to 1.0 grain/100 scf. [District NSR Rule; District Rules 2520, 9.3.2 and 4801; Kern County Rule 407] Federally Enforceable Through Title V Permit
15. The permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
16. The portable analyzer shall be calibrated prior to each use with a two-point calibration method (zero and span). Calibration shall be performed with certified calibration gases. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
17. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 6.2 and 4702, 6.2] Federally Enforceable Through Title V Permit
18. The permittee shall install and operate a nonresettable fuel meter and a nonresettable elapsed operating time meter. In lieu of installing a nonresettable fuel meter, the owner or operator may use a non-resettable elapsed operating time meter in conjunction with the engine manufacturer's maximum rated fuel consumption to determine annual fuel usage. The owner or operator shall maintain the required meters in proper operating condition. [District Rule 4702, 5.6.6] Federally Enforceable Through Title V Permit
19. 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 4702 and 40 CFR 63, ZZZZ]
20. On and after October 19, 2013, the permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63, ZZZZ]
21. On and after October 19, 2013, the engine shall be in full compliance with 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines). [40 CFR 63, ZZZZ]
22. On and after October 19, 2013, the engine's oil and filter shall be changed every 1,440 hours of operation or every 12 months, whichever comes first. [40 CFR 63, ZZZZ]

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

23. On and after October 19, 2013, the engine's spark plugs shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63, ZZZZ]
24. On and after October 19, 2013, the engine's hoses and belts shall be inspected every 1,440 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63, ZZZZ]
25. On and after October 19, 2013, the permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [40 CFR 63, ZZZZ]
26. On and after October 19, 2013, the permittee shall maintain monthly records of all performance tests, opacity and visible emissions observations and required maintenance performed on the air pollution control and monitoring equipment. [District Rule 1070 and 40 CFR 63, ZZZZ]
27. On and after October 19, 2013, the permittee shall maintain monthly records of the occurrence and duration of each malfunction of the operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of the action(s) taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning operation and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63, ZZZZ]
28. Pursuant to Rule 4702, beginning in 2016, the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by June 30 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4702 Table 2. [District Rule 4702]

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

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-37-118-4

EXPIRATION DATE: 08/31/2022

SECTION: 25 **TOWNSHIP:** 30S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

NAPHTHA FEED PRETREATMENT UNIT (NAPHTHA HYDROTREATER) WITH 12.6 MMBTU/HR CHARGE HEATER WITH JOHN ZINK COOLSTAR LOW NOX BURNER, 11.1 MMBTU/HR STRIPPER REBOILER HEATER WITH JOHN ZINK COOLSTAR LOW NOX BURNER, REACTOR VESSEL, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS

PERMIT UNIT REQUIREMENTS

1. Permittee shall comply with all applicable testing, recordkeeping, and reporting requirements specified in Rule 4001 - New Source Performance Standards, including but not limited to Subparts A and J. [District Rule 4001] Federally Enforceable Through Title V Permit
2. Heaters shall be fired only on purchased commercial natural gas, refinery fuel gas, or any combination thereof. [District Rule 2201, 4001] Federally Enforceable Through Title V Permit
3. Operator shall not burn in any fuel gas combustion device any fuel gas that contains hydrogen sulfide (H₂S) in excess of 100 ppmv @ 0% O₂. [District Rules 2201, 2520, 9.4.2 and 4301, 5.2.1, & 40 CFR Part 60, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
4. The combustion in the fuel gas combustion devices of gases released as a result of start-up, shutdown, upset, malfunction, or the result of relief valve leakage is exempt from the H₂S or sulfur content requirement. [District Rules 2201, 4001, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
5. All refinery fuel gas combusted in the heaters shall be monitored for H₂S content by a continuous emissions monitoring (CEM) system. CEM shall be installed, calibrated, operated, and reported according to EPA guidelines as specified under 40 CFR 60, Subpart J, Specification 7, and general requirements. CEM results shall be calculated on a rolling three (3) hour basis. [District Rules 2201, 4001, Subpart J, 60.105(a)(4) and 60.105(a)(4)iii] Federally Enforceable Through Title V Permit
6. Operator shall report all rolling 3-hour periods during which the average concentration of H₂S as measured by the H₂S continuous monitoring system exceeds 100 ppmv @ 0% O₂. [District Rules 2201, 4001, Subpart J, 60.105(e)(3)(ii)] Federally Enforceable Through Title V Permit
7. Emission rates from each heater, except during startup and shutdown, shall not exceed any of the following: NO_x (as NO₂): 25 ppmv @ 3% O₂, VOC: 0.0055 lb/MMBtu, or CO: 150 ppmv @ 3% O₂. [District Rules 2201, 2520, 4301, 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
8. PM₁₀ emission rates from each heater shall not exceed 0.0076 lb/MMBtu. [District Rules 2201, 2520, 4201, 4301] Federally Enforceable Through Title V Permit
9. The duration of each startup and shutdown period for the charge heater shall not exceed 12.0 hours and 5.8 hours respectfully. The duration of each startup and shutdown period for the reboiler heater shall not exceed 12.0 hours and 5.0 hours respectfully. [District Rules 4305 and 4306] 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. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
11. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
12. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
13. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
14. Heater exhaust stacks shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
15. Source testing to demonstrate compliance with NO_x and CO emission limits shall be conducted within 60 days of startup and not less than once every 12 months, except as provided below. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
16. Source testing to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
17. If permittee fails any compliance demonstration for NO_x or CO emission limits when testing not less than once every 36 months, compliance with NO_x and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
18. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
20. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
21. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

22. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
23. All required source testing shall conform to the compliance testing procedures described in District Rule 1081(Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
24. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
25. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
26. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rule 4305, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit
27. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rule 4305, 6.3.2] Federally Enforceable Through Title V Permit
28. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. Nitrogen oxide (NOx) emission concentrations in ppmv shall be referenced at dry stack gas conditions, and shall be calculated to 3.00 percent by volume stack gas oxygen and averaged over 60 minutes, and lb/MMBtu rates shall be calculated as lb NO2/MMBtu of heat input (hhv). [District Rule 4305, 5.0, 8.2 and/or 4351, 8.1] Federally Enforceable Through Title V Permit
30. Draeger tubes shall be used as an alternative method for measuring fuel gas H2S during scheduled maintenance or unscheduled interruptions of CEMs. Draeger tube use shall be limited to no more than 96 continuous hours and fuel gas H2S shall be checked a minimum of every two hours during scheduled maintenance or unscheduled interruptions of CEMs. Alternate method of measuring fuel gas H2S shall occur no more than 192 hours in any calendar year. [40CFR60.13(i)] Federally Enforceable Through Title V Permit
31. Operator shall maintain all records of the reason for alternative monitoring and required fuel gas H2S monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
32. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
33. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]
34. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] 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.

35. VOC emission rate from fugitive components associated with this emissions unit shall not exceed 30.6 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Permit holder shall maintain accurate component count 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), Correlation Equations Method. Permit holder shall update such records when new components are approved and installed. Components shall be screened and leak rate shall be measured in accordance with the frequency of inspection specified in Rule 4455 as applicable. [District Rule 2201] Federally Enforceable Through Title V Permit
37. As referenced in this permit, a fugitive component leak shall be defined as the lower of the level specified in applicable rules, permit conditions, or the following: pumps in light liquid service - 1,000 ppmv; compressors - 500 ppmv; pressure relief devices in gas/vapor service - 500 ppmv; valves in gas/vapor and light liquid service - 500 ppmv; agitators - 10,000 ppmv; pumps in heavy liquid service - 2,000 ppmv; valves, and connectors in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service - 500 ppmv; connectors in gas/vapor service and in light liquid service - 500 ppmv. Component type and service referenced in this condition shall be as defined in 40 CFR 63 Subpart H. [District Rule 2201] Federally Enforceable Through Title V Permit
38. Permit unit shall comply with applicable District Rule 4001 (NSPS, Subpart GGG) requirements on facility wide permit S-37-0. [District Rule 4001] Federally Enforceable Through Title V Permit
39. This unit is subject to Rule 4455 Leak Detection and Repair Conditions on the facility wide permit S-37-0. [District Rule 4455] Federally Enforceable Through Title V Permit
40. Permit unit shall comply with applicable Rule 4001 (NSPS, Subpart QQQ) requirements. [District Rule 4001] Federally Enforceable Through Title V Permit
41. Each drain, receiving refinery wastewater from a process unit, shall be equipped with water seal controls. [40 CFR 60.692-2(a)(1)] Federally Enforceable Through Title V Permit
42. Each drain in active service, receiving refinery wastewater from a process unit, shall be checked by visual or physical inspection monthly for indications of low water levels or other conditions that would reduce the effectiveness of the water seal controls. [40 CFR 60.692-2(a)(2)] Federally Enforceable Through Title V Permit
43. Each drain out of active service shall be checked by visual or physical inspection weekly for indications of low water levels or other problems that could result in VOC emissions. As an alternative, the owner or operator may elect to install a tightly sealed cap or plug over a drain that is out of service, inspection shall be conducted initially and semiannually to ensure caps or plugs are in place and properly installed. Whenever low water levels or missing or improperly installed caps or plugs are identified, water shall be added or first efforts at repair shall be made as soon as practicable, but not later than 24 hours after detection, except if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown [40 CFR 60.692-2(a) and 60.692-6] Federally Enforceable Through Title V Permit
44. Junction boxes in refinery wastewater systems shall be equipped with a cover and may have an open vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter. Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance. [40 CFR 60.692-2(b)(1)] Federally Enforceable Through Title V Permit
45. Junction boxes in refinery wastewater systems shall be visually inspected semiannually to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge. If a broken seal or gap is identified, first effort at repair shall be made as soon as practicable, but not later than 15 calendar days after the broken seal or gap is identified, except if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown. [40 CFR 60.692-2(b)(3)(4) and 60.692-6] Federally Enforceable Through Title V Permit
46. Sewer lines, conveying refinery wastewater to wastewater treatment system, shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces. [40 CFR 60.692-2(c)(1)] 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.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-37-119-4

EXPIRATION DATE: 08/31/2022

SECTION: 25 **TOWNSHIP:** 30S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

NAPHTHA REFORMER UNIT WITH 25.7 MMBTU/HR CHARGE HEATER #1 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 13.4 MMBTU/HR CHARGE HEATER #2 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.9 MMBTU/HR CHARGE HEATER #3 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.3 MMBTU/HR SPLITTER/STABILIZER HEATER WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, REACTOR VESSELS, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS

PERMIT UNIT REQUIREMENTS

1. Emission rates from each heater, except during startup and shutdown, shall not exceed any of the following: NO_x (as NO₂): 25 ppmv @ 3% O₂, VOC: 0.0055 lb/MMBtu, or CO: 150 ppmv @ 3% O₂. [District Rules 2201, 2520, 4301, 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
2. PM₁₀ emission rates from each heater shall not exceed 0.0076 lb/MMBtu. [District Rules 2201, 2520, 4201, 4301] Federally Enforceable Through Title V Permit
3. The duration of each startup and shutdown period for reactor charge heaters #1, #2, and #3 shall not exceed 12.0 hours and 9.0 hours each respectfully. The duration of each startup and shutdown period for the splitter/stabilizer heater shall not exceed 8.5 hours and 5.0 hours respectfully. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
4. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
5. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

Facility Name: KERN OIL & REFINING CO

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

6. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
7. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
8. Heater exhaust stacks shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
9. Source testing to demonstrate compliance with NO_x and CO emission limits shall be conducted within 60 days of startup and not less than once every 12 months, except as provided below. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
10. Source testing to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
11. If permittee fails any compliance demonstration for NO_x or CO emission limits when testing not less than once every 36 months, compliance with NO_x and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
12. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
13. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
14. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
15. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
16. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
17. All required source testing shall conform to the compliance testing procedures described in District Rule 1081(Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
18. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
19. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
20. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

21. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rule 4305, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit
22. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rule 4305, 6.3.2] Federally Enforceable Through Title V Permit
23. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
24. Nitrogen oxide (NOx) emission concentrations in ppmv shall be referenced at dry stack gas conditions, and shall be calculated to 3.00 percent by volume stack gas oxygen and averaged over 60 minutes, and lb/MMBtu rates shall be calculated as lb NO2/MMBtu of heat input (hhv). [District Rule 4305, 5.0, 8.2 and/or 4351, 8.1] Federally Enforceable Through Title V Permit
25. Draeger tubes shall be used as an alternative method for measuring fuel gas H2S during scheduled maintenance or unscheduled interruptions of CEMs. Draeger tube use shall be limited to no more than 96 continuous hours and fuel gas H2S shall be checked a minimum of every two hours during scheduled maintenance or unscheduled interruptions of CEMs. Alternate method of measuring fuel gas H2S shall occur no more than 192 hours in any calendar year. [40CFR60.13(i)] Federally Enforceable Through Title V Permit
26. Operator shall maintain all records of the reason for alternative monitoring and required fuel gas H2S monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
27. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
28. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]
29. VOC emission rate from fugitive components associated with this emissions unit shall not exceed 77.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Permit holder shall maintain accurate component count 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), Correlation Equations Method. Permit holder shall update such records when new components are approved and installed. Components shall be screened and leak rate shall be measured in accordance with the frequency of inspection specified in Rule 4455 as applicable. [District Rule 2201] Federally Enforceable Through Title V Permit
31. As referenced in this permit, a fugitive component leak shall be defined as the lower of the level specified in applicable rules, permit conditions, or the following: pumps in light liquid service - 1,000 ppmv; compressors - 500 ppmv; pressure relief devices in gas/vapor service - 500 ppmv; valves in gas/vapor and light liquid service - 500 ppmv; agitators - 10,000 ppmv; pumps in heavy liquid service - 2,000 ppmv; valves, and connectors in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service - 500 ppmv; connectors in gas/vapor service and in light liquid service - 500 ppmv. Component type and service referenced in this condition shall be as defined in 40 CFR 63 Subpart H. [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.

32. Permit unit shall comply with applicable District Rule 4001 (NSPS, Subpart GGG) requirements on facility wide permit S-37-0. [District Rule 4001] Federally Enforceable Through Title V Permit
33. This unit is subject to Rule 4455 Leak Detection and Repair Conditions on the facility wide permit S-37-0. [District Rule 4455] Federally Enforceable Through Title V Permit
34. Permittee shall comply with all applicable testing, recordkeeping, and reporting requirements specified in Rule 4001 - New Source Performance Standards, including but not limited to Subparts A and J. [District Rule 4001] Federally Enforceable Through Title V Permit
35. Heaters shall be fired only on purchased commercial natural gas, refinery fuel gas, or any combination thereof. [District Rule 2201, 4001] Federally Enforceable Through Title V Permit
36. Operator shall not burn in any fuel gas combustion device any fuel gas that contains hydrogen sulfide (H₂S) in excess of 100 ppmv@ 0% O₂. [District Rules 2201, 2520, 9.4.2 and 4301, 5.2.1, & 40 CFR Part 60, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
37. The combustion in the fuel gas combustion devices of gases released as a result of start-up, shutdown, upset, malfunction, or the result of relief valve leakage is exempt from the H₂S or sulfur content requirement. [District Rules 2201, 4001, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
38. All refinery fuel gas combusted in the heaters shall be monitored for H₂S content by a continuous emissions monitoring (CEM) system. CEM shall be installed, calibrated, operated, and reported according to EPA guidelines as specified under 40 CFR 60, Subpart J, Specification 7, and general requirements. CEM results shall be calculated on a rolling three (3) hour basis. [District Rules 2201, 4001, Subpart J, 60.105(a)(4) and 60.105(a)(4)iii] Federally Enforceable Through Title V Permit
39. Operator shall report all rolling 3-hour periods during which the average concentration of H₂S as measured by the H₂S continuous monitoring system exceeds 100 ppmv@ 0% O₂. [District Rules 2201, 4001, Subpart J, 60.105(e)(3)(ii)] Federally Enforceable Through Title V Permit
40. Permit unit shall comply with applicable Rule 4001 (NSPS, Subpart QQQ) requirements. [District Rule 4001] Federally Enforceable Through Title V Permit
41. Each drain, receiving refinery wastewater from a process unit, shall be equipped with water seal controls. [40 CFR 60.692-2(a)(1)] Federally Enforceable Through Title V Permit
42. Each drain in active service, receiving refinery wastewater from a process unit, shall be checked by visual or physical inspection monthly for indications of low water levels or other conditions that would reduce the effectiveness of the water seal controls. [40 CFR 60.692-2(a)(2)] Federally Enforceable Through Title V Permit
43. Each drain out of active service shall be checked by visual or physical inspection weekly for indications of low water levels or other problems that could result in VOC emissions. As an alternative, the owner or operator may elect to install a tightly sealed cap or plug over a drain that is out of service, inspection shall be conducted initially and semiannually to ensure caps or plugs are in place and properly installed. Whenever low water levels or missing or improperly installed caps or plugs are identified, water shall be added or first efforts at repair shall be made as soon as practicable, but not later than 24 hours after detection, except if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown [40 CFR 60.692-2(a) and 60.692-6] Federally Enforceable Through Title V Permit
44. Junction boxes in refinery wastewater systems shall be equipped with a cover and may have an open vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter. Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance. [40 CFR 60.692-2(b)(1)] 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.

45. Junction boxes in refinery wastewater systems shall be visually inspected semiannually to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge. If a broken seal or gap is identified, first effort at repair shall be made as soon as practicable, but not later than 15 calendar days after the broken seal or gap is identified, except if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown. [40 CFR 60.692-2(b)(3)(4) and 60.692-6] Federally Enforceable Through Title V Permit
46. Sewer lines, conveying refinery wastewater to wastewater treatment system, shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces. [40 CFR 60.692-2(c)(1)] Federally Enforceable Through Title V Permit
47. The portion of each unburied sewer line shall be visually inspected semiannually for indication of cracks, gaps, or other problems that could result in VOC emissions. Whenever cracks, gaps, or other problems are detected, repairs shall be made as soon as practicable, but not later than 15 calendar days after identification, except if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown. [40 CFR 60.692-2(c)(2)(3) and 60.692-6] Federally Enforceable Through Title V Permit
48. Refinery wastewater routed through new process drains and a new first common downstream junction box, either as part of a new individual drain system or an existing individual drain system, shall not be routed through a downstream catch basin. [40 CFR 60.692-2(e)] Federally Enforceable Through Title V Permit

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

AUTHORITY TO CONSTRUCT

PERMIT NO: S-37-119-5

ISSUANCE DATE: 01/10/2017

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

SECTION: 25 TOWNSHIP: 30S RANGE: 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF NAPHTHA REFORMER UNIT WITH 25.7 MMBTU/HR CHARGE HEATER #1 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 13.4 MMBTU/HR CHARGE HEATER #2 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.9 MMBTU/HR CHARGE HEATER #3 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.3 MMBTU/HR SPLITTER/STABILIZER HEATER WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, REACTOR VESSELS, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS: ADD CLEAR SIGN NOX CONTROL TO 8.3 MMBTU/HR HEATER

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. Emission rates from 25.7 MMBtu/hr Charge Heater #1, 13.4 MMBtu/hr Charge Heater #2, and 8.9 MMBtu/hr Charge Heater #3, except during startup and shutdown, shall not exceed any of the following: NOx (as NO2): 25 ppmv @ 3% O2, VOC: 0.0055 lb/MMBtu, or CO: 150 ppmv @ 3% O2. [District Rules 2201, 2520, 4301, 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
3. Emission rates from 8.3 MMBtu/hr Stabilizer/Splitter Heater, except during startup and shutdown, shall not exceed any of the following: NOx (as NO2): 9 ppmv @ 3% O2, VOC: 0.0055 lb/MMBtu, or CO: 150 ppmv @ 3% O2. [District Rules 2201, 2520, 4301, 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
4. PM10 emission rates from each heater shall not exceed 0.0076 lb/MMBtu. [District Rules 2201, 2520, 4201, 4301] 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

Arnaud Marjollet, Director of Permit Services
S-37-119-5, May 2 2018 8:22AM -- EDGEHILR : Joint Inspection Required with EDGEHILR

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

5. Fuel burned in 8.3 MMBtu/hr Stabilizer/Splitter Heater shall not be PUC quality natural gas. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
6. Fuel total sulfur and methane content shall be determined annually using the following test methods: H₂S: ASTM D6228, total sulfur: EPA Method 15/16, ASTM D5504M, ASTM D1945/3588 and ASTM 3246; and methane content: ASTM D1945. [District Rule 4320] Federally Enforceable Through Title V Permit
7. The duration of each startup and shutdown period for 25.7 MMBtu/hr Charge Heater #1, 13.4 MMBtu/hr Charge Heater #2, and 8.9 MMBtu/hr Charge Heater #3 shall not exceed 12.0 hours and 9.0 hours each respectively. The duration of each startup and shutdown period for the Splitter/Stabilizer Heater shall not exceed 8.5 hours and 5.0 hours respectively. [District Rule 4320] Federally Enforceable Through Title V Permit
8. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
9. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
10. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
11. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
12. Heater exhaust stacks shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
13. Source testing of 8.3 MMBtu/hr Stabilizer/Splitter Heater to demonstrate compliance with NO_x and CO emissions limits shall be conducted within 60 days of startup. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
14. Source testing of all heaters to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
15. Source testing of all heaters to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit

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16. If permittee fails any compliance demonstration for NOx or CO emission limits when testing not less than once every 36 months, compliance with NOx and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
17. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
18. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
19. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
21. All required source testing shall conform to the compliance testing procedures described in District Rule 1081(Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
22. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
23. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
24. Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
25. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NOx limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NOx emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rule 4305, 6.3.2, 4306, 4320, and 4351, 6.3] Federally Enforceable Through Title V Permit
26. The following conditions must be met for representative unit(s) used to demonstrate compliance for NOx limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rule 4305, 6.3.2, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The number of representative units source tested to demonstrate compliance for NOx limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
28. Nitrogen oxide (NOx) emission concentrations in ppmv shall be referenced at dry stack gas conditions, and shall be calculated to 3.00 percent by volume stack gas oxygen and averaged over 60 minutes, and lb/MMBtu rates shall be calculated as lb NO2/MMBtu of heat input (hhv). [District Rule 4305, 5.0, 8.2, 4306, 4320, and/or 4351, 8.1] Federally Enforceable Through Title V Permit
29. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from 25.7 MMBtu/hr Charge Heater #1, 13.4 MMBtu/hr Charge Heater #2, and 8.9 MMBtu/hr Charge Heater #3 for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the units are permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]

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30. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]
31. Draeger tubes shall be used as an alternative method for measuring fuel gas H₂S during scheduled maintenance or unscheduled interruptions of CEMs. Draeger tube use shall be limited to no more than 96 continuous hours and fuel gas H₂S shall be checked a minimum of every two hours during scheduled maintenance or unscheduled interruptions of CEMs. Alternate method of measuring fuel gas H₂S shall occur no more than 192 hours in any calendar year. [40CFR60.13(i)] Federally Enforceable Through Title V Permit
32. Operator shall maintain all records of the reason for alternative monitoring and required fuel gas H₂S monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
33. VOC emission rate from fugitive components associated with this emissions unit shall not exceed 77.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Permit holder shall maintain accurate component count 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), Correlation Equations Method. Permit holder shall update such records when new components are approved and installed. Components shall be screened and leak rate shall be measured in accordance with the frequency of inspection specified in Rule 4455 as applicable. [District Rule 2201] Federally Enforceable Through Title V Permit
35. As referenced in this permit, a fugitive component leak shall be defined as the lower of the level specified in applicable rules, permit conditions, or the following: pumps in light liquid service - 1,000 ppmv; compressors - 500 ppmv; pressure relief devices in gas/vapor service - 500 ppmv; valves in gas/vapor and light liquid service - 500 ppmv; agitators - 10,000 ppmv; pumps in heavy liquid service - 2,000 ppmv; valves, and connectors in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service - 500 ppmv; connectors in gas/vapor service and in light liquid service - 500 ppmv. Component type and service referenced in this condition shall be as defined in 40 CFR 63 Subpart H. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Permit unit shall comply with applicable District Rule 4001 (NSPS, Subpart GGG) requirements. [District Rule 4001] Federally Enforceable Through Title V Permit
37. The owner or operator may apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in Subpart GGG. In doing so, the owner or operator shall comply with the requirements of 40 CFR 60.484. [40 CFR 60.592(c)] Federally Enforceable Through Title V Permit
38. Each pump in light liquid service (PLLS) shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b), except as provided in 40 CFR 60.482-1(c) and 40 CFR 60.482-2(d), (e), and (f). Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. A leak is detected if an instrument reading of 10,000 ppm or greater is measured or if there are indications of liquids dripping from the pump seal. [40 CFR 60.482-2(a) and (b)] Federally Enforceable Through Title V Permit
39. When a leak is detected for each PLLS, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-2(c)] Federally Enforceable Through Title V Permit
40. Any PLLS equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of 40 CFR 60.482-2(a) provided the requirements specified in 40 CFR 60.482-2(d)(1) through (6) are met. [40 CFR 60.482(d)] Federally Enforceable Through Title V Permit
41. Any PLLS that is designated, as described in 40 CFR 60.486(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-2(a), (c), and (d) if the pump meets the requirements specified in 40 CFR 60.482-2(e)(1), (2), and (3). [40 CFR 60.482-2(e)] Federally Enforceable Through Title V Permit

53. Each valve in gas/vapor service and in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b) and shall comply with 40 CFR 60.482-7(b) through (e), except as provided in 40 CFR 60.482-7(f), (g), and (h), 40 CFR 60.483-1, 40 CFR 60.483-2, and 40 CFR 60.482-1(c). A leak is detected if an instrument reading of 10,000 ppm or greater is measured. [40 CFR 60.482-7(a) and (b)] Federally Enforceable Through Title V Permit
54. Any valve in gas/vapor service or in light liquid service for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. [40 CFR 60.482-7(c)] Federally Enforceable Through Title V Permit
55. When a leak is detected for any valve in gas/vapor service or in light liquid service, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices specified in 40 CFR 60.482-7(e)(1), (2), (3), and (4), where practicable. [40 CFR 60.482-7(d) and (e)] Federally Enforceable Through Title V Permit
56. Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-7(a) if the valve meets the requirements specified in 40 CFR 60.482-7(f)(1), (2), and (3). [40 CFR 60.482-7(f)] Federally Enforceable Through Title V Permit
57. Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: 1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-7(a); and 2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times. [40 CFR 60.482-7(g)] Federally Enforceable Through Title V Permit
58. Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: 1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface; 2) The process unit within which the valve is located either becomes an affected facility through 40 CFR 60.14 or 40 CFR 60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor; and 3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year. [40 CFR 60.482-7(h)] Federally Enforceable Through Title V Permit
59. The owner or operator may elect to comply with the applicable provisions for valves in gas/vapor service and in light liquid service as specified in 40 CFR 60.483-1 and 60.483-2. [40 CFR 60.592(b)] Federally Enforceable Through Title V Permit
60. If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures: 1) The owner or operator shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485(b) and shall comply with the requirements of 40 CFR 60.482-8(b) through (d); or 2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak. A leak is detected if an instrument reading of 10,000 ppm or greater is measured. [40 CFR 60.482-8(a) and (b)] Federally Enforceable Through Title V Permit
61. When a leak is detected in pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-7(e). [40 CFR 60.482-8(c) and (d)] Federally Enforceable Through Title V Permit

42. If any PLLS is equipped with a closed vent system capable of capturing and transporting leakage from the seal or seals to a control device that complies with the requirements of 40 CFR 60.482-10, it is exempt from the requirements of 40 CFR 60.482-2(a) through (e). [40 CFR 60.482-2(f)] Federally Enforceable Through Title V Permit
43. Any pump in PLLS that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of 40 CFR 60.482-2(a) and 40 CFR 60.482-2(d)(4) through (6) if: 1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-2(a); and 2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in 40 CFR 60.482-2(c) if a leak is detected. [40 CFR 60.482-2(g)] Federally Enforceable Through Title V Permit
44. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(a)] Federally Enforceable Through Title V Permit
45. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR 60.482-9. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(b)] Federally Enforceable Through Title V Permit
46. Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in 40 CFR 60.482-10 is exempted from the requirements of 40 CFR 60.482-4(a) and (b). [40 CFR 60.482-4(c)] Federally Enforceable Through Title V Permit
47. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the 40 CFR 60.482-4(a) and (b), provided the owner or operator complies with the requirements in 40 CFR 60.482-4(d)(2) of this section. After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 40 CFR 60.482-9. [40 CFR 60.482-4(d)] Federally Enforceable Through Title V Permit
48. Except for in-situ sampling systems and sampling systems without purges, each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in 40 CFR 60.482-1(c). Each closed-purge, closed-loop, or closed-vent system shall comply with the requirements specified in 40 CFR 60.482-5(b)(1), (2), (3), and (4). [40 CFR 60.482-5(a), (b), and (c)] Federally Enforceable Through Title V Permit
49. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482-1(c). The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with this condition at all other times. [40 CFR 60.482-6(a) and (c)] Federally Enforceable Through Title V Permit
50. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed. [40 CFR 60.482-6(b)] Federally Enforceable Through Title V Permit
51. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of 40 CFR 60.482-6(a), (b) and (c). [40 CFR 60.482-6(d)] Federally Enforceable Through Title V Permit
52. Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in 40 CFR 60.482-6(a) through (c) are exempt from the requirements of 40 CFR 60.482-6(a) through (c). [40 CFR 60.482-6(e)] Federally Enforceable Through Title V Permit

62. Delay of leak repair will be allowed if the repair is technologically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Delay of repair is allowed for equipment which is isolated from the process and which does not remain in VOC service. Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown. [40 CFR 60.482-9(a)(b)(e)] Federally Enforceable Through Title V Permit
63. Delay of leak repair for valves will be allowed if the owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair and when repair procedures are effected and when repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 60.482-10. Delay of leak repair for pumps will be allowed if the repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and repair is completed as soon as practicable, but no later than 6 months after the leak was detected. [40 cfr 60.482-9(c)(d)] Federally Enforceable Through Title V Permit
64. For closed vent systems and control devices, vapor recovery systems shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent. [40 CFR 60.482-10(b)] Federally Enforceable Through Title V Permit
65. For closed vent systems and control devices, enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 degrees C. [40 CFR 60.482-10(c)] Federally Enforceable Through Title V Permit
66. Except as provided in 40 CFR 60.482-10(i) through (k), each closed vent system used to comply with the provisions of Subpart GGG shall be inspected according to the procedures and schedule specified in 40 CFR 60.482-10(f)(1) and (f)(2). Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in 40 CFR 60.482-10(h). A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. Repair shall be completed no later than 15 calendar days after the leak is detected. [40 CFR 60.482-10(f) and (g)] Federally Enforceable Through Title V Permit
67. Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. [40 CFR 60.482-10(h)] Federally Enforceable Through Title V Permit
68. If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2). [40 CFR 60.482-10(i)] Federally Enforceable Through Title V Permit
69. Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(l)(1), as unsafe to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10(j)(1) and (j)(2). [40 CFR 60.482-10(j)] Federally Enforceable Through Title V Permit
70. Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(l)(2), as difficult to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10(k)(1) through (k)(3). [40 CFR 60.482-10(k)] Federally Enforceable Through Title V Permit

71. The owner or operator shall record the following information: 1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment; 2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment; 3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR 60.486(c); 4) For each inspection conducted in accordance with 40 CFR 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected; and 5) For each visual inspection conducted in accordance with 40 CFR 60.482-10(f)(1)(ii) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. [40 CFR 60.482-10(l)] Federally Enforceable Through Title V Permit
72. Closed vent systems and control devices used to comply with provisions Subpart GGG shall be operated at all times when emissions may be vented to them. [40 CFR 60.482-10(m)] Federally Enforceable Through Title V Permit
73. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60, Appendix A or other methods and procedures as specified in 40 CFR 60.485, except as provided in 40 CFR 60.8(b). [40 CFR 60.485(a)] Federally Enforceable Through Title V Permit
74. The owner or operator shall determine compliance with the standards in 40 CFR 60.482, 60.483, and 60.484 as follows: Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used: (i) Zero air (less than 10 ppm of hydrocarbon in air); and (ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane. [40 CFR 60.485(b)] Federally Enforceable Through Title V Permit
75. The owner or operator shall determine compliance with the no detectable emission standards in 40 CFR 60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f), and 60.482-10(e) as follows: 1) The requirements of 40 CFR 60.485(b) shall apply. 2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance. [40 CFR 60.485(c)] Federally Enforceable Through Title V Permit
76. The owner or operator shall test each piece of equipment unless demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used: 1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference as seen in 40 CFR 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment; 2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and 3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, the previous two procedures as specified in 40 CFR 60.485(d)(1) and (2) shall be used to resolve the disagreement. [40 CFR 60.485(d)] Federally Enforceable Through Title V Permit
77. The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply: 1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. H₂O at 68 degrees F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference as seen in 40 CFR 60.17) shall be used to determine the vapor pressures; 2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 degrees Celsius is equal to or greater than 20 percent by weight; and 3) The fluid is a liquid at operating conditions. [40 CFR 60.485(e)] Federally Enforceable Through Title V Permit
78. Samples used in conjunction with 40 CFR 60.485(d), (e), and (g) shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare. [40 CFR 60.485(f)] Federally Enforceable Through Title V Permit
79. An owner or operator of more than one affected facility subject to the provisions Subpart GGG may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility. [40 CFR 60.486(a)] Federally Enforceable Through Title V Permit

80. When each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following requirements apply: 1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment; 2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 60.482-7(c) and no leak has been detected during those 2 months; and 3) The identification on equipment except on a valve, may be removed after it has been repaired. [40 CFR 60.486(b)] Federally Enforceable Through Title V Permit
81. When each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following information shall be recorded in a log and shall be kept for 5 years in a readily accessible location: 1) The instrument and operator identification numbers and the equipment identification number; 2) The date the leak was detected and the dates of each attempt to repair the leak; 3) Repair methods applied in each attempt to repair the leak; 4) "Above 10,000" if the maximum instrument reading measured by the methods specified in 40 CFR 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm; 5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak; 6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown; 7) The expected date of successful repair of the leak if a leak is not repaired within 15 days; 8) Dates of process unit shutdown that occur while the equipment is unrepaired; and 9) The date of successful repair of the leak. [40 CFR 60.486(c) and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
82. The following information pertaining to the design requirements for closed vent systems and control devices described in 40 CFR 60.482-10 shall be recorded and kept in a readily accessible location: 1) Detailed schematics, design specifications, and piping and instrumentation diagrams; 2) The dates and descriptions of any changes in the design specifications; 3) A description of the parameter or parameters monitored, as required in 40 CFR 60.482-10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring; 4) Periods when the closed vent systems and control devices required in 40 CFR 60.482-2, 60.482-3, 60.482-4, and 60.482-5 are not operated as designed, including periods when a flare pilot light does not have a flame; and 5) Dates of startups and shutdowns of the closed vent systems and control devices required in 40 CFR 60.482-2, 60.482-3, 60.482-4, and 60.482-5. [40 CFR 60.486(d)] Federally Enforceable Through Title V Permit
83. The following information pertaining to all equipment subject to the requirements in 40 CFR 60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location: 1) A list of identification numbers for equipment subject to the requirements of Subpart GGG; 2) (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-2(e), 60.482-3(i) and 60.482-7(f). (ii) The designation of equipment as subject to the requirements of 40 CFR 60.482-2(e), 60.482-3(i) and 60.482-7(f) shall be signed by the owner or operator; 3) A list of equipment identification numbers for pressure relief devices required to comply with 60.482-4; 4) (i) The dates of each compliance test as required in 40 CFR 60.482-2(e), 60.482-3(i), 60.482-4, and 60.482-7(f). (ii) The background level measured during each compliance test. (iii) The maximum instrument reading measured at the equipment during each compliance test; and 5) A list of identification numbers for equipment in vacuum service. [40 CFR 60.486(e)] Federally Enforceable Through Title V Permit
84. The following information pertaining to all valves subject to the requirements of 40 CFR 60.482-7(g) and (h) and to all pumps subject to the requirements of 40 CFR 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location: 1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump; and 2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve. [40 CFR 60.486(f)] Federally Enforceable Through Title V Permit
85. The following information shall be recorded for valves complying with 40 CFR 60.483-2: 1) A schedule of monitoring; 2) The percent of valves found leaking during each monitoring period. [40 CFR 60.486(g)] Federally Enforceable Through Title V Permit
86. The following information shall be recorded in a log that is kept in a readily accessible location: 1) Design criterion required in 40 CFR 60.482-2(d)(5) and 60.482-3(e)(2) and explanation of the design criterion; and 2) Any changes to this criterion and the reasons for the changes. [40 CFR 60.486(h)] Federally Enforceable Through Title V Permit

87. The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 CFR 60.480(d): 1) An analysis demonstrating the design capacity of the affected facility; 2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol; and 3) An analysis demonstrating that equipment is not in VOC service. [40 CFR 60.486(i)] Federally Enforceable Through Title V Permit
88. Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486(j)] Federally Enforceable Through Title V Permit
89. The provisions of 40 CFR 60.7 (b) and (d) do not apply to affected facilities subject to Subpart GGG. [40 CFR 60.486(k)] Federally Enforceable Through Title V Permit
90. All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR 60.486: 1) Process unit identification; 2) For each month during the semiannual reporting period, i) Number of valves for which leaks were detected as described in 40 CFR 60.482-7(b) or 40 CFR 60.483-2, (ii) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2(b) and (d)(6)(i), (iv) Number of pumps for which leaks were not repaired as required in 40 CFR 60.482-2(c)(1) and (d)(6)(ii), (v) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3(g)(1), and (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible; 3) Dates of process unit shutdowns which occurred within the semiannual reporting period; 4) Revisions to items reported in the semiannual report if changes have occurred since the initial report, as required in 40 CFR 60.487 (a) and (b), or subsequent revisions to the initial report. [40 CFR 60.487(c)] Federally Enforceable Through Title V Permit
91. An owner or operator electing to comply with the provisions of 40 CFR 60.483-1 and 60.483-2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions. [40 CFR 60.487(d)] Federally Enforceable Through Title V Permit
92. An owner or operator shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of Subpart GGG except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests. [40 CFR 60.487(e)] Federally Enforceable Through Title V Permit
93. The semiannual reporting requirements of 40 CFR 60.487(a), (b), and (c) remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of 40 CFR 60.487(a), (b), and (c), provided that they comply with the requirements established by the State. [40 CFR 60.487(f)] Federally Enforceable Through Title V Permit
94. Compressors are exempt from the standards of Subpart GGG if the owner or operator demonstrates that a compressor is in hydrogen service. Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used. An owner or operator may use engineering judgment to demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, however, the procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used to resolve the disagreement. If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures that conform to the general method described in ASTM E-260, E-168, or E-169. [40 CFR 60.593(b)] Federally Enforceable Through Title V Permit
95. An owner or operator may use the following provision in addition to 40 CFR 60.485(e): Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 150 °C as determined by ASTM Method D86-78, 82, 90, 95, or 96. [40 CFR 60.593(d)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

96. Equipment that is in vacuum service is excluded from the requirements of 40 CFR 60.482-2 to 40 CFR 60.482-10 if it is identified as required in 40 CFR 60.486(e)(5). [40 CFR 60.482-1(d)] Federally Enforceable Through Title V Permit
97. Permittee shall comply with all applicable testing, recordkeeping, and reporting requirements specified in Rule 4001 - New Source Performance Standards, including but not limited to Subparts A and J. [District Rule 4001] Federally Enforceable Through Title V Permit
98. Heaters shall be fired only on purchased commercial natural gas, refinery fuel gas, or any combination thereof. [District Rule 2201, 4001] Federally Enforceable Through Title V Permit
99. Operator shall not burn in any fuel gas combustion device any fuel gas that contains hydrogen sulfide (H₂S) in excess of 100 ppmv@ 0% O₂. [District Rules 2201, 2520, 9.4.2 and 4301, 5.2.1, & 40 CFR Part 60, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
100. The combustion in the fuel gas combustion devices of gases released as a result of start-up, shutdown, upset, malfunction, or the result of relief valve leakage is exempt from the 100 ppmv@ 0% O₂ requirement. [District Rules 2201, 4001, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
101. All refinery fuel gas combusted in the heaters shall be monitored for H₂S content by a continuous emissions monitoring (CEM) system. CEM shall be installed, calibrated, operated, and reported according to EPA guidelines as specified under 40 CFR 60, Subpart J, Specification 7, and general requirements. CEM results shall be calculated on a rolling three (3) hour basis. [District Rules 2201, 4001, Subpart J, 60.105(a)(4) and 60.105(a)(4)iii] Federally Enforceable Through Title V Permit
102. Operator shall report all rolling 3-hour periods during which the average concentration of H₂S as measured by the H₂S continuous monitoring system exceeds 100 ppmv@ 0% O₂. [District Rules 2201, 4001, Subpart J, 60.105(e)(3)(ii)] Federally Enforceable Through Title V Permit
103. Except for complying with the applicable requirements of Sections 6.1 and 7.3, the requirements of this rule shall not apply to 1) components subject to Rule 4623 (adopted 5/19/05), 2) pressure relief devices, pumps, and compressors equipped with a closed vent system as defined in Section 3.0, 3) components buried below ground, 4) components exclusively handling liquid streams which have less than 10 percent by weight (<10 wt%) evaporation at 150 C, 5) components exclusively handling liquid streams with a VOC content less than ten percent by weight (<10 wt%), 6) components exclusively handling gas/vapor streams with a VOC content of less than one percent by weight (<1wt%), 7) components incorporated in lines exclusively in vacuum service, 8) components exclusively handling commercial natural gas, and 9) one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the Air Pollution Control Officer (APCO) to be leak-free based on initial inspection. [District Rule 4455, 4.1 & 4.2] Federally Enforceable Through Title V Permit
104. Except for components subject to Rule 4623 (Storage of Organic Liquids) or for components included in the inspection and maintenance (I&M) program implemented pursuant to Section 5.7 of Rule 4623, the operator shall not use any component that leaks in excess of the allowable leak standards of Rule 4455, or is found to be in violation of the provisions specified in Section 5.1.3. A component identified as leaking in excess of an allowable leak standard may be used provided it has been identified with a tag for repair, has been repaired, or is awaiting re-inspection after repair, within the applicable time period specified within the rule. [District Rule 4455, 5.1.1] Federally Enforceable Through Title V Permit
105. 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 4455, 5.1.2] Federally Enforceable Through Title V Permit
106. The operator shall be in violation of Rule 4455 if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 (Leak Standards) exist at the facility. [District Rule 4455, 5.1.3.1] Federally Enforceable Through Title V Permit
107. Except for annual operator inspection described in Section 5.1.3.2.3, any operator inspection that demonstrates that one or more of the conditions in Section 5.1.4 exist at the facility shall not constitute a violation of Rule 4455 if the leaking components are repaired as soon as practicable but not later than the time frame specified in Rule 4455. Such components shall not be counted towards determination of compliance with the provisions of Section 5.1.4. [District Rule 4455, 5.1.3.2.1] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

108. 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 Rule 4455 shall be counted toward determination of compliance with the provisions of Section 5.1.4. [District Rule 4455, 5.1.3.2.2] Federally Enforceable Through Title V Permit
109. Any operator inspection conducted annually for a component type (including operator annual inspections pursuant to Section 5.2.5, 5.2.6, 5.2.7, or 5.2.8) that demonstrates one or more of the conditions in Section 5.1.4 exist at the facility shall constitute a violation of Rule 4455 regardless of whether or not the leaking components are repaired, replaced, or removed from operation within the allowable repair time frame specified in Rule 4455. [District Rule 4455, 5.1.3.2.3] Federally Enforceable Through Title V Permit
110. 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 of Rule 4455 exist at the facility. Readings shall be taken as methane using a portable hydrocarbon detection instrument and shall be made in accordance with the methods specified in Section 6.4.1 of Rule 4455. [District Rule 4455, 5.1.4] Federally Enforceable Through Title V Permit
111. The operator shall audio-visually inspect for leaks all accessible operating pumps, compressors and Pressure Relief Devices (PRDs) in service at least once every 24 hours, except when operators do not report to the facility for that given 24 hours. Any identified leak that cannot be immediately repaired shall be reinspected within 24 hours using a portable analyzer. If a leak is found, it shall be repaired as soon as practical but not later than the time frame specified in Table 3. [District Rule 4455, 5.2.1 & 5.2.2] Federally Enforceable Through Title V Permit
112. The operator shall inspect all components at least once every calendar quarter, except for inaccessible components, unsafe-to-monitor components and pipes. Inaccessible components, unsafe-to-monitor components and pipes shall be inspected in accordance with the requirements set forth in Sections 5.2.5, 5.2.6, and 5.2.7. New, replaced, or repaired fittings, flanges and threaded connections shall be inspected immediately after being placed into service. Components shall be inspected using EPA Method 21. [District Rule 4455, 5.2.3, 5.2.4, 5.2.5, 5.2.6 & 5.2.7] Federally Enforceable Through Title V Permit
113. The operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually for a component type, provided the operator meets all the criteria specified in Sections 5.2.8.1 through 5.2.8.3. 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. [District Rule 4455, 5.2.8] Federally Enforceable Through Title V Permit
114. An annual inspection frequency approved by the APCO shall revert to quarterly inspection frequency for a component type if either the operator inspection or District inspection demonstrates that a violation of the provisions of Sections 5.1, 5.2 and 5.3 of the rule exists for that component type, or the APCO issued a Notice of Violation for violating any of the provisions of Rule 4455 during the annual inspection period for that component type. When the inspection frequency changes from annual to quarterly inspections, the operator shall notify the APCO in writing within five (5) calendar days after changing the inspection frequency, giving the reason(s) and date of change to quarterly inspection frequency. [District Rule 4455, 5.2.9 & 5.2.10] Federally Enforceable Through Title V Permit
115. The operator shall initially inspect a process PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the time of the release. To insure that the process PRD is operating properly, and is leak-free, the operator shall re-inspect the process PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the date of the release using EPA Method 21. If the process 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. [District Rule 4455, 5.2.11] Federally Enforceable Through Title V Permit
116. Except for process PRD, a component shall be inspected within 15 calendar days after repairing the leak or replacing the component using EPA Method 21. [District Rule 4455, 5.2.12] Federally Enforceable Through Title V Permit
117. 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 to be willful circumvention and is a violation of this rule. [District Rule 4455, 5.2.13] Federally Enforceable Through Title V Permit

118. Upon detection of a leaking component, the operator shall affix to that component a weatherproof readily visible tag that contains the information specified in Section 5.3.3. The tag shall remain affixed to the component until the leaking component has been repaired or replaced; has been re-inspected using EPA Method 21; and is found to be in compliance with the requirements of Rule 4455. [District Rule 4455, 5.3.1 5.3.2 and 5.3.3] Federally Enforceable Through Title V Permit
119. 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. [District Rule 4455, 5.3.4] Federally Enforceable Through Title V Permit
120. If the leak has been minimized but the leak still exceeds the applicable leak standards of Rule 4455, an operator shall repair or replace the leaking component, vent the leaking component to a closed vent system, or remove the leaking component from operation as soon as practicable but not later than the time period specified in Table 3. 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 percent of the number of components inspected, by type, rounded upward to the nearest integer where required. [District Rule 4455, 5.3.5] Federally Enforceable Through Title V Permit
121. If the leaking component is an essential component or a critical component and which cannot be immediately shut down for repairs, the operator shall minimize the leak within one hour after detection of the leak. If the leak has been minimized, but the leak still exceeds any of the applicable leak standards of Rule 4455, 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. [District Rule 4455 5.3.6] Federally Enforceable Through Title V Permit
122. For any component that has incurred five repair actions for major gas leaks or major liquid leaks, or any 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. [District Rule 4455, 5.3.7] Federally Enforceable Through Title V Permit
123. The operator shall monitor process PRD by using electronic process control instrumentation that allows for real time continuous parameter monitoring or by using telltale indicators for the process PRD where parameter monitoring is not feasible. [District Rule 4455, 5.4.1] Federally Enforceable Through Title V Permit
124. After a release from a process PRD in excess of 500 pounds of VOC in a continuous 24-hour period, the operator shall immediately conduct a failure analysis and implement corrective actions as soon as practicable but not later than 30 days to prevent the reoccurrence of similar release. For refineries processing greater than 20,000 barrels of crude oil per day, any subsequent release in excess of 500 pounds of VOC within a continuous 24-hour period shall be subject to the requirements of Section 5.4.5. [District Rule 4455, 5.4.3 & 5.4.4] Federally Enforceable Through Title V Permit
125. The operator of a refinery processing greater than 20,000 barrels of crude oil per day shall connect all process PRDs serving that process equipment to an APCO-approved closed vent system as defined in Section 3.0 if any of the conditions specified in Sections 5.4.5.1 and 5.4.5.2 occurs. Process PRDs subject to the provisions of Section 5.4.5 shall be connected to an APCO-approved closed-vent system as soon as practicable, but no later than the first turnaround after the requirement to connect becomes effective. [District Rule 4455, 5.4.5] Federally Enforceable Through Title V Permit
126. 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 District personnel 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. The operator shall comply with the requirements of Sections 6.1.4 if there is any change in the description of major components or critical components. [District Rule 4455, 5.5.1 & 5.5.2] Federally Enforceable Through Title V Permit

127. The operator shall keep a copy of the operator management plan at the facility and make it available to the APCO, ARB and US EPA upon request. By January 30 of each year, the operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved operator management plan. [District Rule 4455, 6.1.2 & 6.1.4] Federally Enforceable Through Title V Permit
128. The operator shall maintain an inspection log containing, at a minimum, 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 component and critical components found leaking that cannot be repaired until the next process unit turnaround or not later one year after leak detection, whichever comes earlier, 7) methods used to minimize the leak from essential components and critical components that cannot be repaired until the next process unit turnaround or not later one year after leak detection, whichever comes earlier, 8) after the component is repaired or is replaced, the date of reinspection and the leak concentration in ppmv, 9) inspector's name, business mailing address, and business telephone number, and 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. [District Rule 4455, 6.2.1] Federally Enforceable Through Title V Permit
129. 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, analyzer 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. [District Rule 4455, 6.2.3] Federally Enforceable Through Title V Permit
130. The operator shall notify the APCO, by telephone or other methods approved by the APCO, of any process PRD release described in Sections 5.4.4 and 5.4.5, and any release in excess of the reportable quantity limits as stipulated in 40 CFR, Part 117, Part 302 and Part 355, including any release in excess of 100 pounds of VOC, within one hour of such occurrence or within one hour of the time said person knew or reasonably should have known of its occurrence. [District Rule 4455, 6.3.1] Federally Enforceable Through Title V Permit
131. The operator shall submit a written report to the APCO within thirty (30) calendar days following a PRD release subject to 6.3.1. The written report shall include 1) process PRD type, size, and location, 2) date, time and duration of the process PRD release, 3) types of VOC released and individual amounts, in pounds, including supporting calculations, 4) cause of the process PRD release, and 5) corrective actions taken to prevent a subsequent process PRD release. [District Rule 4455 6.3.2] Federally Enforceable Through Title V Permit
132. Copies of all records shall be retained for a minimum of five (5) years after the date of an entry. Such records shall be made available to the APCO, ARB, or US EPA upon request. [District Rule 4455, 6.2.2, 6.2.3 & 6.2.4] Federally Enforceable Through Title V Permit
133. 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. [District Rule 4455, 6.4.1] Federally Enforceable Through Title V Permit
134. The VOC content of exempt streams shall be determined using American Society of Testing and Materials (ASTM) D 1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids. [District Rule 4455, 6.4.2] Federally Enforceable Through Title V Permit
135. For exempt streams, the percent by volume liquid evaporated at 150 deg C shall be determined using ASTM D 86. [District Rule 4455, 6.4.3] Federally Enforceable Through Title V Permit
136. Equivalent test methods other than specified in Sections 6.4.1 through 6.4.5 may be used provided such test methods have received prior approval from the US EPA, ARB, and APCO. [District Rule 4455, 6.4] Federally Enforceable Through Title V Permit

Attachment II

Location Maps





Weedpatch Hwy

Main St

E Panama Ln

Brookside Rd

Hilltop Dr

Hoffman Ave

1000 ft



Reformer Compressor

KHT Compressor

NHT Compressor

Google earth

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Attachment III Fugitive Emissions Calculations

Kern Oil & Refining Co.
Existing Compressor S-37-3
(PE1)

Fugitive Emissions Using Correlation Equation Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-3a: CAPCOA -Revised 1995 EPA Protocol Refinery Correlation Equations for Refineries and Marketing Terminals

Equipment Type	Service	Component Count	% Default Zeros	%Pegged (>10,000)	% in Correlation Range	Correlation Screening Value (ppm)	Default Zero Emissions (lb/day)	Pegged Emissions (lb/day)	Correlation Emissions (lb/day)	VOC emissions (lb/day)
Valves	All	25	50.0%	0.7%	49.3%	400	0.005	0.593	0.130	0.73
Pump Seals	All	0	50.0%	1.0%	49.0%	500	0.000	0.000	0.000	0.00
Others	All	5	50.0%	0.0%	50.0%	1,000	0.001	0.000	0.097	0.10
Connectors	All	56	50.0%	0.5%	49.5%	400	0.011	0.444	0.185	0.64
Flanges	All	40	50.0%	0.5%	49.5%	400	0.000	1.005	0.326	1.33
Open-ended lines	All	0	50.0%	0.5%	49.5%	1,000	0.000	0.000	0.000	0.00

Total VOC Emissions (lb/day) = 2.8
Total VOC Emissions (lb/yr) = 1,021

Factors Used in Calculations - For Reference					
Equipment Type	Service	Default Zero Factor (kg/hr)	Pegged Factor (kg/hr)	Correlation Equation	
Valves	All	7.800E-06	6.400E-02	$2.27E-06(SV)^{0.747}$	
Pump Seals	All	1.900E-05	8.900E-02	$5.07E-05(SV)^{0.622}$	
Others	All	4.000E-06	8.200E-02	$8.69E-06(SV)^{0.642}$	
Connectors	All	7.500E-06	3.000E-02	$1.53E-06(SV)^{0.736}$	
Flanges	All	3.100E-07	9.500E-02	$4.53E-06(SV)^{0.706}$	
Open-ended lines	All	2.000E-06	3.300E-02	$1.90E-06(SV)^{0.724}$	

**Kern Oil & Refining Co.
New Compressor S-37-3 (PE2)**

Fugitive Emissions Using Correlation Equation Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-3a: CAPCOA -Revised 1995 EPA Protocol Refinery Correlation Equations for Refineries and Marketing Terminals

Equipment Type	Service	Component Count	% Default Zeros	% Pegged (>10,000)	% in Correlation Range	Correlation Screening Value (ppm)	Default Zero Emissions (lb/day)	Pegged Emissions (lb/day)	Correlation Emissions (lb/day)	VOC emissions (lb/day)
Valves	All	25	50.0%	0.7%	49.3%	100	0.005	0.593	0.046	0.64
Pump Seals	All	0	50.0%	1.0%	49.0%	500	0.000	0.000	0.000	0.00
Others	All	5	50.0%	0.0%	50.0%	500	0.001	0.000	0.062	0.06
Connectors	All	56	50.0%	0.5%	49.5%	100	0.011	0.444	0.067	0.52
Flanges	All	40	50.0%	0.5%	49.5%	100	0.000	1.005	0.123	1.13
Open-ended lines	All	0	50.0%	0.5%	49.5%	1,000	0.000	0.000	0.000	0.00

Total VOC Emissions (lb/day) = 2.4
Total VOC Emissions (lb/yr) = 860

161.0

Factors Used in Calculations - For Reference				
Equipment Type	Service	Default Zero Factor (kg/hr)	Pegged Factor (kg/hr)	Correlation Equation (kg/hr)
Valves	All	7.800E-06	6.400E-02	$2.27E-06(SV)^{0.747}$
Pump Seals	All	1.900E-05	8.900E-02	$5.07E-05(SV)^{0.622}$
Others	All	4.000E-06	8.200E-02	$8.69E-06(SV)^{0.842}$
Connectors	All	7.500E-06	3.000E-02	$1.53E-06(SV)^{0.736}$
Flanges	All	3.100E-07	9.500E-02	$4.53E-06(SV)^{0.706}$
Open-ended lines	All	2.000E-06	3.300E-02	$1.90E-06(SV)^{0.724}$

Kern Oil & Refining Co.
Existing Compressor S-37-118
(PE1)

Fugitive Emissions Using Correlation Equation Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities

Table IV-3a: CAPCOA -Revised 1995 EPA Protocol Refinery Correlation Equations for Refineries and Marketing Terminals

Equipment Type	Service	Component Count	% Default Zeros	% Pegged (>10,000)	% In Correlation Range	Correlation Screening Value (ppm)	Default Zero Emissions (lb/day)	Pegged Emissions (lb/day)	Correlation Emissions (lb/day)	VOC emissions (lb/day)
Valves	All	23	50.0%	0.7%	49.3%	400	0.005	0.545	0.120	0.67
Pump Seals	All	0	50.0%	1.0%	49.0%	500	0.000	0.000	0.000	0.00
Others	All	4	50.0%	0.0%	50.0%	1,000	0.000	0.000	0.078	0.08
Connectors	All	97	50.0%	0.5%	49.5%	400	0.019	0.770	0.320	1.11
Flanges	All	27	50.0%	0.5%	49.5%	400	0.000	0.679	0.220	0.90
Open-ended lines	All	0	50.0%	0.5%	49.5%	1,000	0.000	0.000	0.000	0.00

Total VOC Emissions (lb/day) = 2.8
Total VOC Emissions (lb/yr) = 1,006

Factors Used in Calculations - For Reference				Correlation Equation (kg/hr)	
Equipment Type	Service	Default Zero Factor (kg/hr)	Pegged Factor (kg/hr)	Correlation Equation	
Valves	All	7.800E-06	6.400E-02	$2.27E-06(SV)^{0.747}$	
Pump Seals	All	1.900E-05	8.900E-02	$5.07E-05(SV)^{0.622}$	
Others	All	4.000E-06	8.200E-02	$8.69E-06(SV)^{0.642}$	
Connectors	All	7.500E-06	3.000E-02	$1.53E-06(SV)^{0.736}$	
Flanges	All	3.100E-07	9.500E-02	$4.53E-06(SV)^{0.706}$	
Open-ended lines	All	2.000E-06	3.300E-02	$1.90E-06(SV)^{0.724}$	

Kern Oil & Refining Co.
New Compressor S-37-118
(PE2)

Fugitive Emissions Using Correlation Equation Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities

Table IV-3a: CAPCOA -Revised 1995 EPA Protocol Refinery Correlation Equations for Refineries and Marketing Terminals

Equipment Type	Service	Component Count	% Default Zeros	%Pegged (>10,000)	% in Correlation Range	Correlation Screening Value (ppm)	Default Zero Emissions (lb/day)	Pegged Emissions (lb/day)	Correlation Emissions (lb/day)	VOC emissions (lb/day)
Valves	All	23	50.0%	0.7%	49.3%	100	0.005	0.545	0.042	0.59
Pump Seals	All	0	50.0%	1.0%	49.0%	500	0.000	0.000	0.000	0.00
Others	All	4	50.0%	0.0%	50.0%	500	0.000	0.000	0.050	0.05
Connectors	All	97	50.0%	0.5%	49.5%	100	0.019	0.770	0.115	0.90
Flanges	All	27	50.0%	0.5%	49.5%	100	0.000	0.679	0.083	0.76
Open-ended lines	All	0	50.0%	0.5%	49.5%	1,000	0.000	0.000	0.000	0.00

Total VOC Emissions (lb/day) = 2.3
Total VOC Emissions (lb/yr) = 843

163.0

Factors Used in Calculations - For Reference				
Equipment Type	Service	Default Zero Factor (kg/hr)	Pegged Factor (kg/hr)	Correlation Equation (kg/hr)
Valves	All	7.800E-06	6.400E-02	$2.27E-06(SV)^{0.747}$
Pump Seals	All	1.900E-05	8.900E-02	$5.07E-06(SV)^{0.622}$
Others	All	4.000E-06	8.200E-02	$8.69E-06(SV)^{0.642}$
Connectors	All	7.500E-06	3.000E-02	$1.53E-06(SV)^{0.736}$
Flanges	All	3.100E-07	9.500E-02	$4.53E-06(SV)^{0.706}$
Open-ended lines	All	2.000E-06	3.300E-02	$1.90E-06(SV)^{0.724}$

Kern Oil & Refining Co.
New Compressor S-37-119
(PE2)

Fugitive Emissions Using Correlation Equation Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities

Table IV-3a: CAPCOA -Revised 1995 EPA Protocol Refinery Correlation Equations for Refineries and Marketing Terminals

Equipment Type	Service	Component Count	% Default Zeros	% Pegged (>10,000)	% in Correlation Range	Correlation Screening Value (ppm)	Default Zero Emissions (lb/day)	Pegged Emissions (lb/day)	Correlation Emissions (lb/day)	VOC emissions (lb/day)
Valves	All	24	50.0%	0.7%	49.3%	100	0.005	0.569	0.044	0.62
Pump Seals	All	0	50.0%	1.0%	49.0%	500	0.000	0.000	0.000	0.00
Others	All	3	50.0%	0.0%	50.0%	500	0.000	0.000	0.037	0.04
Connectors	All	64	50.0%	0.5%	49.5%	100	0.013	0.508	0.076	0.60
Flanges	All	45	50.0%	0.5%	49.5%	100	0.000	1.131	0.138	1.27
Open-ended lines	All	0	50.0%	0.5%	49.5%	1,000	0.000	0.000	0.000	0.00

Total VOC Emissions (lb/day) = 2.5
Total VOC Emissions (lb/yr) = 920

Factors Used in Calculations - For Reference				
Equipment Type	Service	Default Zero Factor (kg/hr)	Pegged Factor (kg/hr)	Correlation Equation (kg/hr)
Valves	All	7.800E-06	6.400E-02	$2.27E-06(SV)^{0.747}$
Pump Seals	All	1.900E-05	8.900E-02	$5.07E-05(SV)^{0.622}$
Others	All	4.000E-06	8.200E-02	$8.69E-06(SV)^{0.642}$
Connectors	All	7.500E-06	3.000E-02	$1.53E-06(SV)^{0.736}$
Flanges	All	3.100E-07	9.500E-02	$4.53E-06(SV)^{0.706}$
Open-ended lines	All	2.000E-06	3.300E-02	$1.90E-06(SV)^{0.724}$

Electric Compressor
Kern Oil & Refining Co.
S-37-119 (PE1)

Fugitive Emissions Using Correlation Equation Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-3a: CAPCOA -Revised 1995 EPA Protocol Refinery Correlation Equations for Refineries and Marketing Terminals

Equipment Type	Service	Component Count	% Default Zeros	% Pegged (>10,000)	% in Correlation Range	Correlation Screening Value (ppm)	Default Zero Emissions (lb/day)	Pegged Emissions (lb/day)	Correlation Emissions (lb/day)	VOC emissions (lb/day)
Valves	All	24	50.0%	0.7%	49.3%	400	0.005	0.569	0.125	0.70
Pump Seals	All	0	50.0%	1.0%	49.0%	500	0.000	0.000	0.000	0.00
Others	All	3	50.0%	0.0%	50.0%	1,000	0.000	0.000	0.058	0.06
Connectors	All	64	50.0%	0.5%	49.5%	400	0.013	0.508	0.211	0.73
Flanges	All	45	50.0%	0.5%	49.5%	400	0.000	1.131	0.367	1.50
Open-ended lines	All	0	50.0%	0.5%	49.5%	1,000	0.000	0.000	0.000	0.00

Total VOC Emissions (lb/day) = 3.0
Total VOC Emissions (lb/yr) = 1,090

Factors Used in Calculations - For Reference				Correlation Equation (kg/hr)	
Equipment Type	Service	Default Zero Factor (kg/hr)	Pegged Factor (kg/hr)		
Valves	All	7.800E-06	6.400E-02	$2.27E-06(SV)^{0.747}$	
Pump Seals	All	1.900E-05	8.900E-02	$5.07E-05(SV)^{0.622}$	
Others	All	4.000E-06	8.200E-02	$8.69E-06(SV)^{0.642}$	
Connectors	All	7.500E-06	3.000E-02	$1.53E-06(SV)^{0.736}$	
Flanges	All	3.100E-07	9.500E-02	$4.53E-06(SV)^{0.706}$	
Open-ended lines	All	2.000E-06	3.300E-02	$1.90E-06(SV)^{0.724}$	

Steam-Driven
compressor

Kern Oil & Refining Co.
Exiting Compressor S-37-119
(PE1)

Fugitive Emissions Using Correlation Equation Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-3a: CAPCOA -Revised 1995 EPA Protocol Refinery Correlation Equations for Refineries and Marketing Terminals

Equipment Type	Service	Component Count	% Default Zeros	% Pegged (>10,000)	% in Correlation Range	Correlation Screening Value (ppm)	Default Zero Emissions (lb/day)	Pegged Emissions (lb/day)	Correlation Emissions (lb/day)	VOC emissions (lb/day)
Valves	All	35	50.0%	0.7%	49.3%	400	0.007	0.830	0.182	1.02
Pump Seals	All	0	50.0%	1.0%	49.0%	500	0.000	0.000	0.000	0.00
Others	All	5	50.0%	0.0%	50.0%	1,000	0.001	0.000	0.097	0.10
Connectors	All	139	50.0%	0.5%	49.5%	400	0.028	1.103	0.458	1.59
Flanges	All	56	50.0%	0.5%	49.5%	400	0.000	1.407	0.457	1.86
Open-ended lines	All	0	50.0%	0.5%	49.5%	1,000	0.000	0.000	0.000	0.00

Total VOC Emissions (lb/day) = 4.6
Total VOC Emissions (lb/yr) = 1,668

Factors Used in Calculations - For Reference					
Equipment Type	Service	Default Zero Factor (kg/hr)	Pegged Factor (kg/hr)	Correlation Equation (kg/hr)	
Valves	All	7.800E-06	6.400E-02	$2.27E-06(SV)^{0.747}$	
Pump Seals	All	1.900E-05	8.900E-02	$5.07E-05(SV)^{0.622}$	
Others	All	4.000E-06	8.200E-02	$8.69E-06(SV)^{0.642}$	
Connectors	All	7.500E-06	3.000E-02	$1.53E-06(SV)^{0.736}$	
Flanges	All	3.100E-07	9.500E-02	$4.53E-06(SV)^{0.706}$	
Open-ended lines	All	2.000E-06	3.300E-02	$1.90E-06(SV)^{0.724}$	

Kern Oil & Refining Co.
New Compressor S-37-119
(PE2)

Fugitive Emissions Using Correlation Equation Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-3a: CAPCOA -Revised 1995 EPA Protocol Refinery Correlation Equations for Refineries and Marketing Terminals

Equipment Type	Service	Component Count	% Default Zeros	% Pegged (>10,000)	% in Correlation Range	Correlation Screening Value (ppm)	Default Zero Emissions (lb/day)	Pegged Emissions (lb/day)	Correlation Emissions (lb/day)	VOC emissions (lb/day)
Valves	All	35	50.0%	0.7%	49.3%	100	0.007	0.830	0.065	0.90
Pump Seals	All	0	50.0%	1.0%	49.0%	500	0.000	0.000	0.000	0.00
Others	All	5	50.0%	0.0%	50.0%	500	0.001	0.000	0.062	0.06
Connectors	All	139	50.0%	0.5%	49.5%	100	0.028	1.103	0.165	1.30
Flanges	All	56	50.0%	0.5%	49.5%	100	0.000	1.407	0.172	1.58
Open-ended lines	All	0	50.0%	0.5%	49.5%	1,000	0.000	0.000	0.000	0.00

Total VOC Emissions (lb/day) = 3.8
Total VOC Emissions (lb/yr) = 1,401

267.0

Factors Used in Calculations - For Reference				
Equipment Type	Service	Default Zero Factor (kg/hr)	Pegged Factor (kg/hr)	Correlation Equation (kg/hr)
Valves	All	7.800E+06	6.400E-02	2.27E-06(SV) ^{0.747}
Pump Seals	All	1.900E-05	8.900E-02	5.07E-05(SV) ^{0.622}
Others	All	4.000E-06	8.200E-02	8.69E-06(SV) ^{0.642}
Connectors	All	7.500E-06	3.000E-02	1.53E-06(SV) ^{0.736}
Flanges	All	3.100E-07	9.500E-02	4.53E-06(SV) ^{0.706}
Open-ended lines	All	2.000E-06	3.300E-02	1.90E-06(SV) ^{0.724}

Attachment IV Emissions Profiles

Permit #: S-37-3-10	Last Updated
Facility: KERN OIL & REFINING CO	05/02/2018 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):	6990.0	4194.0	1771.0	8622.0	34067.0
Daily Emis. Limit (lb/Day)	19.2	11.5	4.9	23.6	93.4
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-40.0
Q2:	0.0	0.0	0.0	0.0	-40.0
Q3:	0.0	0.0	0.0	0.0	-40.0
Q4:	0.0	0.0	0.0	0.0	-41.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					222.0
Q2:					223.0
Q3:					223.0
Q4:					223.0

Permit #: S-37-118-5	Last Updated
Facility: KERN OIL & REFINING CO	04/13/2018 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):	6332.0	3509.0	1578.0	23045.0	12160.0
Daily Emis. Limit (lb/Day)	17.3	9.6	4.3	63.1	33.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-40.0
Q2:	0.0	0.0	0.0	0.0	-41.0
Q3:	0.0	0.0	0.0	0.0	-41.0
Q4:	0.0	0.0	0.0	0.0	-41.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					224.0
Q2:					225.0
Q3:					225.0
Q4:					225.0

Permit #: S-37-119-6	Last Updated
Facility: KERN OIL & REFINING CO	05/02/2018 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):	13575.0	6994.0	3749.0	54694.0	30574.0
Daily Emis. Limit (lb/Day)	37.3	18.9	10.2	22.1	83.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	-109.0
Q2:	0.0	0.0	0.0	0.0	-109.0
Q3:	0.0	0.0	0.0	0.0	-109.0
Q4:	0.0	0.0	0.0	0.0	-110.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:					635.0
Q2:					635.0
Q3:					635.0
Q4:					636.0

Permit #: S-37-163-0	Last Updated
Facility: KERN OIL & REFINING CO	04/13/2018 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):	365.0	56.0	359.0	2478.0	305.0
Daily Emis. Limit (lb/Day)	1.0	0.2	1.0	6.8	0.8
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	91.0	14.0	89.0	619.0	76.0
Q2:	91.0	14.0	90.0	619.0	76.0
Q3:	91.0	14.0	90.0	620.0	76.0
Q4:	92.0	14.0	90.0	620.0	77.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	106.0		1.0		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	106.0		77.0		113.0
Q2:	106.0		77.0		113.0
Q3:	107.0		78.0		113.0
Q4:			78.0		114.0

Permit #: S-37-164-0	Last Updated
Facility: KERN OIL & REFINING CO.	04/13/2018 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):	365.0	56.0	359.0	2478.0	305.0
Daily Emis. Limit (lb/Day)	1.0	0.2	1.0	0.8	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	91.0	14.0	89.0	619.0	76.0
Q2:	91.0	14.0	90.0	619.0	76.0
Q3:	91.0	14.0	90.0	620.0	76.0
Q4:	92.0	14.0	90.0	620.0	77.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5		1.0		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	106.0		77.0		13.0
Q2:	106.0		77.0		113.0
Q3:	106.0		78.0		113.0
Q4:	107.0		78.0		114.0

Permit #: S-37-165-0	Last Updated
Facility: KERN OIL & REFINING CO.	04/13/2018 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):	365.0	56.0	359.0	2478.0	305.0
Daily Emis. Limit (lb/Day)	1.0	0.2	1.0	6.8	0.8
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	91.0	14.0	89.0	619.0	76.0
Q2:	91.0	14.0	90.0	619.0	76.0
Q3:	91.0	14.0	90.0	620.0	76.0
Q4:	92.0	14.0	90.0	620.0	77.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio	1.5		1.0		1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	106.0		77.0		113.0
Q2:	106.0		77.0		113.0
Q3:	106.0		78.0		113.0
Q4:	107.0		78.0		114.0

Attachment V

Historical Actual Emissions

TABLE #1
Kern Oil & Refining Company
NO_x, CO & VOC Emission Results
KHT East Compressor (S-37-87-5)

TEST	1	2	3	AVERAGE	LIMIT
Test Location	Outlet	Outlet	Outlet		
Test Date	2/17/2016	2/17/2016	2/17/2016		
Test Time	1326-1356	1406-1436	1445-1515		
Standard Temp., °F	60	60	60		
O ₂ , %	<0.25	<0.25	0.26	<0.25	
NO _x , ppm	34.52	32.91	33.18	33.54	
NO_x, ppm @ 15% O₂	9.86	9.40	9.49	9.58	25
NO _x , lbs/MMBtu	0.0363	0.0346	0.0349	0.0352	
CO, ppm	2010.82	2114.21	2109.47	2078.17	
CO, ppm @ 15% O₂	574.52	604.06	603.10	593.89	2000
CO, lbs/MMBtu	1.2855	1.3516	1.3495	1.3289	
VOC, ppm	3.20	3.40	3.20	3.27	
VOC, ppm @ 15% O₂	0.91	0.97	0.91	0.93	250
VOC, lbs/MMBtu	0.0012	0.0012	0.0012	0.0012	

WHERE:NO_x = Oxides of Nitrogen (MW=46)

CO = Carbon Monoxide (MW=28)

O₂ = Oxygen

ppm = Parts Per Million Concentration

DSCFM = Dry Standard Cubic Feet per Minute

lbs/MMBtu = Pounds per Million Btu

Fd = 8710 (EPA F Factor for Natural Gas)

Tstd. = Standard Temp.; °R = °F + 460

VOC = Total Non-methane Non-ethane Hydrocarbons as CH₄ (MW = 16)**CALCULATIONS:**15%O₂ correction = ppm of pollutant * 5.9 / (20.9 - %O₂)lbs/MMBtu = Fd * MW * ppm * 2.59E-9 * 20.9 / (20.9 - %O₂)

Fd =

8710

Attachment VI BACT Guidelines

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.3.12*

Last Update: 3/19/2015

Non-Agricultural Fossil Fuel-Fired IC Engines > 50 bhp**

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	1. For all compression-ignited engines: Use of an engine meeting the latest Tier standard 2. For all spark-ignited engines: 25 ppmvd @ 15% O ₂ or 0.15 g/bhp-hr	1. For all compression-ignited engines: 50 percent reduction of latest Tier standard for VOC emissions using a catalytic oxidation system. 2. For rich-burn spark-ignited engines: 12 ppmvd @ 15% O ₂ or 0.069 g/bhp-hr	Electric Motor (except for engines that will be used to generate electricity)
SO _x	Compliance with District Rule 4702 SO _x Emission Control Requirements		Electric Motor (except for engines that will be used to generate electricity)
PM ₁₀	0.06 g/bhp-hr (Total PM)***		Electric Motor (except for engines that will be used to generate electricity)
NO _x	0.07 g/bhp-hr or 5 ppmvd @ 15% O ₂		1. 2 ppmvd @ 15% O ₂ Natural Gas-Fired Turbine 2. Electric Motor (except for engines that will be used to generate electricity)
CO	1. For compression-ignited engines > 300 bhp and < or = 500 bhp: 49 ppmvd @ 15% O ₂ 2. For compression-ignited engines > 500 bhp: 23 ppmvd @ 15% O ₂ 3. For four stroke lean burn spark-ignited engines > 500 bhp: 47 ppmvd @ 15% O ₂ 4. For all engines rated > or = 2,064 bhp: 33 ppmvd @ 15% O ₂ 5. For all other engines (not included in categories 1 through 4 above): 56 ppmvd @ 15% O ₂ or 0.6 g/bhp-hr	For all compression-ignited engines: 12 ppmvd @ 15% O ₂ using an oxidation catalyst	Electric Motor (except for engines that will be used to generate electricity)

** For the purposes of this determination, fossil fuels includes diesel, gasoline, natural gas, propane, kerosene, and similar hydrocarbon compounds derived from petroleum oil or natural gas. Fossil fuels also include similar synthetic fuels such as biodiesel and/or any fuel containing one or more fossil fuels.

***This total PM₁₀ emission limit is based on EPA Method 5 (front half and back half) testing, which typically yields results as much as four times higher than when using the ISO 8178 Test Method. The ISO 8178 Test Method only reports filterable (i.e. front half) emissions.

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 7.2.2*

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 VII BACT Analysis

Petroleum Refining - Valves & Connectors

Top Down BACT Analysis for VOC emissions:

Step 1 - Identify All Control Technologies

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

Step 2 - Eliminate Technologically Infeasible Options

The identified control technology is feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

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

Step 4 - Cost Effectiveness Analysis

The applicant has proposed the identified control technology. Therefore, a cost analysis is not required.

Step 5 - Select BACT

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

Petroleum Refining - Pump and Compressor Seals

Top Down BACT Analysis for VOC emissions:

Step 1 - Identify All Control Technologies

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

Step 2 - Eliminate Technologically Infeasible Options

The identified control technology is feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

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

Step 4 - Cost Effectiveness Analysis

The applicant has proposed the identified control technology. Therefore, a cost analysis is not required.

Step 5 - Select BACT

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

Top Down BACT Analysis:

NOx Emissions

Step 1 – Identify All Control Technologies

BACT Guideline 3.3.12 lists the following NOx controls:

1. 5 ppmv NOx @ 15% O₂; Achieved-in-Practice.
2. Natural gas-fired turbine with a NOx emission rate of 2 ppmv: Alternate Basic Equipment
3. Electric motor: Alternate Basic Equipment

Step 2 – Eliminate Technologically Infeasible Options

The proposed engines will power compressors. Turbines in the needed power range are poorly suited for this service. Therefore, the gas turbine option is eliminated from consideration for this project.

The proposed engines will be used for various services including providing compressed air for emergency instruments. Electrical power may not be available during emergencies; therefore, the electric motor option is eliminated from consideration for this project.

Electric powered engine (Alternate Basic Equipment) is not feasible as follows:

Kern's facility is in a rural location; instability in the power grid is common and leaves daily operations vulnerable to loss of power. Over the last 4 years the facility has experienced 17 separate power outages. Kern does have a Cogeneration plant to supplement power supply and provide protection for vital systems. However, the current cogeneration plant does not supply enough power to allow the refinery to continue running even at reduced rates. As part of power management and power loss prevention planning at Kern there are certain compressors responsible for recycling process fluids that would not be able to rely on electricity for power. In order to ensure the stability of the system and not cause further economic loss during power outages the proposed engine must be gas fired.

The remaining control technologies from Step 1 are technologically feasible.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

a) 5 ppmv NO_x @ 15% O₂ with SCR or equal

Step 4 – Cost Effectiveness Analysis

The applicant is proposing the most stringent control technology in Step 3, above. Therefore no cost-effectiveness analysis is required.

Step 5 – Select BACT

BACT for the engines is an emission limit of 5 ppmv NO_x @ 15% O₂, using NSCR.

CO Emissions

Step 1 – Identify All Control Technologies

BACT Guideline 3.3.12 lists the following controls:

1. For compression-ignited engines > 300 bhp and < or = 500 bhp: 49 ppmvd @ 15% O₂; Achieved-in-Practice
2. For compression-ignited engines > 500 bhp: 23 ppmvd @ 15% O₂; Achieved-in-Practice
3. For four stroke lean burn spark-ignited engines > 500 bhp: 47 ppmvd @ 15% O₂ 4. For all engines rated > or = 2,064 bhp: 33 ppmvd @ 15% O₂; Achieved-in-Practice
4. For all other engines (not included in categories 1 through 4 above): 56 ppmvd @ 15% O₂ or 0.6 g/bhp-hr; Achieved-in-Practice
5. For all compression-ignited engines: 12 ppmvd @ 15% O₂ using an oxidation catalyst; Technologically Feasible.
6. Electric Motor (except for engines that will be used to generate electricity); Alternate Basic Equipment

Step 2 – Eliminate Technologically Infeasible Options

The proposed engines are not compression ignited or lean burn; therefore, above options 1 through 4 are eliminated from consideration for this project.

The proposed engines will be used for various services including providing compressed air for emergency instruments. Electrical power may not be available during emergencies; therefore, the option 6 is eliminated from consideration for this project.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

For all other engines (not included in categories 1 through 4 above): 56 ppmvd @ 15% O₂ or 0.6 g/bhp-hr; Achieved-in-Practice

Step 4 – Cost Effectiveness Analysis

The applicant is proposing the only remaining control technology in Step 3, above. Therefore no cost-effectiveness analysis is required.

Step 5 – Select BACT

BACT for the engines is an emission limit of 56 ppmvd @ 15% O₂ or 0.6 g/bhp-hr.

VOC Emissions

Step 1 – Identify All Control Technologies

BACT Guideline 3.3.12 lists the following controls:

1. For all compression-ignited engines: Use of an engine meeting the latest Tier standard 2; Achieved-in-Practice
2. For all spark-ignited engines: 25 ppmvd @ 15% O₂ or 0.15 g/bhp-hr; Achieved-in-Practice
3. For all compression-ignited engines: 50 percent reduction of latest Tier standard for VOC emissions using a catalytic oxidation system; Technologically Feasible
4. For rich-burn spark-ignited engines: 12 ppmvd @ 15% O₂ or 0.069 g/bhp-hr; Technologically Feasible
5. Electric Motor (except for engines that will be used to generate electricity); Alternate Basic Equipment

Step 2 – Eliminate Technologically Infeasible Options

The proposed engines are not compression ignited; therefore, above options 1 and 3 are eliminated from consideration for this project.

The proposed engines will be used for various services including providing compressed air for emergency instruments. Electrical power may not be available during emergencies; therefore, the option 6 is eliminated from consideration for this project.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

2. For all spark-ignited engines: 25 ppmvd @ 15% O₂ or 0.15 g/bhp-hr; Achieved-in-Practice
4. For rich-burn spark-ignited engines: 12 ppmvd @ 15% O₂ or 0.069 g/bhp-hr; Technologically Feasible

Step 4 – Cost Effectiveness Analysis

The applicant is proposing the most effective control remaining in Step 3, above. Therefore no cost-effectiveness analysis is required.

Step 5 – Select BACT

BACT for the engines is an emission limit of 12 ppmvd @ 15% O₂ or 0.069 g/bhp-hr.

Attachment VIII HRA and AAQA

San Joaquin Valley Air Pollution Control District

Risk Management Review

To: Richard Edgehill – Permit Services
From: Will Worthley – Technical Services
Date: April 20, 2018
Facility Name: Kern Oil and Refining
Location: 7724 East Panama Lane, Bakersfield
Application #(s): S-37-163-0, 164-0, 165-0
Project #: S-1181577

A. RMR SUMMARY

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 163-0 (310 BHP NG ICE)	12.6	0.01	0.01	6.27E-07	No	No
Unit 164-0 (310 BHP NG ICE)	12.6	0.01	0.00	6.79E-07	No	No
Unit 165-0 (310 BHP NG ICE)	12.6	0.01	0.00	8.46E-07	No	No
Project Totals	37.8	0.03	0.01	2.15E-06		
Facility Totals	>1	0.90	0.16	19.9E-06		

Proposed Permit Requirements

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

Unit # 163-0, 164-0, &165-0

No special requirements are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on April 13, 2018, to perform an Ambient Air Quality Analysis and a Risk Management Review for three 310 BHP Natural Gas Fired IC engines. IC engine 87 is being removed as well. In order for this project to pass we remodeled Unit 119 and updated their risk scores in Hearts.

II. Analysis

Toxic emissions for these proposed units were calculated using 2000 AP42 emission factors for Natural Gas Fired internal combustion (4 Stroke Rich Burn) Engine with NSCR. (The use of a catalyst reduces TACs by 76% (NESHAP), and input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for 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 2007-2011 from Arvin 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:

Analysis Parameters Unit 163-0, 164-0, 165-0			
Source Type	Point	Location Type	Rural
Stack Height (m)	2.438	Closest Receptor (m)	380
Stack Diameter. (m)	0.127	Type of Receptor	Residential
Stack Exit Velocity (m/s)	52.605	Max Hours per Year	8760
Stack Exit Temp. (°K)	868	Fuel Type	NG
NG Emission Rates (MMscf/hr)	2.252E-03	NG Emission Rates (MMscf/yr)	19.73

*Modeled using AERMOD's "Capped & Horizontal Stack Releases."

Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x, and PM₁₀ with the emission rates below:

Unit #	NO _x (Lbs.)		SO _x (Lbs.)		CO (Lbs.)		PM ₁₀ (Lbs.)	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.
159-0	0.04	365	0.008	56	0.28	2,478	0.04	359
160-0	0.04	365	0.008	56	0.28	2,478	0.04	359
161-0	0.04	365	0.008	56	0.28	2,478	0.04	359

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

	Background Site	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Arvin-Di Giorgio (2016)	Pass	X	Pass	X	X
NO _x	Bakersfield-California (2016)	Pass ¹	X	X	X	Pass
SO _x	Fresno – Garland (2016)	Pass	Pass	X	Pass	Pass
PM ₁₀	Bakersfield-California (2016)	X	X	X	Pass ²	Pass ²
PM _{2.5}	Bakersfield-Airport (2016)	X	X	X	Pass ³	Pass ³

*Results were taken from the attached PSD spreadsheet.

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

²The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

³The court has vacated EPA's PM_{2.5} SILs. Until such time as new SIL values are approved, the District will use the corresponding PM₁₀ SILs for both PM₁₀ and PM_{2.5} analyses.

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with each unit for 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).**

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.

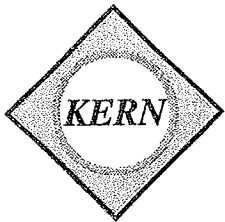
These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

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

IV. Attachments

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

Attachment IX
Compliance Certification and Title V Compliance Forms



Kern Oil & Refining Co.

7724 E. PANAMA LANE
BAKERSFIELD, CALIFORNIA 93307-9210
(661) 845-0761 FAX (661) 845-0330

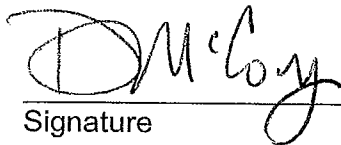
March 23, 2018

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

**Subject: Federal Major Modification Statewide Compliance Certification
ATC Application – Natural Gas Compressor IC Engines**

Dear Mr. Scandura:

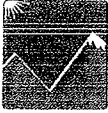
I hereby certify that all major Stationary Sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California, which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission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



Signature

Vice President Refining

Title



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: ☒ Corporation ☐ Sole Ownership ☐ Government ☐ Partnership ☐ 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

3/23/2018

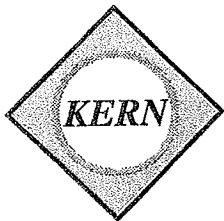
Date

David A. McCoy

Name of Responsible Official (please print)

Vice President Refining

Title of Responsible Official (please print)



Kern Oil & Refining Co.

7724 E. PANAMA LANE
BAKERSFIELD, CALIFORNIA 93307-9210
(661) 845-0761 FAX (661) 845-0330

March 23, 2018

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

**Subject: Federal Major Modification Statewide Compliance Certification
ATC Application – Electric Replacement Compressor S-37-119**

Dear Mr. Scandura:

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

Signature

Vice President Refining

Title



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: ☒ Corporation ☐ Sole Ownership ☐ Government ☐ Partnership ☐ 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:

DMcCoy
Signature of Responsible Official

3/23/18
Date

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

Vice President Refining
Title of Responsible Official (please print)

Attachment X
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-37-3-10

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

SECTION: 25 TOWNSHIP: 30S RANGE: 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF KEROSENE HYDROTREATER UNIT (KHT) INCLUDING A SPLITTER, A REACTOR, A SEPARATOR, 3 ACCUMULATORS, 11.4 MMBTU/HR CHARGE HEATER WITH ZEECO GLSF-10 LOW NOX BURNERS AND 12.5 MMBTU/HR SPLITTER REBOILER HEATER WITH ZEECO GLSF-10 LOW NOX BURNERS: REPLACE ELECTRIC COMPRESSOR WITH IC ENGINE-DRIVEN COMPRESSOR S-37-163

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 - 222 lb, 2nd quarter - 223 lb, 3rd quarter - 223 lb, and fourth quarter - 223 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC 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]

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

Arnaud Marjollet, Director of Permit Services

S-37-3-10 - May 2 2018 8:51AM - EDGEHILL - Joint Inspection NOT Required

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

5. Heaters shall be fired only on purchased commercial natural gas, refinery fuel gas, or any combination thereof. [District Rule 2201, 4001] Federally Enforceable Through Title V Permit
6. Sulfur content of fuel combusted in this unit shall not exceed 100 ppmv (as total reduced sulfur), based on a 3 hour rolling average. [District Rules 2201 and 40 CFR Part 60, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
7. All refinery fuel gas combusted in the heaters shall be monitored for H₂S content by a continuous emissions monitoring (CEM) system. CEM shall be installed, calibrated, operated, and reported according to EPA guidelines as specified under 40 CFR 60, Subpart J, Specification 7, and general requirements. CEM results shall be calculated on a rolling three (3) hour basis. [District Rules 2201, 4001, Subpart J, 60.105(a)(4) and 60.105(a)(4)iii] Federally Enforceable Through Title V Permit
8. At least once per year, permittee shall obtain and analyze a representative sample for total reduced sulfur of the fuel combusted in this unit. Each sample shall be analyzed for the following reduced sulfur compounds: carbon disulfide, carbonyl sulfide, dimethyl disulfide, dimethyl sulfide, hydrogen sulfide and methyl mercaptan. For each sample, permittee shall record the analytical results for total sulfur, calculated as the sum of the results for all analytes, expressed as H₂S. Samples shall be analysed using ASTM D6228-98 or other District-approved method. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The permittee shall demonstrate continuous compliance with the sulfur content limit (as total reduced sulfur) of the fuel combusted in this unit by calculation, as the sum of the non-H₂S reduced sulfur compounds (carbon disulfide, carbonyl sulfide, dimethyl disulfide, dimethyl sulfide, methyl mercaptan), based on the most recently conducted fuel sample analysis for total sulfur, and each one hour monitored H₂S result. The calculated hourly fuel sulfur values shall be averaged over a rolling three hour period to determine compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Emission rates from each heater, except during startup and shutdown, shall not exceed any of the following: NO_x (as NO₂): 25 ppmv @ 3% O₂ or 0.030 lb/MMBtu, VOC: 5.5 lb/MMscf, PM₁₀: 7.6 lb/MMscf or CO: 50 ppmv @ 3% O₂. [District Rules 2201, 2520, 4301, 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
11. {588} Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
12. Daily combustion emissions from this permit unit shall not exceed any of the following: NO_x (as NO₂): 17.2 lb/day, VOC: 3.2 lb/day, PM₁₀: 4.4 lb/day, or CO: 21.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The duration of each startup and shutdown period for each heater shall not exceed 12 hours and 9 hours respectively. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
14. The combustion in the fuel gas combustion devices of gases released as a result of start-up, shutdown, upset, malfunction, or the result of relief valve leakage is exempt from the H₂S or sulfur content requirement. [District Rules 2201, 4001, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
15. The permittee shall record the date and the duration of each startup and each shutdown. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
16. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4351] Federally Enforceable Through Title V Permit

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17. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
18. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
19. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
20. Heater exhaust stacks shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source testing to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
22. Source testing to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
23. If permittee fails any compliance demonstration for NO_x or CO emission limits when testing not less than once every 36 months, compliance with NO_x and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
24. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The following test methods shall be used unless otherwise approved by the APCO and EPA: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
29. All required source testing shall conform to the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit

30. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
31. Nitrogen oxide (NOx) emission concentrations in ppmv shall be referenced at dry stack gas conditions, and shall be calculated to 3.00 percent by volume stack gas oxygen and averaged over 60 minutes, and lb/MMBtu rates shall be calculated as lb NO2/MMBtu of heat input (hhv). [District Rule 4305, 5.0, 8.2 and/or 4351, 8.1] Federally Enforceable Through Title V Permit
32. Draeger tubes shall be used as an alternative method for measuring fuel gas H2S during scheduled maintenance or unscheduled interruptions of CEMs. Draeger tube use shall be limited to no more than 96 continuous hours and fuel gas H2S shall be checked a minimum of every two hours during scheduled maintenance or unscheduled interruptions of CEMs. Alternate method of measuring fuel gas H2S shall occur no more than 192 hours in any calendar year. [40CFR60.13(i)] Federally Enforceable Through Title V Permit
33. Operator shall maintain all records of the reason for alternative monitoring and required fuel gas H2S monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
34. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
35. {4253} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]
36. VOC emission rate from fugitive components associated with this emissions unit shall not exceed 89.9 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
37. Permit holder shall maintain accurate component count 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), Correlation Equations Method. [District Rule 2201] Federally Enforceable Through Title V Permit
38. Operator shall maintain records to demonstrate compliance with fugitive VOC emissions limit of this permit annually. Compliance shall be demonstrated by calculation, using the correlation equations, zero default and 10,000 ppmv pegged factors set forth in the CAPCOA California implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities, Table IV-3a, February 1999, and the average emission concentrations of total organic compounds measured for each component during all inspections conducted during the prior 365 day period. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Permit unit shall comply with applicable District Rule 4001 (NSPS, Subpart GGG) requirements on facility wide permit S-37-0. [District Rule 4001] Federally Enforceable Through Title V Permit
40. The requirements of 40 CFR 60 Subpart GGGa do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
41. This unit is subject to Rule 4455 Leak Detection and Repair Conditions on the facility wide permit S-37-0. [District Rule 4455] Federally Enforceable Through Title V Permit
42. Permittee shall comply with all applicable testing, recordkeeping, and reporting requirements specified in Rule 4001 - New Source Performance Standards, including but not limited to Subparts A and J. [District Rule 4001] Federally Enforceable Through Title V Permit

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43. Operators shall not depressurize any vessel containing VOCs unless the process unit turnaround is accomplished by employing one of the following operating procedures: The organic vapors shall either be recovered, added to the refinery fuel gas system and combusted; or controlled and piped to an appropriate firebox or incinerated for combustion; or flared, until the pressure within the process vessel is as close to atmospheric pressure as is possible. All process vessels shall be depressurized into the control facilities to less than 1020 mm Hg (5 psig) before venting/opening to atmosphere. All organic compounds which emerge from a refinery process vessel during the purging of said vessel and which otherwise would be emitted to the atmosphere shall be either directed to a flare or incinerator or shall be used for fuel until such disposition of emissions is not technically feasible or is less safe than atmospheric venting. [District Rule 4454, 4.0] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-37-118-5

ISSUANCE DATE: DRAFT

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

SECTION: 25 TOWNSHIP: 30S RANGE: 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF NAPHTHA FEED PRETREATMENT UNIT (NAPHTHA HYDROTREATER) WITH 12.6 MMBTU/HR CHARGE HEATER WITH JOHN ZINK COOLSTAR LOW NOX BURNER, 11.1 MMBTU/HR STRIPPER REBOILER HEATER WITH JOHN ZINK COOLSTAR LOW NOX BURNER, REACTOR VESSEL, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS: REPLACE STEAM-DRIVEN COMPRESSOR WITH IC ENGINE-DRIVEN COMPRESSOR S-37-164

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 - 224 lb, 2nd quarter - 225 lb, 3rd quarter - 225 lb, and fourth quarter - 225 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

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

Arnaud Marjollet, Director of Permit Services

S-37-118-5 : May 29 2018 11:31AM -- EDGEHILR : Joint Inspection NOT Required

Southern Regional Office • 34946 Elvador Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5595

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
5. Permittee shall comply with all applicable testing, recordkeeping, and reporting requirements specified in Rule 4001 - New Source Performance Standards, including but not limited to Subparts A and J. [District Rule 4001] Federally Enforceable Through Title V Permit
6. Heaters shall be fired only on purchased commercial natural gas, refinery fuel gas, or any combination thereof. [District Rule 2201, 4001] Federally Enforceable Through Title V Permit
7. Operator shall not burn in any fuel gas combustion device any fuel gas that contains hydrogen sulfide (H₂S) in excess of 100 ppmv @ 0% O₂. [District Rules 2201, 2520, 9.4.2 and 4301, 5.2.1, & 40 CFR Part 60, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
8. The combustion in the fuel gas combustion devices of gases released as a result of start-up, shutdown, upset, malfunction, or the result of relief valve leakage is exempt from the H₂S or sulfur content requirement. [District Rules 2201, 4001, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
9. All refinery fuel gas combusted in the heaters shall be monitored for H₂S content by a continuous emissions monitoring (CEM) system. CEM shall be installed, calibrated, operated, and reported according to EPA guidelines as specified under 40 CFR 60, Subpart J, Specification 7, and general requirements. CEM results shall be calculated on a rolling three (3) hour basis. [District Rules 2201, 4001, Subpart J, 60.105(a)(4) and 60.105(a)(4)iii] Federally Enforceable Through Title V Permit
10. Operator shall report all rolling 3-hour periods during which the average concentration of H₂S as measured by the H₂S continuous monitoring system exceeds 100 ppmv @ 0% O₂. [District Rules 2201, 4001, Subpart J, 60.105(e)(3)(ii)] Federally Enforceable Through Title V Permit
11. Emission rates from each heater, except during startup and shutdown, shall not exceed any of the following: NO_x (as NO₂): 25 ppmv @ 3% O₂, VOC: 0.0055 lb/MMBtu, or CO: 150 ppmv @ 3% O₂. [District Rules 2201, 2520, 4301, 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
12. PM₁₀ emission rates from each heater shall not exceed 0.0076 lb/MMBtu. [District Rules 2201, 2520, 4201, 4301] Federally Enforceable Through Title V Permit
13. The duration of each startup and shutdown period for the charge heater shall not exceed 12.0 hours and 5.8 hours respectfully. The duration of each startup and shutdown period for the reboiler heater shall not exceed 12.0 hours and 5.0 hours respectfully. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
14. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
15. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit

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16. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
17. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
18. Heater exhaust stacks shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Source testing to demonstrate compliance with NO_x and CO emission limits shall be conducted within 60 days of startup and not less than once every 12 months, except as provided below. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
20. Source testing to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
21. If permittee fails any compliance demonstration for NO_x or CO emission limits when testing not less than once every 36 months, compliance with NO_x and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
22. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
23. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
27. {601} All required source testing shall conform to the compliance testing procedures described in District Rule 1081(Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
28. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
29. {588} Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

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30. {570} Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NO_x limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rule 4305, 6.3.2 and 4351, 6.3] Federally Enforceable Through Title V Permit
31. {571} The following conditions must be met for representative unit(s) used to demonstrate compliance for NO_x limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rule 4305, 6.3.2] Federally Enforceable Through Title V Permit
32. {572} The number of representative units source tested to demonstrate compliance for NO_x limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
33. {483} Nitrogen oxide (NO_x) emission concentrations in ppmv shall be referenced at dry stack gas conditions, and shall be calculated to 3.00 percent by volume stack gas oxygen and averaged over 60 minutes, and lb/MMBtu rates shall be calculated as lb NO₂/MMBtu of heat input (hhv). [District Rule 4305, 5.0, 8.2 and/or 4351, 8.1] Federally Enforceable Through Title V Permit
34. Draeger tubes shall be used as an alternative method for measuring fuel gas H₂S during scheduled maintenance or unscheduled interruptions of CEMs. Draeger tube use shall be limited to no more than 96 continuous hours and fuel gas H₂S shall be checked a minimum of every two hours during scheduled maintenance or unscheduled interruptions of CEMs. Alternate method of measuring fuel gas H₂S shall occur no more than 192 hours in any calendar year. [40CFR60.13(i)] Federally Enforceable Through Title V Permit
35. Operator shall maintain all records of the reason for alternative monitoring and required fuel gas H₂S monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
36. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO_x emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NO_x emission limit listed in Rule 4320. [District Rule 4320]
37. {4253} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]
38. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306] Federally Enforceable Through Title V Permit
39. VOC emission rate from fugitive components associated with this emissions unit shall not exceed 30.1 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
40. Permit holder shall maintain accurate component count 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), Correlation Equations Method. Permit holder shall update such records when new components are approved and installed. Components shall be screened and leak rate shall be measured in accordance with the frequency of inspection specified in Rule 4455 as applicable. [District Rule 2201] Federally Enforceable Through Title V Permit

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41. As referenced in this permit, a fugitive component leak shall be defined as the lower of the level specified in applicable rules, permit conditions, or the following: pumps in light liquid service - 1,000 ppmv; compressors - 500 ppmv; pressure relief devices in gas/vapor service - 500 ppmv; valves in gas/vapor and light liquid service - 500 ppmv; agitators - 10,000 ppmv; pumps in heavy liquid service - 2,000 ppmv; valves, and connectors in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service - 500 ppmv; connectors in gas/vapor service and in light liquid service - 500 ppmv. Component type and service referenced in this condition shall be as defined in 40 CFR 63 Subpart H. [District Rule 2201] Federally Enforceable Through Title V Permit
42. Permit unit shall comply with applicable District Rule 4001 (NSPS, Subpart GGG) requirements on facility wide permit S-37-0. [District Rule 4001] Federally Enforceable Through Title V Permit
43. This unit is subject to Rule 4455 Leak Detection and Repair Conditions on the facility wide permit S-37-0. [District Rule 4455] Federally Enforceable Through Title V Permit
44. Permit unit shall comply with applicable Rule 4001 (NSPS, Subpart QQQ) requirements. [District Rule 4001] Federally Enforceable Through Title V Permit
45. Each drain, receiving refinery wastewater from a process unit, shall be equipped with water seal controls. [40 CFR 60.692-2(a)(1)] Federally Enforceable Through Title V Permit
46. Each drain in active service, receiving refinery wastewater from a process unit, shall be checked by visual or physical inspection monthly for indications of low water levels or other conditions that would reduce the effectiveness of the water seal controls. [40 CFR 60.692-2(a)(2)] Federally Enforceable Through Title V Permit
47. Each drain out of active service shall be checked by visual or physical inspection weekly for indications of low water levels or other problems that could result in VOC emissions. As an alternative, the owner or operator may elect to install a tightly sealed cap or plug over a drain that is out of service, inspection shall be conducted initially and semiannually to ensure caps or plugs are in place and properly installed. Whenever low water levels or missing or improperly installed caps or plugs are identified, water shall be added or first efforts at repair shall be made as soon as practicable, but not later than 24 hours after detection, except if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown [40 CFR 60.692-2(a) and 60.692-6] Federally Enforceable Through Title V Permit
48. Junction boxes in refinery wastewater systems shall be equipped with a cover and may have an open vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter. Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance. [40 CFR 60.692-2(b)(1)] Federally Enforceable Through Title V Permit
49. Junction boxes in refinery wastewater systems shall be visually inspected semiannually to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge. If a broken seal or gap is identified, first effort at repair shall be made as soon as practicable, but not later than 15 calendar days after the broken seal or gap is identified, except if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown. [40 CFR 60.692-2(b)(3)(4) and 60.692-6] Federally Enforceable Through Title V Permit
50. Sewer lines, conveying refinery wastewater to wastewater treatment system, shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces. [40 CFR 60.692-2(c)(1)] Federally Enforceable Through Title V Permit
51. The portion of each unburied sewer line shall be visually inspected semiannually for indication of cracks, gaps, or other problems that could result in VOC emissions. Whenever cracks, gaps, or other problems are detected, repairs shall be made as soon as practicable, but not later than 15 calendar days after identification, except if the repair is technically impossible without a complete or partial refinery or process unit shutdown. Repair of such equipment shall occur before the end of the next refinery or process unit shutdown. [40 CFR 60.692-2(c)(2)(3) and 60.692-6] Federally Enforceable Through Title V Permit
52. Refinery wastewater routed through new process drains and a new first common downstream junction box, either as part of a new individual drain system or an existing individual drain system, shall not be routed through a downstream catch basin. [40 CFR 60.692-2(e)] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-37-119-6

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

SECTION: 25 TOWNSHIP: 30S RANGE: 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF NAPHTHA REFORMER UNIT WITH 25.7 MMBTU/HR CHARGE HEATER #1 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 13.4 MMBTU/HR CHARGE HEATER #2 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.9 MMBTU/HR CHARGE HEATER #3 WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, 8.3 MMBTU/HR SPLITTER/STABILIZER HEATER WITH JOHN ZINK SMR LOW NOX BURNER OR EQUIVALENT, REACTOR VESSELS, HYDROGEN COMPRESSORS, HEAT EXCHANGERS, AND ASSOCIATED SEPARATOR VESSELS, KNOCKOUTS, PIPING, AND COMPONENTS: REPLACE ONE STEAM DRIVEN COMPRESSOR WITH ONE ELECTRIC COMPRESSOR AND ONE ELECTRIC COMPRESSOR WITH ONE IC ENGINE DRIVEN COMPRESSOR S-37-165

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 - 635 lb, 2nd quarter - 635 lb, 3rd quarter - 635 lb, and fourth quarter - 636 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

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

Arnaud Marjollet, Director of Permit Services

S-37-119-6 : May 2 2018 8:51AM - EDGEHILL : Joint Inspection NOT Required

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
5. Emission rates from 25.7 MMBtu/hr Charge Heater #1, 13.4 MMBtu/hr Charge Heater #2, and 8.9 MMBtu/hr Charge Heater #3, except during startup and shutdown, shall not exceed any of the following: NO_x (as NO₂): 25 ppmv @ 3% O₂, VOC: 0.0055 lb/MMBtu, or CO: 150 ppmv @ 3% O₂. [District Rules 2201, 2520, 4301, 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
6. Emission rates from 8.3 MMBtu/hr Stabilizer/Splitter Heater, except during startup and shutdown, shall not exceed any of the following: NO_x (as NO₂): 9 ppmv @ 3% O₂, VOC: 0.0055 lb/MMBtu, or CO: 150 ppmv @ 3% O₂. [District Rules 2201, 2520, 4301, 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
7. PM₁₀ emission rates from each heater shall not exceed 0.0076 lb/MMBtu. [District Rules 2201, 2520, 4201, 4301] Federally Enforceable Through Title V Permit
8. Fuel burned in 8.3 MMBtu/hr Stabilizer/Splitter Heater shall not be PUC quality natural gas. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
9. Fuel total sulfur and methane content shall be determined annually using the following test methods: H₂S: ASTM D6228, total sulfur: EPA Method 15/16, ASTM D5504M, ASTM D1945/3588 and ASTM 3246; and methane content: ASTM D1945. [District Rule 4320] Federally Enforceable Through Title V Permit
10. The duration of each startup and shutdown period for 25.7 MMBtu/hr Charge Heater #1, 13.4 MMBtu/hr Charge Heater #2, and 8.9 MMBtu/hr Charge Heater #3 shall not exceed 12.0 hours and 9.0 hours each respectfully. The duration of each startup and shutdown period for the Splitter/Stabilizer Heater shall not exceed 8.5 hours and 5.0 hours respectfully. [District Rule 4320] Federally Enforceable Through Title V Permit
11. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4351] Federally Enforceable Through Title V Permit
12. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
13. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit

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14. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
15. Heater exhaust stacks shall be equipped with adequate provisions facilitating the collection of gas samples consistent with EPA Test Methods. [District Rule 1081] Federally Enforceable Through Title V Permit
16. Source testing of 8.3 MMBtu/hr Stabilizer/Splitter Heater to demonstrate compliance with NO_x and CO emissions limits shall be conducted within 60 days of startup. [District Rule 2201 and 4320] Federally Enforceable Through Title V Permit
17. Source testing of all heaters to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 12 months, except as provided below. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
18. Source testing of all heaters to demonstrate compliance with NO_x and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
19. If permittee fails any compliance demonstration for NO_x or CO emission limits when testing not less than once every 36 months, compliance with NO_x and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
20. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, and stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4351] Federally Enforceable Through Title V Permit
24. {601} All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
25. Copies of all fuel invoices, gas purchase contracts, supplier certifications, and test results used to determine compliance with the conditions of this permit shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
26. {520} The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
27. {588} Particulate matter emissions shall not exceed 0.1 grain/dscf, 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 3.1 and 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
28. Test results submitted to the District from unit(s) representing a group of units may be used to demonstrate compliance with NO_x limits for that group, provided the selection of the representative unit(s) is approved by the APCO prior to testing. Should any of the representative units exceed the required NO_x emission limits of this permit, each of the units in the group shall demonstrate compliance by emissions testing within 90 days of the failed test. [District Rule 4305, 6.3.2, 4306, 4320, and 4351, 6.3] Federally Enforceable Through Title V Permit

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29. The following conditions must be met for representative unit(s) used to demonstrate compliance for NO_x limits for a group of units: 1) all units are initially source tested and emissions from all units in group are similar, 2) all units in group are similar in terms of rated heat input, make and series, operation conditions, fuel used, and control method, 3) the group is owned by a single owner and located at a single stationary source, and 4) all units in the group shall have received the same maintenance and tune-up procedures as the representative unit(s). [District Rule 4305, 6.3.2, 4306, and 4320] Federally Enforceable Through Title V Permit
30. {572} The number of representative units source tested to demonstrate compliance for NO_x limits shall be at least 30% of the total number of units in the group. The units included in the 30% shall be rotated, so that when 3 source test cycles have been completed, all units in the entire group will have been tested. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
31. Nitrogen oxide (NO_x) emission concentrations in ppmv shall be referenced at dry stack gas conditions, and shall be calculated to 3.00 percent by volume stack gas oxygen and averaged over 60 minutes, and lb/MMBtu rates shall be calculated as lb NO₂/MMBtu of heat input (hhv). [District Rule 4305, 5.0, 8.2, 4306, 4320, and/or 4351, 8.1] Federally Enforceable Through Title V Permit
32. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NO_x emissions from 25.7 MMBtu/hr Charge Heater #1, 13.4 MMBtu/hr Charge Heater #2, and 8.9 MMBtu/hr Charge Heater #3 for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the units are permanently removed from service in the District or the operator demonstrates compliance with the applicable NO_x emission limit listed in Rule 4320. [District Rule 4320]
33. {4253} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]
34. Draeger tubes shall be used as an alternative method for measuring fuel gas H₂S during scheduled maintenance or unscheduled interruptions of CEMs. Draeger tube use shall be limited to no more than 96 continuous hours and fuel gas H₂S shall be checked a minimum of every two hours during scheduled maintenance or unscheduled interruptions of CEMs. Alternate method of measuring fuel gas H₂S shall occur no more than 192 hours in any calendar year. [40CFR60.13(i)] Federally Enforceable Through Title V Permit
35. Operator shall maintain all records of the reason for alternative monitoring and required fuel gas H₂S monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
36. VOC emission rate from fugitive components associated with this emissions unit shall not exceed 76.2 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
37. Permit holder shall maintain accurate component count 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), Correlation Equations Method. Permit holder shall update such records when new components are approved and installed. Components shall be screened and leak rate shall be measured in accordance with the frequency of inspection specified in Rule 4455 as applicable. [District Rule 2201] Federally Enforceable Through Title V Permit
38. As referenced in this permit, a fugitive component leak shall be defined as the lower of the level specified in applicable rules, permit conditions, or the following: pumps in light liquid service - 1,000 ppmv; compressors - 500 ppmv; pressure relief devices in gas/vapor service - 500 ppmv; valves in gas/vapor and light liquid service - 500 ppmv; agitators - 10,000 ppmv; pumps in heavy liquid service - 2,000 ppmv; valves, and connectors in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service - 500 ppmv; connectors in gas/vapor service and in light liquid service - 500 ppmv. Component type and service referenced in this condition shall be as defined in 40 CFR 63 Subpart H. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Permit unit shall comply with applicable District Rule 4001 (NSPS, Subpart GGG) requirements. [District Rule 4001] Federally Enforceable Through Title V Permit

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40. The owner or operator may apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in Subpart GGG. In doing so, the owner or operator shall comply with the requirements of 40 CFR 60.484. [40 CFR 60.592(c)] Federally Enforceable Through Title V Permit
41. Each pump in light liquid service (PLLS) shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b), except as provided in 40 CFR 60.482-1(c) and 40 CFR 60.482-2(d), (e), and (f). Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. A leak is detected if an instrument reading of 10,000 ppm or greater is measured or if there are indications of liquids dripping from the pump seal. [40 CFR 60.482-2(a) and (b)] Federally Enforceable Through Title V Permit
42. When a leak is detected for each PLLS, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. [40 CFR 60.482-2(c)] Federally Enforceable Through Title V Permit
43. Any PLLS equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of 40 CFR 60.482-2(a) provided the requirements specified in 40 CFR 60.482-2(d)(1) through (6) are met. [40 CFR 60.482(d)] Federally Enforceable Through Title V Permit
44. Any PLLS that is designated, as described in 40 CFR 60.486(e)(1) and (2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-2(a), (c), and (d) if the pump meets the requirements specified in 40 CFR 60.482-2(e)(1), (2), and (3). [40 CFR 60.482-2(e)] Federally Enforceable Through Title V Permit
45. If any PLLS is equipped with a closed vent system capable of capturing and transporting leakage from the seal or seals to a control device that complies with the requirements of 40 CFR 60.482-10, it is exempt from the requirements of 40 CFR 60.482-2(a) through (e). [40 CFR 60.482-2(f)] Federally Enforceable Through Title V Permit
46. Any pump in PLLS that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of 40 CFR 60.482-2(a) and 40 CFR 60.482-2(d)(4) through (6) if: 1) The owner or operator of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-2(a); and 2) The owner or operator of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in 40 CFR 60.482-2(c) if a leak is detected. [40 CFR 60.482-2(g)] Federally Enforceable Through Title V Permit
47. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(a)] Federally Enforceable Through Title V Permit
48. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in 40 CFR 60.482-9. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in 40 CFR 60.485(c). [40 CFR 60.482-4(b)] Federally Enforceable Through Title V Permit
49. Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in 40 CFR 60.482-10 is exempted from the requirements of 40 CFR 60.482-4(a) and (b). [40 CFR 60.482-4(c)] Federally Enforceable Through Title V Permit
50. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the 40 CFR 60.482-4(a) and (b), provided the owner or operator complies with the requirements in 40 CFR 60.482-4(d)(2) of this section. After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 40 CFR 60.482-9. [40 CFR 60.482-4(d)] Federally Enforceable Through Title V Permit

51. Except for in-situ sampling systems and sampling systems without purges, each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in 40 CFR 60.482-1(c). Each closed-purge, closed-loop, or closed-vent system shall comply with the requirements specified in 40 CFR 60.482-5(b)(1), (2), (3), and (4). [40 CFR 60.482-5(a), (b), and (c)] Federally Enforceable Through Title V Permit
52. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in 40 CFR 60.482-1(c). The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with this condition at all other times. [40 CFR 60.482-6(a) and (c)] Federally Enforceable Through Title V Permit
53. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed. [40 CFR 60.482-6(b)] Federally Enforceable Through Title V Permit
54. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of 40 CFR 60.482-6(a), (b) and (c). [40 CFR 60.482-6(d)] Federally Enforceable Through Title V Permit
55. Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in 40 CFR 60.482-6(a) through (c) are exempt from the requirements of 40 CFR 60.482-6(a) through (c). [40 CFR 60.482-6(e)] Federally Enforceable Through Title V Permit
56. Each valve in gas/vapor service and in light liquid service shall be monitored monthly to detect leaks by the methods specified in 40 CFR 60.485(b) and shall comply with 40 CFR 60.482-7(b) through (e), except as provided in 40 CFR 60.482-7(f), (g), and (h), 40 CFR 60.483-1, 40 CFR 60.483-2, and 40 CFR 60.482-1(c). A leak is detected if an instrument reading of 10,000 ppm or greater is measured. [40 CFR 60.482-7(a) and (b)] Federally Enforceable Through Title V Permit
57. Any valve in gas/vapor service or in light liquid service for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months. [40 CFR 60.482-7(c)] Federally Enforceable Through Title V Permit
58. When a leak is detected for any valve in gas/vapor service or in light liquid service, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 40 CFR 60.482-9. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices specified in 40 CFR 60.482-7(e)(1), (2), (3), and (4), where practicable. [40 CFR 60.482-7(d) and (e)] Federally Enforceable Through Title V Permit
59. Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(e)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of 40 CFR 60.482-7(a) if the valve meets the requirements specified in 40 CFR 60.482-7(f)(1), (2), and (3). [40 CFR 60.482-7(f)] Federally Enforceable Through Title V Permit
60. Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(f)(1), as an unsafe-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: 1) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with 40 CFR 60.482-7(a); and 2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times. [40 CFR 60.482-7(g)] Federally Enforceable Through Title V Permit

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61. Any valve in gas/vapor service or in light liquid service that is designated, as described in 40 CFR 60.486(f)(2), as a difficult-to-monitor valve is exempt from the requirements of 40 CFR 60.482-7(a) if: 1) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface; 2) The process unit within which the valve is located either becomes an affected facility through 40 CFR 60.14 or 40 CFR 60.15 or the owner or operator designates less than 3.0 percent of the total number of valves as difficult-to-monitor; and 3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year. [40 CFR 60.482-7(h)] Federally Enforceable Through Title V Permit
62. The owner or operator may elect to comply with the applicable provisions for valves in gas/vapor service and in light liquid service as specified in 40 CFR 60.483-1 and 60.483-2. [40 CFR 60.592(b)] Federally Enforceable Through Title V Permit
63. If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the owner or operator shall follow either one of the following procedures: 1) The owner or operator shall monitor the equipment within 5 days by the method specified in 40 CFR 60.485(b) and shall comply with the requirements of 40 CFR 60.482-8(b) through (d); or 2) The owner or operator shall eliminate the visual, audible, olfactory, or other indication of a potential leak. A leak is detected if an instrument reading of 10,000 ppm or greater is measured. [40 CFR 60.482-8(a) and (b)] Federally Enforceable Through Title V Permit
64. When a leak is detected in pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 40 CFR 60.482-9. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the best practices described under 40 CFR 60.482-7(e). [40 CFR 60.482-8(c) and (d)] Federally Enforceable Through Title V Permit
65. Delay of leak repair will be allowed if the repair is technologically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Delay of repair is allowed for equipment which is isolated from the process and which does not remain in VOC service. Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown. [40 CFR 60.482-9(a)(b)(e)] Federally Enforceable Through Title V Permit
66. Delay of leak repair for valves will be allowed if the owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair and when repair procedures are effected and when repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 60.482-10. Delay of leak repair for pumps will be allowed if the repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and repair is completed as soon as practicable, but no later than 6 months after the leak was detected. [40 CFR 60.482-9(c)(d)] Federally Enforceable Through Title V Permit
67. For closed vent systems and control devices, vapor recovery systems shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent. [40 CFR 60.482-10(b)] Federally Enforceable Through Title V Permit
68. For closed vent systems and control devices, enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 degrees C. [40 CFR 60.482-10(c)] Federally Enforceable Through Title V Permit

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69. Except as provided in 40 CFR 60.482-10(i) through (k), each closed vent system used to comply with the provisions of Subpart GGG shall be inspected according to the procedures and schedule specified in 40 CFR 60.482-10(f)(1) and (f)(2). Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in 40 CFR 60.482-10(h). A first attempt at repair shall be made no later than 5 calendar days after the leak is detected. Repair shall be completed no later than 15 calendar days after the leak is detected. [40 CFR 60.482-10(f) and (g)] Federally Enforceable Through Title V Permit
70. Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown. [40 CFR 60.482-10(h)] Federally Enforceable Through Title V Permit
71. If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2). [40 CFR 60.482-10(i)] Federally Enforceable Through Title V Permit
72. Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(l)(1), as unsafe to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10(j)(1) and (j)(2). [40 CFR 60.482-10(j)] Federally Enforceable Through Title V Permit
73. Any parts of the closed vent system that are designated, as described in 40 CFR 60.482-10(l)(2), as difficult to inspect are exempt from the inspection requirements of 40 CFR 60.482-10(f)(1)(i) and (f)(2) if they comply with the requirements specified in 40 CFR 60.482-10(k)(1) through (k)(3). [40 CFR 60.482-10(k)] Federally Enforceable Through Title V Permit
74. The owner or operator shall record the following information: 1) Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment; 2) Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment; 3) For each inspection during which a leak is detected, a record of the information specified in 40 CFR 60.486(c); 4) For each inspection conducted in accordance with 40 CFR 60.485(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected; and 5) For each visual inspection conducted in accordance with 40 CFR 60.482-10(f)(1)(ii) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected. [40 CFR 60.482-10(l)] Federally Enforceable Through Title V Permit
75. Closed vent systems and control devices used to comply with provisions Subpart GGG shall be operated at all times when emissions may be vented to them. [40 CFR 60.482-10(m)] Federally Enforceable Through Title V Permit
76. In conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR 60, Appendix A or other methods and procedures as specified in 40 CFR 60.485, except as provided in 40 CFR 60.8(b). [40 CFR 60.485(a)] Federally Enforceable Through Title V Permit
77. The owner or operator shall determine compliance with the standards in 40 CFR 60.482, 60.483, and 60.484 as follows: Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used: (i) Zero air (less than 10 ppm of hydrocarbon in air); and (ii) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane. [40 CFR 60.485(b)] Federally Enforceable Through Title V Permit
78. The owner or operator shall determine compliance with the no detectable emission standards in 40 CFR 60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f), and 60.482-10(e) as follows: 1) The requirements of 40 CFR 60.485(b) shall apply. 2) Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance. [40 CFR 60.485(c)] Federally Enforceable Through Title V Permit

79. The owner or operator shall test each piece of equipment unless demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used: 1) Procedures that conform to the general methods in ASTM E260-73, 91, or 96, E168-67, 77, or 92, E169-63, 77, or 93 (incorporated by reference as seen in 40 CFR 60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment; 2) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid; and 3) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, the previous two procedures as specified in 40 CFR 60.485(d)(1) and (2) shall be used to resolve the disagreement. [40 CFR 60.485(d)] Federally Enforceable Through Title V Permit
80. The owner or operator shall demonstrate that an equipment is in light liquid service by showing that all the following conditions apply: 1) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20 °C (1.2 in. H₂O at 68 degrees F). Standard reference texts or ASTM D2879-83, 96, or 97 (incorporated by reference as seen in 40 CFR 60.17) shall be used to determine the vapor pressures; 2) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 degrees Celsius is equal to or greater than 20 percent by weight; and 3) The fluid is a liquid at operating conditions. [40 CFR 60.485(e)] Federally Enforceable Through Title V Permit
81. Samples used in conjunction with 40 CFR 60.485(d), (e), and (g) shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare. [40 CFR 60.485(f)] Federally Enforceable Through Title V Permit
82. An owner or operator of more than one affected facility subject to the provisions Subpart GGG may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility. [40 CFR 60.486(a)] Federally Enforceable Through Title V Permit
83. When each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following requirements apply: 1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment; 2) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 60.482-7(c) and no leak has been detected during those 2 months; and 3) The identification on equipment except on a valve, may be removed after it has been repaired. [40 CFR 60.486(b)] Federally Enforceable Through Title V Permit
84. When each leak is detected as specified in 40 CFR 60.482-2, 60.482-3, 60.482-7, 60.482-8, and 60.483-2, the following information shall be recorded in a log and shall be kept for 5 years in a readily accessible location: 1) The instrument and operator identification numbers and the equipment identification number; 2) The date the leak was detected and the dates of each attempt to repair the leak; 3) Repair methods applied in each attempt to repair the leak; 4) "Above 10,000" if the maximum instrument reading measured by the methods specified in 40 CFR 60.485(a) after each repair attempt is equal to or greater than 10,000 ppm; 5) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak; 6) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown; 7) The expected date of successful repair of the leak if a leak is not repaired within 15 days; 8) Dates of process unit shutdown that occur while the equipment is unrepaired; and 9) The date of successful repair of the leak. [40 CFR 60.486(c) and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
85. The following information pertaining to the design requirements for closed vent systems and control devices described in 40 CFR 60.482-10 shall be recorded and kept in a readily accessible location: 1) Detailed schematics, design specifications, and piping and instrumentation diagrams; 2) The dates and descriptions of any changes in the design specifications; 3) A description of the parameter or parameters monitored, as required in 40 CFR 60.482-10(e), to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring; 4) Periods when the closed vent systems and control devices required in 40 CFR 60.482-2, 60.482-3, 60.482-4, and 60.482-5 are not operated as designed, including periods when a flare pilot light does not have a flame; and 5) Dates of startups and shutdowns of the closed vent systems and control devices required in 40 CFR 60.482-2, 60.482-3, 60.482-4, and 60.482-5. [40 CFR 60.486(d)] Federally Enforceable Through Title V Permit

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86. The following information pertaining to all equipment subject to the requirements in 40 CFR 60.482-1 to 60.482-10 shall be recorded in a log that is kept in a readily accessible location: 1) A list of identification numbers for equipment subject to the requirements of Subpart GGG; 2) (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 40 CFR 60.482-2(e), 60.482-3(i) and 60.482-7(f). (ii) The designation of equipment as subject to the requirements of 40 CFR 60.482-2(e), 60.482-3(i) and 60.482-7(f) shall be signed by the owner or operator; 3) A list of equipment identification numbers for pressure relief devices required to comply with 60.482-4; 4) (i) The dates of each compliance test as required in 40 CFR 60.482-2(e), 60.482-3(i), 60.482-4, and 60.482-7(f). (ii) The background level measured during each compliance test. (iii) The maximum instrument reading measured at the equipment during each compliance test; and 5) A list of identification numbers for equipment in vacuum service. [40 CFR 60.486(e)] Federally Enforceable Through Title V Permit
87. The following information pertaining to all valves subject to the requirements of 40 CFR 60.482-7(g) and (h) and to all pumps subject to the requirements of 40 CFR 60.482-2(g) shall be recorded in a log that is kept in a readily accessible location: 1) A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump; and 2) A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve. [40 CFR 60.486(f)] Federally Enforceable Through Title V Permit
88. The following information shall be recorded for valves complying with 40 CFR 60.483-2: 1) A schedule of monitoring; 2) The percent of valves found leaking during each monitoring period. [40 CFR 60.486(g)] Federally Enforceable Through Title V Permit
89. The following information shall be recorded in a log that is kept in a readily accessible location: 1) Design criterion required in 40 CFR 60.482-2(d)(5) and 60.482-3(e)(2) and explanation of the design criterion; and 2) Any changes to this criterion and the reasons for the changes. [40 CFR 60.486(h)] Federally Enforceable Through Title V Permit
90. The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in 40 CFR 60.480(d): 1) An analysis demonstrating the design capacity of the affected facility; 2) A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol; and 3) An analysis demonstrating that equipment is not in VOC service. [40 CFR 60.486(i)] Federally Enforceable Through Title V Permit
91. Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location. [40 CFR 60.486(j)] Federally Enforceable Through Title V Permit
92. The provisions of 40 CFR 60.7 (b) and (d) do not apply to affected facilities subject to Subpart GGG. [40 CFR 60.486(k)] Federally Enforceable Through Title V Permit
93. All semiannual reports to the Administrator shall include the following information, summarized from the information in 40 CFR 60.486: 1) Process unit identification; 2) For each month during the semiannual reporting period, i) Number of valves for which leaks were detected as described in 40 CFR 60.482-7(b) or 40 CFR 60.483-2, (ii) Number of valves for which leaks were not repaired as required in 40 CFR 60.482-7(d)(1), (iii) Number of pumps for which leaks were detected as described in 40 CFR 60.482-2(b) and (d)(6)(i), (iv) Number of pumps for which leaks were not repaired as required in 40 CFR 60.482-2(c)(1) and (d)(6)(ii), (v) Number of compressors for which leaks were detected as described in 40 CFR 60.482-3(f), (vi) Number of compressors for which leaks were not repaired as required in 40 CFR 60.482-3(g)(1), and (vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible; 3) Dates of process unit shutdowns which occurred within the semiannual reporting period; 4) Revisions to items reported in the semiannual report if changes have occurred since the initial report, as required in 40 CFR 60.487 (a) and (b), or subsequent revisions to the initial report. [40 CFR 60.487(c)] Federally Enforceable Through Title V Permit
94. An owner or operator electing to comply with the provisions of 40 CFR 60.483-1 and 60.483-2 shall notify the Administrator of the alternative standard selected 90 days before implementing either of the provisions. [40 CFR 60.487(d)] Federally Enforceable Through Title V Permit
95. An owner or operator shall report the results of all performance tests in accordance with 40 CFR 60.8 of the General Provisions. The provisions of 40 CFR 60.8(d) do not apply to affected facilities subject to the provisions of Subpart GGG except that an owner or operator must notify the Administrator of the schedule for the initial performance tests at least 30 days before the initial performance tests. [40 CFR 60.487(e)] Federally Enforceable Through Title V Permit

96. The semiannual reporting requirements of 40 CFR 60.487(a), (b), and (c) remain in force until and unless EPA, in delegating enforcement authority to a State under section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected sources within the State will be relieved of the obligation to comply with the requirements of 40 CFR 60.487(a), (b), and (c), provided that they comply with the requirements established by the State. [40 CFR 60.487(f)] Federally Enforceable Through Title V Permit
97. Compressors are exempt from the standards of Subpart GGG if the owner or operator demonstrates that a compressor is in hydrogen service. Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used. An owner or operator may use engineering judgment to demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, however, the procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used to resolve the disagreement. If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures that conform to the general method described in ASTM E-260, E-168, or E-169. [40 CFR 60.593(b)] Federally Enforceable Through Title V Permit
98. An owner or operator may use the following provision in addition to 40 CFR 60.485(e): Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 150 °C as determined by ASTM Method D86-78, 82, 90, 95, or 96. [40 CFR 60.593(d)] Federally Enforceable Through Title V Permit
99. Equipment that is in vacuum service is excluded from the requirements of 40 CFR 60.482-2 to 40 CFR 60.482-10 if it is identified as required in 40 CFR 60.486(e)(5). [40 CFR 60.482-1(d)] Federally Enforceable Through Title V Permit
100. Permittee shall comply with all applicable testing, recordkeeping, and reporting requirements specified in Rule 4001 - New Source Performance Standards, including but not limited to Subparts A and J. [District Rule 4001] Federally Enforceable Through Title V Permit
101. Heaters shall be fired only on purchased commercial natural gas, refinery fuel gas, or any combination thereof. [District Rule 2201, 4001] Federally Enforceable Through Title V Permit
102. Operator shall not burn in any fuel gas combustion device any fuel gas that contains hydrogen sulfide (H₂S) in excess of 100 ppmv@ 0% O₂. [District Rules 2201, 2520, 9.4.2 and 4301, 5.2.1, & 40 CFR Part 60, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
103. The combustion in the fuel gas combustion devices of gases released as a result of start-up, shutdown, upset, malfunction, or the result of relief valve leakage is exempt from the 100 ppmv@ 0% O₂ requirement. [District Rules 2201, 4001, Subpart J, 60.104(a)(1)] Federally Enforceable Through Title V Permit
104. All refinery fuel gas combusted in the heaters shall be monitored for H₂S content by a continuous emissions monitoring (CEM) system. CEM shall be installed, calibrated, operated, and reported according to EPA guidelines as specified under 40 CFR 60, Subpart J, Specification 7, and general requirements. CEM results shall be calculated on a rolling three (3) hour basis. [District Rules 2201, 4001, Subpart J, 60.105(a)(4) and 60.105(a)(4)iii] Federally Enforceable Through Title V Permit
105. Operator shall report all rolling 3-hour periods during which the average concentration of H₂S as measured by the H₂S continuous monitoring system exceeds 100 ppmv@ 0% O₂. [District Rules 2201, 4001, Subpart J, 60.105(e)(3)(ii)] Federally Enforceable Through Title V Permit

106. Except for complying with the applicable requirements of Sections 6.1 and 7.3, the requirements of this rule shall not apply to 1) components subject to Rule 4623 (adopted 5/19/05), 2) pressure relief devices, pumps, and compressors equipped with a closed vent system as defined in Section 3.0, 3) components buried below ground, 4) components exclusively handling liquid streams which have less than 10 percent by weight (<10 wt%) evaporation at 150 C, 5) components exclusively handling liquid streams with a VOC content less than ten percent by weight (<10 wt%), 6) components exclusively handling gas/vapor streams with a VOC content of less than one percent by weight (<1 wt%), 7) components incorporated in lines exclusively in vacuum service, 8) components exclusively handling commercial natural gas, and 9) one-half inch nominal or less stainless steel tube fittings which have been demonstrated to the Air Pollution Control Officer (APCO) to be leak-free based on initial inspection. [District Rule 4455, 4.1 & 4.2] Federally Enforceable Through Title V Permit
107. Except for components subject to Rule 4623 (Storage of Organic Liquids) or for components included in the inspection and maintenance (I&M) program implemented pursuant to Section 5.7 of Rule 4623, the operator shall not use any component that leaks in excess of the allowable leak standards of Rule 4455, or is found to be in violation of the provisions specified in Section 5.1.3. A component identified as leaking in excess of an allowable leak standard may be used provided it has been identified with a tag for repair, has been repaired, or is awaiting re-inspection after repair, within the applicable time period specified within the rule. [District Rule 4455, 5.1.1] Federally Enforceable Through Title V Permit
108. 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 4455, 5.1.2] Federally Enforceable Through Title V Permit
109. The operator shall be in violation of Rule 4455 if any District inspection demonstrates that one or more of the conditions in Section 5.1.4 (Leak Standards) exist at the facility. [District Rule 4455, 5.1.3.1] Federally Enforceable Through Title V Permit
110. Except for annual operator inspection described in Section 5.1.3.2.3, any operator inspection that demonstrates that one or more of the conditions in Section 5.1.4 exist at the facility shall not constitute a violation of Rule 4455 if the leaking components are repaired as soon as practicable but not later than the time frame specified in Rule 4455. Such components shall not be counted towards determination of compliance with the provisions of Section 5.1.4. [District Rule 4455, 5.1.3.2.1] Federally Enforceable Through Title V Permit
111. 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 Rule 4455 shall be counted toward determination of compliance with the provisions of Section 5.1.4. [District Rule 4455, 5.1.3.2.2] Federally Enforceable Through Title V Permit
112. Any operator inspection conducted annually for a component type (including operator annual inspections pursuant to Section 5.2.5, 5.2.6, 5.2.7, or 5.2.8) that demonstrates one or more of the conditions in Section 5.1.4 exist at the facility shall constitute a violation of Rule 4455 regardless of whether or not the leaking components are repaired, replaced, or removed from operation within the allowable repair time frame specified in Rule 4455. [District Rule 4455, 5.1.3.2.3] Federally Enforceable Through Title V Permit
113. 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 of Rule 4455 exist at the facility. Readings shall be taken as methane using a portable hydrocarbon detection instrument and shall be made in accordance with the methods specified in Section 6.4.1 of Rule 4455. [District Rule 4455, 5.1.4] Federally Enforceable Through Title V Permit
114. The operator shall audio-visually inspect for leaks all accessible operating pumps, compressors and Pressure Relief Devices (PRDs) in service at least once every 24 hours, except when operators do not report to the facility for that given 24 hours. Any identified leak that cannot be immediately repaired shall be reinspected within 24 hours using a portable analyzer. If a leak is found, it shall be repaired as soon as practical but not later than the time frame specified in Table 3. [District Rule 4455, 5.2.1 & 5.2.2] Federally Enforceable Through Title V Permit

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115. The operator shall inspect all components at least once every calendar quarter, except for inaccessible components, unsafe-to-monitor components and pipes. Inaccessible components, unsafe-to-monitor components and pipes shall be inspected in accordance with the requirements set forth in Sections 5.2.5, 5.2.6, and 5.2.7. New, replaced, or repaired fittings, flanges and threaded connections shall be inspected immediately after being placed into service. Components shall be inspected using EPA Method 21. [District Rule 4455, 5.2.3, 5.2.4, 5.2.5, 5.2.6 & 5.2.7] Federally Enforceable Through Title V Permit
116. The operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually for a component type, provided the operator meets all the criteria specified in Sections 5.2.8.1 through 5.2.8.3. 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. [District Rule 4455, 5.2.8] Federally Enforceable Through Title V Permit
117. An annual inspection frequency approved by the APCO shall revert to quarterly inspection frequency for a component type if either the operator inspection or District inspection demonstrates that a violation of the provisions of Sections 5.1, 5.2 and 5.3 of the rule exists for that component type, or the APCO issued a Notice of Violation for violating any of the provisions of Rule 4455 during the annual inspection period for that component type. When the inspection frequency changes from annual to quarterly inspections, the operator shall notify the APCO in writing within five (5) calendar days after changing the inspection frequency, giving the reason(s) and date of change to quarterly inspection frequency. [District Rule 4455, 5.2.9 & 5.2.10] Federally Enforceable Through Title V Permit
118. The operator shall initially inspect a process PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the time of the release. To insure that the process PRD is operating properly, and is leak-free, the operator shall re-inspect the process PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the date of the release using EPA Method 21. If the process 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. [District Rule 4455, 5.2.11] Federally Enforceable Through Title V Permit
119. Except for process PRD, a component shall be inspected within 15 calendar days after repairing the leak or replacing the component using EPA Method 21. [District Rule 4455, 5.2.12] Federally Enforceable Through Title V Permit
120. 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 to be willful circumvention and is a violation of this rule. [District Rule 4455, 5.2.13] Federally Enforceable Through Title V Permit
121. Upon detection of a leaking component, the operator shall affix to that component a weatherproof readily visible tag that contains the information specified in Section 5.3.3. The tag shall remain affixed to the component until the leaking component has been repaired or replaced; has been re-inspected using EPA Method 21; and is found to be in compliance with the requirements of Rule 4455. [District Rule 4455, 5.3.1 5.3.2 and 5.3.3] Federally Enforceable Through Title V Permit
122. 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. [District Rule 4455, 5.3.4] Federally Enforceable Through Title V Permit
123. If the leak has been minimized but the leak still exceeds the applicable leak standards of Rule 4455, an operator shall repair or replace the leaking component, vent the leaking component to a closed vent system, or remove the leaking component from operation as soon as practicable but not later than the time period specified in Table 3. 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 percent of the number of components inspected, by type, rounded upward to the nearest integer where required. [District Rule 4455, 5.3.5] Federally Enforceable Through Title V Permit
124. If the leaking component is an essential component or a critical component and which cannot be immediately shut down for repairs, the operator shall minimize the leak within one hour after detection of the leak. If the leak has been minimized, but the leak still exceeds any of the applicable leak standards of Rule 4455, 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. [District Rule 4455 5.3.6] Federally Enforceable Through Title V Permit

125. For any component that has incurred five repair actions for major gas leaks or major liquid leaks, or any 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. [District Rule 4455, 5.3.7] Federally Enforceable Through Title V Permit
126. The operator shall monitor process PRD by using electronic process control instrumentation that allows for real time continuous parameter monitoring or by using telltale indicators for the process PRD where parameter monitoring is not feasible. [District Rule 4455, 5.4.1] Federally Enforceable Through Title V Permit
127. After a release from a process PRD in excess of 500 pounds of VOC in a continuous 24-hour period, the operator shall immediately conduct a failure analysis and implement corrective actions as soon as practicable but not later than 30 days to prevent the reoccurrence of similar release. For refineries processing greater than 20,000 barrels of crude oil per day, any subsequent release in excess of 500 pounds of VOC within a continuous 24-hour period shall be subject to the requirements of Section 5.4.5. [District Rule 4455, 5.4.3 & 5.4.4] Federally Enforceable Through Title V Permit
128. The operator of a refinery processing greater than 20,000 barrels of crude oil per day shall connect all process PRDs serving that process equipment to an APCO-approved closed vent system as defined in Section 3.0 if any of the conditions specified in Sections 5.4.5.1 and 5.4.5.2 occurs. Process PRDs subject to the provisions of Section 5.4.5 shall be connected to an APCO-approved closed-vent system as soon as practicable, but no later than the first turnaround after the requirement to connect becomes effective. [District Rule 4455, 5.4.5] Federally Enforceable Through Title V Permit
129. 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 District personnel 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. The operator shall comply with the requirements of Sections 6.1.4 if there is any change in the description of major components or critical components. [District Rule 4455, 5.5.1 & 5.5.2] Federally Enforceable Through Title V Permit
130. The operator shall keep a copy of the operator management plan at the facility and make it available to the APCO, ARB and US EPA upon request. By January 30 of each year, the operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved operator management plan. [District Rule 4455, 6.1.2 & 6.1.4] Federally Enforceable Through Title V Permit
131. The operator shall maintain an inspection log containing, at a minimum, 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 component and critical components found leaking that cannot be repaired until the next process unit turnaround or not later one year after leak detection, whichever comes earlier, 7) methods used to minimize the leak from essential components and critical components that cannot be repaired until the next process unit turnaround or not later one year after leak detection, whichever comes earlier, 8) after the component is repaired or is replaced, the date of reinspection and the leak concentration in ppmv, 9) inspector's name, business mailing address, and business telephone number, and 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. [District Rule 4455, 6.2.1] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

132. 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, analyzer 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. [District Rule 4455, 6.2.3] Federally Enforceable Through Title V Permit
133. The operator shall notify the APCO, by telephone or other methods approved by the APCO, of any process PRD release described in Sections 5.4.4 and 5.4.5, and any release in excess of the reportable quantity limits as stipulated in 40 CFR, Part 117, Part 302 and Part 355, including any release in excess of 100 pounds of VOC, within one hour of such occurrence or within one hour of the time said person knew or reasonably should have known of its occurrence. [District Rule 4455, 6.3.1] Federally Enforceable Through Title V Permit
134. The operator shall submit a written report to the APCO within thirty (30) calendar days following a PRD release subject to 6.3.1. The written report shall include 1) process PRD type, size, and location, 2) date, time and duration of the process PRD release, 3) types of VOC released and individual amounts, in pounds, including supporting calculations, 4) cause of the process PRD release, and 5) corrective actions taken to prevent a subsequent process PRD release. [District Rule 4455 6.3.2] Federally Enforceable Through Title V Permit
135. Copies of all records shall be retained for a minimum of five (5) years after the date of an entry. Such records shall be made available to the APCO, ARB, or US EPA upon request. [District Rule 4455, 6.2.2, 6.2.3 & 6.2.4] Federally Enforceable Through Title V Permit
136. 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. [District Rule 4455, 6.4.1] Federally Enforceable Through Title V Permit
137. The VOC content of exempt streams shall be determined using American Society of Testing and Materials (ASTM) D 1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids. [District Rule 4455, 6.4.2] Federally Enforceable Through Title V Permit
138. For exempt streams, the percent by volume liquid evaporated at 150 deg C shall be determined using ASTM D 86. [District Rule 4455, 6.4.3] Federally Enforceable Through Title V Permit
139. Equivalent test methods other than specified in Sections 6.4.1 through 6.4.5 may be used provided such test methods have received prior approval from the US EPA, ARB, and APCO. [District Rule 4455, 6.4] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-37-163-0

ISSUANCE DATE: DRAFT

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:

310 HP WAUKESHA MODEL F18SE, NATURAL GAS-FIRED IC ENGINE EQUIPPED WITH NONSELECTIVE CATALYTIC REDUCTION (NSCR) SERVING THE EAST HYDROGEN COMPRESSOR AT THE KHT UNIT (#S-37-3)

CONDITIONS

1. 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. 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. Permit S-37-87 shall be canceled upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 106 lb, 2nd quarter - 106 lb, 3rd quarter - 106 lb, and fourth quarter - 107 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
5. ERC Certificate Number C-1438-2 and S-2653-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-37-163-0 : May 29 2018 11:32AM -- EDGEHILR : Joint Inspection NOT Required

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6. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 77 lb, 2nd quarter - 77 lb, 3rd quarter - 78 lb, and fourth quarter - 78 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
7. ERC Certificate Number S-4971-4 (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
8. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 113 lb, 2nd quarter - 113 lb, 3rd quarter - 113 lb, and fourth quarter - 114 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
9. 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
10. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
11. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
12. This IC engine shall be equipped with a three-way catalyst and shall be fired on natural gas or fuel gas only. [District Rule 2201]
13. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
15. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
16. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ]
17. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
18. Emissions from this IC engine shall not exceed any of the following limits: 0.061 g-NOx/bhp-hr or 5 ppmv @ 15% O₂, 0.06 g-PM10/bhp-hr, 0.414 g-CO/bhp-hr or 56 ppmv @ 15% O₂, 0.051 g-VOC/bhp-hr or 12 ppmv @ 15% O₂. [District Rules 2201, 4702, and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Sulfur content of the natural gas burned shall not exceed 1 grain/100 scf. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
20. Source testing to measure natural gas-combustion NOx, CO, and VOC emissions from this engine shall be conducted within 60 days of initial startup and not less than once every 24 months thereafter. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
21. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. For initial emissions source testing, the arithmetic average of three 60-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. NO_x and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
27. Operator shall conduct annual fuel analysis using applicable test methods in Section 6.4. Records of the fuel analysis shall be kept and made available for District inspection upon request. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO.] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit
29. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702] Federally Enforceable Through Title V Permit

32. The owner/operator shall submit to the APCO for approval, an Inspection and Maintenance (I&M) plan that specifies all actions to be taken to satisfy all of the requirements of Rule 4702 Sections 5.8 and 6.5. [District Rule 4702] Federally Enforceable Through Title V Permit
33. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
34. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
35. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-37-164-0

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:

310 HP WAUKESHA MODEL MODEL F18SE, NATURAL GAS-FIRED IC ENGINE EQUIPPED WITH NONSELECTIVE CATALYTIC REDUCTION (NSCR) SERVING NAPHTHA HYDROTREATER RECYCLE COMPRESSOR (#S-37-118)

CONDITIONS

1. 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. 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 NOX emission reduction credits for the following quantity of emissions: 1st quarter - 106 lb, 2nd quarter - 106 lb, 3rd quarter - 106 lb, and fourth quarter - 107 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number C-1438-2 and S-2653-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-37-164-0 - May 29 2018 11:32AM -- EDGEHILL - Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 77 lb, 2nd quarter - 77 lb, 3rd quarter - 78 lb, and fourth quarter - 78 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Number S-4971-4 (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
7. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 113 lb, 2nd quarter - 113 lb, 3rd quarter - 113 lb, and fourth quarter - 114 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
8. 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
9. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
10. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
11. This IC engine shall be equipped with a three-way catalyst and shall be fired on natural gas or fuel gas only. [District Rule 2201]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
14. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
15. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ]
16. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
17. Emissions from this IC engine shall not exceed any of the following limits: 0.061 g-NOx/bhp-hr or 5 ppmv @ 15% O₂, 0.06 g-PM10/bhp-hr, 0.414 g-CO/bhp-hr or 56 ppmv @ 15% O₂, 0.051 g-VOC/bhp-hr or 12 ppmv @ 15% O₂. [District Rules 2201, 4702, and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. Sulfur content of the natural gas burned shall not exceed 1 grain/100 scf. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
19. Source testing to measure natural gas-combustion NOx, CO, and VOC emissions from this engine shall be conducted within 60 days of initial startup and not less than once every 24 months thereafter. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
20. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. For initial emissions source testing, the arithmetic average of three 60-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. NO_x and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
22. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702] Federally Enforceable Through Title V Permit
23. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
26. Operator shall conduct annual fuel analysis using applicable test methods in Section 6.4. Records of the fuel analysis shall be kept and made available for District inspection upon request. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO.] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit
28. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
29. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702] Federally Enforceable Through Title V Permit

31. The owner/operator shall submit to the APCO for approval, an Inspection and Maintenance (I&M) plan that specifies all actions to be taken to satisfy all of the requirements of Rule 4702 Sections 5.8 and 6.5. [District Rule 4702] Federally Enforceable Through Title V Permit
32. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
33. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
34. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type of fuel used, maintenance or modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
35. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-37-165-0

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:

310 HP WAUKESHA MODEL MODEL F18SE, NATURAL GAS-FIRED IC ENGINE EQUIPPED WITH NONSELECTIVE CATALYTIC REDUCTION (NSCR) SERVING NAPHTHA REFORMER RECYCLE COMPRESSOR (#S-37-118)

CONDITIONS

1. 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. 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 NOX emission reduction credits for the following quantity of emissions: 1st quarter - 106 lb, 2nd quarter - 106 lb, 3rd quarter - 106 lb, and fourth quarter - 107 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number C-1438-2 and S-2653-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-37-165-0 : May 29 2018 11:32AM - EDGEHILR : Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 77 lb, 2nd quarter - 77 lb, 3rd quarter - 78 lb, and fourth quarter - 78 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Number S-4971-4 (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
7. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 113 lb, 2nd quarter - 113 lb, 3rd quarter - 113 lb, and fourth quarter - 114 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
8. 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
9. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
10. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
11. This IC engine shall be equipped with a three-way catalyst and shall be fired on natural gas or fuel gas only. [District Rule 2201]
12. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
13. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
14. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]
15. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ]
16. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
17. Emissions from this IC engine shall not exceed any of the following limits: 0.061 g-NOx/bhp-hr or 5 ppmv @ 15% O₂, 0.06 g-PM10/bhp-hr, 0.414 g-CO/bhp-hr or 56 ppmv @ 15% O₂, 0.051 g-VOC/bhp-hr or 12 ppmv @ 15% O₂. [District Rules 2201, 4702, and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. Sulfur content of the natural gas burned shall not exceed 1 grain/100 scf. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
19. Source testing to measure natural gas-combustion NOx, CO, and VOC emissions from this engine shall be conducted within 60 days of initial startup and not less than once every 24 months thereafter. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
20. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. For initial emissions source testing, the arithmetic average of three 60-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. NO_x and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
22. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702] Federally Enforceable Through Title V Permit
23. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
26. Operator shall conduct annual fuel analysis using applicable test methods in Section 6.4. Records of the fuel analysis shall be kept and made available for District inspection upon request. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
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