



JUN 26 2017

Mr. Melinda Hicks
Kern Oil and Refining
7724 E Panama Lane
Bakersfield, CA 93307

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-37
Project # 1170679**

Dear Mr. 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 is for three new IC engine/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 (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

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

Syed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Natural Gas-Fired IC Engines

Facility Name:	Kern Oil and Refining	Date:	6/22/17
Mailing Address:	7724 E Panama Lane Bakersfield, CA 93307	Engineer:	David Torii
Contact Person:	Melinda Hicks	Lead Engineer:	Steve Davidson
Telephone:	661-845-0761		
Application #(s):	S-37-159-0, '160-0 and '161-0		
Project #:	1170679		
Deemed Complete:	3/27/17		

I. Proposal

Kern Oil and Refining (KOR) has requested Authority to Construct (ATC) permits for replacing natural gas-fired IC engines S-37-84, '86 and '88 with three larger IC engines. The engines power compressors.

KOR 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. KOR must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4701	Internal Combustion Engines - Phase 1 (8/21/03)
Rule 4702	Internal Combustion Engines (11/14/13)
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.

IV. Process Description

Kern operates a petroleum refining operation engaged in the production of reformulated gasoline (Phase 3) and various petroleum distillates, including ultra-low sulfur diesel fuel. The subject engines provide compressed air for emergency instruments and utilities at the facility

V. Equipment Listing

Engines Being Replaced (see PTOs in Appendix B):

- S-37-84: 165 BHP STATIONARY NATURAL GAS-FIRED INGERSOLL RAND, MODEL 6JVG (SERIAL #6AAJ226), I.C. ENGINE EQUIPPED WITH 3-WAY CATALYST SERVING THE NORTH HYDROGEN COMPRESSOR AT THE PLATFORMER UNIT (#S-37-4)
- S-37-86: 165 BHP INGERSOLL-RAND MODEL 6JVG NATURAL GAS-FIRED IC ENGINE EQUIPPED WITH 3-WAY CATALYST SERVING THE #1 HYDROGEN COMPRESSOR - SOUTH, AT THE PLATFORMER UNIT (#S-37-4)
- S-37-88: 120 BHP INGERSOLL-RAND MODEL 4JVG NATURAL GAS-FIRED IC ENGINE EQUIPPED WITH 3-WAY CATALYST SERVING THE WEST HYDROGEN COMPRESSOR AT THE UNIFINER UNIT (#S-37-3)

Proposed ATCs:

- S-37-159-0: 310 HP WAUKESHA MODEL F18SE NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION SERVING THE NORTH HYDROGEN COMPRESSOR AT THE PLATFORMER UNIT (S-37-4)
- S-37-160-0: 310 HP WAUKESHA MODEL F18SE NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION SERVING THE #1 HYDROGEN COMPRESSOR- SOUTH, AT THE PLATFORMER UNIT (S-37-4)
- S-37-161-0: 310 HP WAUKESHA MODEL F18SE NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION SERVING THE WEST HYDROGEN COMPRESSOR AT THE UNIFIER UNIT (S-37-3)

VI. Emission Control Technology Evaluation

The proposed engines are equipped with Non-Selective Catalytic Reduction (NSCR) which decreases NO_x, CO and VOC emissions by using a catalyst to promote the chemical reduction of NO_x into N₂ and O₂, and the chemical oxidation of VOC and CO into H₂O and CO₂.

An fuel/air ratio controller, (oxygen controller) is used in conjunction with the NSCR to maintain the amount of oxygen in the exhaust stream to optimize catalyst function.

VII. General Calculations

A. Assumptions

Operating schedule: 8760 hours/year
 EPA F-factor (adjusted to 60 °F): 8,578 dscf/MMBtu (40 CFR 60 Appendix B)
 Fuel heating value: 1,000 Btu/dscf (District Policy APR-1720, dated 12/20/01)
 BHP to Btu/hr conversion: 2,542.5 Btu/bhp-hr
 Sulfur concentration: 2.85 lb-S/MMscf (District Policy APR-1720, dated 12/20/01)
 Thermal efficiency of engine: commonly ≈ 35%

B. Emission Factors

Pre-Project Emission Factors IC Engines S-37-84, '86 and '88			
Pollutant	Emission Factor		Source
	ppm @ 15% O2	g/hp-hr	
NO _x	25 ppm @ 15% O2	0.3595 g/hp-hr	PTO
SO _x		0.00002 lb/hp-hr	PTO
PM ₁₀		0.00014 lb/hp-hr	PTO
CO	2000 ppm @ 15% O2	17.504 g/hp-hr	PTO
VOC	250 ppm @ 15% O2	1.06 g/hp-hr	PTO

Post-Project Emission Factors IC Engines S-37-159-0, '160-0 and '161-0			
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 $\frac{lb-SO_x}{MMBtu} \times \frac{1MMBtu}{1,000,000Btu} \times \frac{2,542.5Btu}{bhp-hr} \times \frac{1bhpinput}{0.35bhpout} \times \frac{4536g}{lb} = 0.0093 \frac{g-SO_x}{bhp-hr}$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

S-37-84 PE1					
Pollutant	Emissions Factor	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	Daily Emissions (lb/day)
NO _x	0.3595 g/hp·hr	165	24	453.6	3.1
SO _x	0.00002 lb/hp·hr	165	24	1	0.1
PM ₁₀	0.00014 lb/hp·hr	165	24	1	0.55
CO	17.504 g/hp·hr	165	24	453.6	152.8
VOC	1.06 g/hp·hr	165	24	453.6	9.3

S-37-84 PE1					
Pollutant	Emissions Factor	Rating (bhp)	Annual Hours of Operation (hrs/year)	Conversion (g/lb)	Annual Emissions (lb/year)
NO _x	0.3595 g/hp·hr	165	8760	453.6	1146
SO _x	0.00002 lb/hp·hr	165	8760	1	29
PM ₁₀	0.00014 lb/hp·hr	165	8760	1	202
CO	17.504 g/hp·hr	165	8760	453.6	55777
VOC	1.06 g/hp·hr	165	8760	453.6	3378

S-37-86 PE1					
Pollutant	Emissions Factor	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	Daily Emissions (lb/day)
NO _x	0.3595 g/hp·hr	165	24	453.6	3.1
SO _x	0.00002 lb/hp·hr	165	24	1	0.1
PM ₁₀	0.00014 lb/hp·hr	165	24	1	0.55
CO	17.504 g/hp·hr	165	24	453.6	152.8
VOC	1.06 g/hp·hr	165	24	453.6	9.3

S-37-86					
PE1					
Pollutant	Emissions Factor	Rating (bhp)	Annual Hours of Operation (hrs/year)	Conversion (g/lb)	Annual Emissions (lb/year)
NO _x	0.3595 g/hp-hr	165	8760	453.6	1146
SO _x	0.00002 lb/hp-hr	165	8760	453.6	29
PM ₁₀	0.00014 lb/hp-hr	165	8760	453.6	202
CO	17.504 g/hp-hr	165	8760	453.6	55777
VOC	1.06 g/hp-hr	165	8760	453.6	3378

S-37-88					
PE1					
Pollutant	Emissions Factor	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	Daily Emissions (lb/day)
NO _x	0.3595 g/hp-hr	120	24	453.6	2.3
SO _x	0.00002 lb/hp-hr	120	24	1	0.1
PM ₁₀	0.00014 lb/hp-hr	120	24	1	0.4
CO	17.504 g/hp-hr	120	24	453.6	111.1
VOC	1.06 g/hp-hr	120	24	453.6	6.7

S-37-88					
PE1					
Pollutant	Emissions Factor	Rating (bhp)	Annual Hours of Operation (hrs/year)	Conversion (g/lb)	Annual Emissions (lb/year)
NO _x	0.3595 g/hp-hr	120	8760	453.6	833
SO _x	0.00002 lb/hp-hr	120	8760	1	21
PM ₁₀	0.00014 lb/hp-hr	120	8760	1	147
CO	17.504 g/hp-hr	120	8760	453.6	40565
VOC	1.06 g/hp-hr	120	8760	453.6	2457

2. Post Project Potential to Emit (PE2)

S-37-159-0, '160-0 and '161-0 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

S-37-159-0, '160-0 and '161-0 PE2					
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

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.

SSPE1 (lb/year)*					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	150,425	93,406	38,726	885,355	391,263

*does not include ERCs

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	150,425	93,406	38,726	885,355	391,263
S-37-84	-1,144	-29	-202	-55,777	-3,378
S-37-86	-1,144	-29	-202	-55,777	-3,378
S-37-88	-833	-21	-147	-40,565	-2,457
S-37-159-0	365	56	359	2,478	305
S-37-160-0	365	56	359	2,478	305
S-37-161-0	365	56	359	2,478	305
SSPE2	148,399	93,495	39,252	740,670	382,965

*does not include ERCs

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	150,425	93,406	38,726	38,726	885,355	391,263
SSPE2	148,399	93,495	39,252	39,252	740,670	382,965
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	y	n	n	n	y	y

Note: PM_{2.5} assumed to be equal to PM₁₀

As seen in the table above, the facility is an existing Major Source for NO_x, CO and VOC and will remain so.

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 100 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase				372		
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 BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

NOx and VOC:

5-37-84, -86, and -88 are 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 (Appendix C) and fuel usage as calculated below:

S-37-84 (HAE)

2015 Fuel use = 5,804,033 scf (applicant)
2016 Fuel use = 5,670,000 scf (applicant)

NOx EF (Rule 4702) = 0.0404 lb/MMBtu (note that the source test results are greater than the Rule 4702 limit; therefore, the 4702 limit is used)
VOC EF (source test) = 0.0015 lb/MMBtu

2015 Emissions:

NOx: $(0.0404 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(5,804,033 \text{ scf/yr}) = 234 \text{ lb/yr}$

VOC: $(0.0015 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(5,804,033 \text{ scf/yr}) = 9 \text{ lb/yr}$

2016 Emissions:

NOx: $(0.0404 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(5,670,000 \text{ scf/yr}) = 229 \text{ lb/yr}$

VOC: $(0.0015 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(5,670,000 \text{ scf/yr}) = 9 \text{ lb/yr}$

S-37-86 (HAE):

2015 Fuel use = 9,150,024 scf (applicant)

2016 Fuel use = 7,240,000 scf (applicant)

NOx EF (source test) = 0.0379 lb/MMBtu

VOC EF (source test) = 0.0041 lb/MMBtu

2015 Emissions:

NOx: $(0.0379 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(9,150,024 \text{ scf/yr}) = 347 \text{ lb/yr}$

VOC: $(0.0041 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(9,150,024 \text{ scf/yr}) = 38 \text{ lb/yr}$

2016 Emissions:

NOx: $(0.0379 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(7,240,000 \text{ scf/yr}) = 274 \text{ lb/yr}$

VOC: $(0.0041 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(7,240,000 \text{ scf/yr}) = 30 \text{ lb/yr}$

S-37-88 (HAE)

2015 Fuel use = 6,080,922 scf (applicant)

2016 Fuel use = 1,350,000 scf (applicant)

NOx EF (source test) = 0.0339 lb/MMBtu

VOC EF (source test) = 0.0149 lb/MMBtu

2015 Emissions:

NOx: $(0.0339 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(6,080,922 \text{ scf/yr}) = 206 \text{ lb/yr}$

VOC: $(0.0149 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(6,080,922 \text{ scf/yr}) = 91 \text{ lb/yr}$

2016 Emissions:

NOx: $(0.0339 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(1,350,000 \text{ scf/yr}) = 46 \text{ lb/yr}$

VOC: $(0.0149 \text{ lb/MMBtu})(0.001 \text{ MMBtu/scf})(1,350,000 \text{ scf/yr}) = 20 \text{ lb/yr}$

Average Annual Emissions (lbs)		
Permit Unit	NO _x	VOC
S-37-84	232	9
S-37-86	311	34
S-37-87	126	56
Total:	669	99

PM10 and SO_x:

3-37-84, '86, and '88 are authorized to combust PUC-quality natural gas only and are therefore Clean Emissions units. Therefore their PM10 and SO_x BEs = PE1.

7. SB 288 Major Modification

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	1,095	50,000	N
SO _x	168	80,000	N
PM ₁₀	1,077	30,000	N
VOC	915	50,000	N

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

8. Federal Major Modification

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

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

Pursuant to section V of APR 1150 a replacement unit shall be treated as an existing emission unit.

Pursuant to section 40 CFR 51.165(a)(xxi) a replacement unit means an emissions unit for which all the criteria listed in paragraphs (a)(1)(xxi)(A) through (D) of this section are met. No creditable emission reductions shall be generated from shutting down the existing emissions unit that is replaced.

- (A) The emissions unit is a reconstructed unit within the meaning of §60.15(b)(1) of this chapter, or the emissions unit completely takes the place of an existing emissions unit.
- (B) The emissions unit is identical to or functionally equivalent to the replaced emissions unit.

The new engines will be larger, and their compressors will have a greater capacity; therefore, they are not identical or functionally equivalent.

- (C) The replacement does not alter the basic design parameters (as discussed in paragraph (h)(2) of this section) of the process unit.
- (D) The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit.

Above section (a)(1)(xxi)(B) is not met; therefore, the replacement engines will not be treated as existing emission units.

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 compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x	1,095	0	Y
VOC	915	0	Y
PM ₁₀	1,077	30,000	N
PM _{2.5}	1,077	20,000	N
SO _x	168	80,000	N

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.

NOx

Federal Offset Ratio

1.5

Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-39-159-0	0	365	365
S-37-160-0	0	365	365
S-37-161-0	0	365	365
Net Emission Change (lb/year):			1,095
Federal Offset Quantity: (NEC * 1.5)			1,643

VOC

Federal Offset Ratio

1.5

Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-39-159-0	0	305	305
S-37-160-0	0	305	305
S-37-161-0	0	305	305
Net Emission Change (lb/year):			915
Federal Offset Quantity: (NEC * 1.5)			1,373

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

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

I. Project Location Relative to Class 1 Area

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

II. Project Emission Increase – Significance Determination

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

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

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

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install new IC engines each with a PE greater than 2 lb/day CO. BACT is triggered for CO since the PEs are 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 emissions. Therefore BACT is triggered for NO_x and VOC for all emissions units in the project for which there is an emission increase.

2. BACT Guideline

BACT Guideline 3.3.12, applies to the IC engines greater than 50 horsepower. [Non-Agricultural Fossil** Fuel-Fired IC Engines > 50 bhp] (See **Appendix D**)

3. Top-Down BACT Analysis

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

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

NO_x: 5 ppmv NO_x @ 15% O₂, using NSCR.
CO: 56 ppmvd @ 15% O₂ or 0.6 g/bhp-hr
VOC: 12 ppmvd @ 15% O₂ or 0.069 g/bhp-hr

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	148,399	93,495	39,252	740,670	382,965
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	y	y	y	y	y

2. Quantity of Offsets Required

NO_x:

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

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

As shown above in section VII.C.6 engines S-37-84, '86 and '88 BE equals HAE. Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

PE2 (NO_x) = (365×3) lb/year = 1,095 lb/year

BE (NO_x) = 669 lb/year

ICCE = 0 lb/year

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

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

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([1,095 - 669] + 0) \times 1.5 \\ &= 639 \text{ lb NO}_x\text{/year} \end{aligned}$$

Offsets Required for each engine: $639/3 = 213 \text{ lb NO}_x\text{/year}$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (213 \text{ lb NO}_x\text{/year}) \div (4 \text{ quarters/year}) \\ &= 53.25 \text{ lb/qtr} \end{aligned}$$

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 $X + 4 = Y.z$)				
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 for each engine to be offset are as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
S-37-159-0	53	53	53	54
S-37-160-0	53	53	53	54
S-37-161-0	53	53	53	54
Total:	159	159	159	162

Per section 4.13.8 of Rule 2201, AER for NO_x that occurred from April through November may be used to offset increases in NO_x during any period of the year.

The applicant has stated that the facility plans to use ERC certificate C-1234-2 to offset the increases in NO_x emissions associated with this project. The above certificate has available quarterly NO_x credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC C-1234-2	2538	3589	2159	172

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

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_x emission reduction credits for the following quantity of emissions: 1st quarter – 53 lb, 2nd quarter – 53 lb, 3rd quarter – 53 lb, and fourth quarter – 54 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-1234-2 (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]

PM10:

As seen above, the SSPE2 is greater than the offset thresholds for PM10. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for PM10 is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

As shown above in section VII.C.6 engines S-37-84, '86 and '88 BE equals PE1. Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

$$\begin{aligned} \text{PE2 (PM10)} &= (359 \times 3) \text{ lb/year} = 1,077 \text{ lb/year} \\ \text{BE (PM10)} &= 202 + 202 + 147 = 551 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year} \end{aligned}$$

The approved distance offset ratio is 1.0:1.0 because the emission reduction (ERC S-4782-4) originated at stationary source S-37.

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([1,077 - 551] + 0) \times 1.0 \\ &= 526 \text{ lb PM10/year} \end{aligned}$$

$$\text{Offsets Required for each engine: } 526/3 = 175 \text{ lb PM10/year}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (175 \text{ lb PM10/year}) \div (4 \text{ quarters/year}) \\ &= 37.75 \text{ lb/qtr} \end{aligned}$$

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 $X + 4 = Y.z$)				
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 for each engine to be offset are as follows:

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-37-159-0	37	38	38	38
S-37-160-0	37	38	38	38
S-37-161-0	37	38	38	38
Total:	111	114	114	114

The applicant has stated that the facility plans to use ERC certificate S-4782-4 to offset the increases in PM10 emissions associated with this project. The above certificate has available quarterly PM10 credits as follows:

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC S-4782-4	264	264	264	264

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:

- {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 – 37 lb, 2nd quarter – 38 lb, 3rd quarter – 38 lb, and fourth quarter – 38 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-4782-4 (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]

VOC:

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

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

As shown above in section VII.C.6 engines S-37-84, '86 and '88 BE equals HAE. Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

$$\begin{aligned} \text{PE2 (VOC)} &= (305 \times 3) \text{ lb/year} = 915 \text{ lb/year} \\ \text{BE (VOC)} &= 99 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year} \end{aligned}$$

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

The amount of VOC ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([915 - 99] + 0) \times 1.5 \\ &= 1,224 \text{ lb VOC/year} \end{aligned}$$

$$\text{Offsets Required for each engine: } 1,224/3 = 408 \text{ lb VOC/year}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (408 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 102 \text{ lb/qtr} \end{aligned}$$

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

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
S-37-159-0	102	102	102	102
S-37-160-0	102	102	102	102
S-37-161-0	102	102	102	102
Total:	306	306	306	306

The applicant has stated that the facility plans to use ERC certificate S-4724-1 to offset the increases in VOC emissions associated with this project. The above certificate has available quarterly VOC credits as follows:

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
ERC S-4724-1	555	569	554	701

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

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 102 lb, 2nd quarter – 102 lb, 3rd quarter – 102 lb, and fourth quarter – 102 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-4724-1 (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]

SOX:

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

The project's SOx IPE is calculated as follows:

$$\begin{aligned} \text{PE2 (SOX)} &= (56 \times 3) \text{ lb/year} = 168 \text{ lb/year} \\ \text{PE1(SOX)} &= 29 + 29 + 21 = 69 \text{ lb/year} \end{aligned}$$

$$\text{IPE} = 168 - 69 = 99 \text{ lb-SOx/year}$$

$$\text{The daily IPE is: } 99 \text{ lb-SOx/year} / 365 \text{ days/year} = 0.3 \text{ lb-SOx/day}$$

Pursuant to Policy APR 1130, offsets will not be required for this project since the increase in permitted emissions is less than or equal to 0.5 lb/day and is therefore rounded to zero for the purposes of triggering NSR requirements. However, to minimize future rounding errors, the figures are presented in the EE and in the permit without rounding the daily increase in emissions to zero.

CO:

Pursuant to section 4.6.1 of Rule 2201, increases in CO in attainment areas are exempt from offsetting if 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. As shown below in section VII.F, Ambient Air Quality Standards are not violated; therefore, offsets are not required for CO.

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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 a Federal Major Modification. Therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb/day

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

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	150,425	148,399	20,000 lb/year	No
SO _x	93,406	93,495	54,750 lb/year	No
PM ₁₀	38,726	39,252	29,200 lb/year	No
CO	885,355	740,670	200,000 lb/year	No
VOC	391,263	382,965	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	150,425	148,399	0	20,000 lb/year	No
SO _x	93,406	93,495	89	20,000 lb/year	No
PM ₁₀	38,726	39,252	0	20,000 lb/year	No
CO	885,355	740,670	0	20,000 lb/year	No
VOC	391,263	382,965	0	20,000 lb/year	No

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

e. Title V Significant Permit Modification

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

2. Public Notice Action

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

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

- Emissions from this IC engine shall not exceed any of the following limits: 0.061 g-NO_x/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]
- Sulfur content of the natural gas burned shall not exceed 1 grain/100 scf. [District Rules 2201 and 4702]

E. Compliance Assurance

1. Source Testing

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

Source testing required by Rule 4702 is discussed below in section VIII.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201. Monitoring required by Rule 4702 is discussed below in section VIII

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 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] N
- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 2201 and 4702] N

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA is conducted by the Technical Services group, for any project which has an increase in emissions and triggers public notification requirements. Discuss the AAQA results as follows.

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

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

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

G. Compliance Certification

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

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install IC engines.

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

Rule 2410 Prevention of Significant Deterioration

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

Rule 2520 Federally Mandated Operating Permits

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

A minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project involves the installation of new emission units that are subject to an NSPS requirement, the proposed project is considered to be a modification under the Federal Clean Air Act. Additionally, this project triggers a Federal Major Modification. As a result, the proposed project constitutes a Significant Modification to the Title V Permit.

Rule 4001 New Source Performance Standards (NSPS)

40 CFR Part 60, Subpart JJJJ

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR Part 60, Subpart JJJJ is the only subpart that applies to spark-ignited internal combustion engines.

Section 60.4230(a)(4)(iii) states that the provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) that commence construction after June 12, 2006 where the stationary ICE are manufactured on or after July 1, 2008 for engines with a maximum engine power less than 500 hp.

The proposed engines were manufactured after July 1, 2008 and each has a maximum engine power less than 500 hp. Therefore, this subpart applies.

Sections 60.4231 and 60.4232 apply only to the manufacturers of stationary SI internal combustion engines. These sections do not apply to owners or operators of such engines. Therefore, these sections do not apply.

Section 60.4233 lists emission standards for owners and operators. Per Section 60.4233(e), 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) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE.

Table 1 of this subpart for non-emergency natural gas-fired engines HP \geq 500 and manufacture date 1/1/2011 for later lists the NO_x standard as 1.0 g/bhp-hr (equivalent to 82 ppmv @ 15% O₂), the CO standard as 2.0 g/bhp-hr (equivalent to 270 ppmv @ 15% O₂), and the VOC standard as 0.7 g/bhp-hr (equivalent to 60 ppmv @ 15% O₂). Emissions from the proposed engines meet the required emissions standards. The following condition will be placed on the permit to ensure compliance:

- Emissions from this IC engine shall not exceed any of the following limits: 0.061 g-NO_x/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]

Section 60.4234 states owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in Section 60.4233 over the entire life of the engine.

District Rule 4702 requires periodic monitoring to ensure that the applicable emission limits contained in the permit are met. Additionally, the emissions rates for the engines will be listed as a permit condition for the life of the permit. Therefore, the requirements of this section are satisfied.

Section 60.4235 applies only to SI ICE that use gasoline. The proposed engines do not use gasoline. Therefore, this section does not apply.

Section 60.4236(a) states that after July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 hp that do not meet the applicable requirements of Section 60.4233.

As previously discussed, the proposed engines meet the applicable requirements of Section 60.4233. Therefore, the requirements of Section 60.4236 are satisfied.

Section 60.4237 lists monitoring requirements for emergency stationary SI ICE. The proposed engines are not used for emergency operation. Therefore, this section does not apply.

Sections 60.4238 through 60.4242 apply only to manufacturers of stationary SI ICE. Therefore, these sections do not apply.

Section 60.4243 lists compliance requirements for owners and operators of stationary SI ICE. Section 60.4243(b)(2)(i) states that owners or operators of a stationary SI ICE greater than 25 hp and less than or equal to 500 hp who must comply with the emission standards specified in Section 60.4233(d) or (e) must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, an initial performance test to demonstrate compliance is required.

The following conditions will be added to the permits to ensure compliance:

- 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]

- Source testing to measure natural gas-combustion NO_x, 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 Rule 4702 and 40 CFR 60 Subpart JJJJ]
- 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 and 40 CFR 60 Subpart JJJJ]

Section 60.4243(g) states that it is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

The following condition will be added to the permits to ensure compliance:

- 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]

Section 60.4244 lists test methods and other procedures for owners and operators of stationary SI ICE who conduct performance tests. Three separate test runs are required for each performance test, and each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load. Additionally, performance tests may not be conducted during periods of startup, shutdown, or malfunction.

The following condition will be added to the permits to ensure compliance:

- 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]
- {modified 3791} 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]

Section 60.4245(a) states that owners and operators of all stationary SI ICE must keep records of the following information:

- All notifications submitted to comply with this subpart and all documentation supporting any notification.
- Maintenance conducted on the engine.
- If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

- If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

The following condition will be added to the permits to ensure compliance:

- 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]

Section 60.4245(d) states owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test within 60 days after the test has been completed.

The following condition will be added to the permits to ensure compliance:

- The results of each source test shall be submitted to the District and EPA within 60 days after completion of the source test. [District Rule 1081 and 40 CFR 60 Subpart JJJJ]

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

40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Engines installed after 6/12/06 shall comply with either 40 CFR 60, Subpart IIII or Subpart JJJJ. For those cases, Subpart ZZZZ is not applicable. Therefore, this subpart does not apply.

Rule 4101 Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. The following condition is listed on each permit to ensure compliance.

- {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

Discuss whether a Health Risk Assessment is required and/or the results of the HRA, including any special conditions to consider when issuing the ATC(s).

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 (**Appendix E**), 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:

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Natural Gas-Fired ICE (Unit 159-0)	0.504	0.01	0.00	7.93E-07	No	No
Natural Gas-Fired ICE (Unit 160-0)	0.504	0.01	0.00	7.85E-07	No	No
Natural Gas-Fired ICE (Unit 161-0)	0.504	0.01	0.00	7.72E-07	No	No
Project Totals	>1	3.02E-02	1.34E-02	2.35E-06		
Facility Totals	>1	9.48E-01	1.27E-01	1.77E-05		

Discussion of T-BACT

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

Rule 4201 Particulate Matter Concentration

This Rule requires the particulate matter emissions from each engine to be less than or equal to the rule limit of 0.1 grain per dry standard cubic foot. The following calculation demonstrates compliance with this limit.

$$\frac{0.06 \text{ g} \cdot \text{PM}}{\text{hp} \cdot \text{hr}} \times \frac{1 \text{ hp} \cdot \text{hr}}{2,543 \text{ Btu}} \times \frac{10^6 \text{ Btu}}{8,578 \text{ ft}^3} \times \frac{0.35 \text{ Btu out}}{1 \text{ Btu in}} \times \frac{15.43 \text{ grain}}{\text{gram}} = 0.015 \frac{\text{grain} \cdot \text{PM}}{\text{ft}^3}$$

The following condition is listed on each engine permit to ensure compliance.

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

Rule 4301 Fuel Burning Equipment

The purpose of this rule is to limit the emissions of combustion contaminants from fuel burning equipment. This rule applies to the engines.

Section 5.0 specifies the limits for SO_x, NO_x and combustion contaminants (PM). The following table demonstrates that the engine's emissions comply with Rule 4301 limits.

Rule 4301 Limits (lb/hr)			
Pollutant	Engine Emissions	Rule 4301 Limits	Compliant?
NO _x	0.04	140	Yes
SO _x	0.0	7	Yes
Total PM	0.4	200	Yes

The previously proposed Rule 2201 daily emission limits that are listed on the permits will ensure compliance with this Rule.

Rule 4701 Internal Combustion Engines – Phase 1

Pursuant to Section 7.6.3.3.2 of Rule 4702, engines that are subject to Section 5.1 of Rule 4702, are no longer subject to Rule 4701.

Since these engines are subject to the requirements of Section 5.1 of Rule 4702, Rule 4701 is not applicable to these engines.

Rule 4702 Internal Combustion Engines – Phase 2

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.

This rule applies to any internal combustion engine rated brake at 25 horsepower or greater.

The proposed engine in this project is subject to the rule.

Section 5.1 applies to only Non-Agricultural Operations (Non-AO) IC engines up to 50 hp – not applicable.

Section 5.2 Table 2 requires that the engines meet the following emissions limits: 11 ppmv NO_x @ 15% O₂, 2000 ppmv CO @ 15% O₂ and 250 ppmv VOC @ 15% O₂.

The applicant has proposed 5 ppmv-NO_x @ 15% O₂, 56 ppmv-CO @ 15% O₂ and 12 ppmv-VOC @ 15% O₂

Since these figures are lower than the Rule limits, compliance with Section 5.1 is expected. The daily emission limits of Rule 2201 that are listed on the permits will ensure compliance.

Section 5.3 applies to CEMs. The proposed engines do not have CEMs; therefore, this section is not applicable

Sections 5.4 and 5.5 apply to compliance demonstration with percent emissions reductions. The proposed engines are not proposing to meet the NO_x emission limits of Section 5.2 by percent emission reduction; therefore, this section is not applicable

Section 5.6 applies to annual fee payment. The proposed engines are not demonstrating compliance by paying an annual fee; therefore, this section is not applicable.

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.

Section 5.8 Monitoring Requirements

Requires the operator with an engine equipped with an external control device to either install, operate, and maintain continuous monitoring equipment (CEMs) for NO_x, CO, and oxygen, as identified in Rule 1080 (Stack Monitoring), or install, operate, and maintain APCO-approved alternate monitoring consisting of one or more of the following:

- Periodic NO_x and CO emission concentrations,
- Engine exhaust oxygen concentration,
- Air-to-fuel ratio,
- Flow rate of reducing agents added to engine exhaust,
- Catalyst inlet and exhaust temperature,
- Catalyst inlet and exhaust oxygen concentration,
- Other operational characteristics.

Since the applicant has selected periodic monitoring of emissions with a portable analyzer, the following conditions are listed on each permit to ensure compliance.

- 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, 5.6 and 6.5] Y

- 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 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; and 4702, 5.6 and 6.5] Y
- 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]
- 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]
- 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]

Section 5.8.2 – requires engines not subject to 5.8.1 to have their operational characteristics monitored as recommended by the engine manufacturer or emission control system supplier, and approved by the APCO. The proposed engines are subject to Section 5.8.1; therefore, Section 5.8.2 is not applicable.

Section 5.8.3 – requires engines not subject to 5.8.1 to have their operational characteristics monitored as recommended by the engine manufacturer or emission control system supplier, and approved by the APCO. The proposed engines are subject to Section 5.8.1; therefore, Section 5.8.2 is not applicable.

Section 5.8.4 – requires IC engines equipped with CEMS to operate the CEMS in compliance with the requirements of 40 Code of Federal Regulations (CFR) Part 51, 40 CFR Parts 60.7 and 60.13 (except subsection h), 40 CFR Appendix B (Performance Specifications), 40 CFR Appendix F (Quality Assurance Procedures), and applicable provisions of Rule 1080 (Stack

Monitoring). The proposed engines in this project are not equipped with CEMS; therefore, Section 5.8.4 is not applicable.

Section 5.8.5 – requires that the APCO approve the data gathering and retrieval capabilities of an installed monitoring system. Section 5.8.5 is not applicable since the applicant is not using an installed monitoring system on the proposed engines.

Section 5.8.6 – requires the operator to install and operate a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner or operator may use an alternative device, method, or technique in determining operating time provided that the alternative is approved by the APCO and is allowed by Permit-to-Operate or Stationary Equipment Registration condition. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

The following condition will be listed on the permits to ensure compliance with Section 5.8.6:

- {3404} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]

Section 5.8.7 requires that for each engine, the permittee implement the Inspection and Monitoring (I&M) plan, if any, submitted to and approved by the APCO pursuant to Section 6.5. The pre-approved alternate emissions monitoring procedure proposed in Section 5.8.1 above will satisfy the requirements of Section 5.8.7. Therefore, compliance with Section 5.8.7 is expected.

- 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 and 40 CFR 60 Subpart JJJJ]

Section 5.8.8 requires the operator to collect data through the I&M plan in a form approved by the APCO. By following the pre-approved alternate emissions monitoring procedure proposed in Section 5.8.1 above, the applicant will be collecting data in a form approved by the APCO. Therefore, compliance with Section 5.8.8 is expected

- The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702]

Section 5.8.9 requires that a portable NO_x analyzer be used to take NO_x emission readings to verify compliance with the emission requirements of Section 5.1 during each calendar quarter in which a source test is not performed. The data must be taken and reported as approved by the APCO. This requirement is identified in the alternate monitoring section above and by inclusion of the following ATC condition:

- 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]

- {2994} 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]

Section 5.9 lists monitoring requirements for all other engines not subject to the monitoring requirements of Section 5.8. The proposed engines are subject to the monitoring requirements of Section 5.8. Therefore, this section does not apply.

Section 5.10 requires that on and after the compliance schedule specified in Section 7.5, an operator of a non-AO engine shall comply with the following requirements:

- 5.10.1 An operator of an engine complying with Sections 5.7.2 or 5.7.5 shall perform an annual sulfur fuel analysis in accordance with the test methods in Section 6.4. The operator shall keep the records of the fuel analysis and shall provide it to the District upon request,
- 5.10.2 An operator of an engine complying with Section 5.7.6 by installing and operating a control device with at least 95% by weight SO_x reduction efficiency shall submit for approval by the APCO the proposed the key system operating parameters and frequency of the monitoring and recording not later than July 1, 2013, and
- 5.10.3 An operator of an engine complying with Section 5.7.6 shall perform an annual source test unless a more frequent sampling and reporting period is included in the Permit-to-Operate. Source tests shall be performed in accordance with the test methods in Section 6.4.

This unit is fired on PUC-quality natural gas and/or digester gas. Therefore, the following requirement will be included on the permit to comply with the SO_x emissions monitoring requirement:

- If the engine is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rules 2201 and 4702] Y
- If the engine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the engine shall be determined using ASTM method D 1072, D 3031, D 4084, D 3246 or double GC for H₂S and mercaptans. [District Rules 2201 and 4702] Y
- If the engine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. If more than

one engine utilizes the same fuel source, one representative sample can be taken from the shared fuel source. [District Rules 2201 and 4702] Y

Section 5.11 applies to engines used in AO subject to Permit-Exempt Equipment Registration. The engines are not used in AO. Therefore, this section does not apply.

Section 6.1 requires that the operator of an engine to submit to the APCO an emission control plan of all actions to be taken to satisfy the emission requirements of Section 5.2 and the compliance schedules of Section 7.0.

As discussed above, the proposed engines already comply with the emission requirements of Section 5.2 ahead of the compliance schedules of Section 7.0. Therefore, an emission control plan for these engines is not required.

Section 6.2.1 requires the operator of an engine subject to the requirements of Section 5.2 of this rule shall maintain an engine operating log to demonstrate compliance with this rule. This information shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request. 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 with this rule.

The following conditions will be added to the permits to ensure compliance with Section 6.2.1:

- {3788} 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]
- {3797} 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]

Section 6.2.2 requires that the data collected pursuant to the requirements of Section 5.8 and Section 5.9 shall be maintained for at least five years, shall be readily available, and made available to the APCO upon request. The following condition will be added to the permits ensure compliance:

- 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]

Section 6.2.3 applies to operators claiming an exemption under Section 4.2 or Section 4.3. The proposed engines are not exempt from any requirements under Sections 4.2 or 4.3. Therefore, this section does not apply.

Section 6.3 identifies the source testing requirements. Engines retrofitted with exhaust control devices must comply with Sections 6.3.2 through 6.3.4 (source testing frequency, under normal conditions, source test protocol). The following conditions are listed on each permit to ensure compliance.

- Source testing to measure natural gas-combustion NO_x, CO, and VOC emissions from this unit shall be conducted within 60 days of startup and not less than once every 24 months thereafter. [District Rule 4702 and 40 CFR Subpart JJJJ]
- {modified 3791} 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]
- {3792} 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]

Section 6.3.5 applies to engines combusting PUC-quality gas only where reoccurring VOC testing is not required – applicant has stated that the gas combusted can not consistently meet the PUC-quality standards; therefore, this exemption is not applicable. (4/10/12 email)

Section 6.3.6 (representative source testing) allows for representative source testing from an engine or engines that represents a specified group of engines, provided the necessary requirements are met. Representative source testing has not been proposed.

Section 6.4 requires that the compliance with the requirements of Section 5.2 shall be determined in accordance with the following test procedures or any other method approved by EPA and the APCO:

- Oxides of nitrogen - EPA Method 7E, or ARB Method 100.
- Carbon monoxide - EPA Method 10, or ARB Method 100.
- Stack gas oxygen - EPA Method 3 or 3A, or ARB Method 100.
- Volatile organic compounds - EPA Method 25A or 25B, or ARB Method 100. Methane and ethane, which are exempt compounds, shall be excluded from the result of the test.
- Operating horsepower determination - any method approved by EPA and the APCO.
- Oxides of sulfur – EPA Method 6C or 8, or ARB Method 100.

The following conditions are listed on each permit to ensure compliance.

- {3793} 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] N

- {109} 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]
- 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]

Section 6.5 requires that the operator of an engine subject to the requirements of Section 5.2 or the requirements of Section 8.0 shall submit to the APCO for approval an I&M plan that specifies all actions to be taken to satisfy the following requirements and the requirements of Section 5.8. The actions to be identified in the I&M plan shall include, but are not limited to, the following requirements listed in Sections 6.5.2 through 6.5.9. If there is not change to the previously approved I&M plan, the operator shall submit a letter to the District indicating that previously approved plan is still valid.

Section 6.5.1 states the requirements of Section 6.5.2 through 6.5.9 shall apply to the following engines:

- Engines that have been retrofitted with an exhaust control device, except those certified per Section 9.0;
- Engines subject to Section 8.0;
- An AO spark-ignited engine that is subject to the requirements of Section 8.0;
- An AO spark-ignited engine that has been retrofitted with a catalytic emission control and is not subject to the requirements of Section 8.0.

The proposed engines have an exhaust control device. Therefore, Sections 6.5.2 through 6.5.9 apply.

Section 6.5.2 specifies procedures requiring the owner or operator to establish ranges for control equipment parameters, engine operating parameters, and engine exhaust oxygen concentrations that source testing has shown result in pollutant concentrations within the rule limits.

Section 6.5.3 specifies procedures for monthly inspections as approved by the APCO. The applicable control equipment parameters and engine operating parameters will be inspected and monitored monthly in conformance with a regular inspection schedule listed in the I&M plan. The above alternate monitoring program will ensure compliance with Sections 6.5.2 and 6.5.3 of the Rule. Therefore, the following condition will ensure compliance with the I&M requirements of this rule:

- 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 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 Rule 4702]

Section 6.5.4 specifies procedures for the corrective actions on the noncompliant parameter(s) that the operator will take when an engine is found to be operating outside the acceptable range

for control equipment parameters, engine operating parameters, and engine exhaust NO_x, CO, VOC, or oxygen concentrations.

Section 6.5.5 specifies procedures for the operator to notify the APCO when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NO_x, CO, VOC, or oxygen concentrations.

The proposed alternate monitoring program will ensure compliance with these two sections of the Rule. The following condition will ensure compliance with these requirements:

- 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 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]

Section 6.5.6 specifies procedures for preventive and corrective maintenance performed for the purpose of maintaining an engines in proper operating condition. The engines will be operated and maintained per the manufacturer's specifications. Therefore, the following condition will be included on the permit to ensure compliance:

- {3202} 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]

Section 6.5.7 specifies procedures and a schedule for using a portable NO_x analyzer to take NO_x emission readings pursuant to Section 5.8.9. The proposed alternate monitoring program will ensure compliance with this Section of the Rule. The following condition will ensure compliance with this requirement:

- {3787} 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]

Section 6.5.8 specifies procedures for collecting and recording required data and other information in a form approved by the APCO including, but not limited to, data collected through the I&M plan and the monitoring systems described in Sections 5.8.1 and 5.8.2. Data collected through the I&M plan shall have retrieval capabilities as approved by the APCO. The proposed

alternate monitoring program will ensure compliance with this Section of the Rule. The following condition will ensure compliance with this requirement:

- The permittee shall maintain records of: (1) the date and time of NO_x, CO, O₂, and NH₃ measurements, (2) the O₂ concentration in percent and the measured NO_x, CO, and NH₃ concentrations corrected to 15% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, (5) the method of determining the NH₃ emission concentration, and (6) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 2201 and 4702]

Section 6.5.9 specifies procedures for revising the I&M plan. The I&M plan shall be updated to reflect any change in operation. The I&M plan shall be updated prior to any planned change in operation. An engine operator that changes significant I&M plan elements must notify the District no later than seven days after the change and must submit an updated I&M plan to the APCO no later than 14 days after the change for approval. The date and time of the change to the I&M plan shall be recorded in the engine operating log. For new engines and modifications to existing engines, the I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit-to-Operate or Permit-Exempt Equipment Registration. The operator of an engine may request a change to the I&M plan at any time. Therefore, the following condition will be placed on the permit to ensure continued compliance:

- {3212} 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]

Section 8.0 allows an operator to comply with the NO_x emission requirements of Section 5.2 for a group of engines by aggregating their NO_x emissions.

The facility has not requested to comply with an Alternative Emission Control Plan in lieu of the requirements of Section 5.2. Therefore, this section will not be addressed.

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

$$\begin{aligned} \text{Volume SO}_2 &= (n \times R \times T) \div P \\ n &= \text{moles SO}_2 \\ T \text{ (standard temperature)} &= 60 \text{ }^\circ\text{F or } 520 \text{ }^\circ\text{R} \\ R \text{ (universal gas constant)} &= \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{ }^\circ\text{R}} \end{aligned}$$

Natural Gas Fuel

$$2.85 \frac{\text{lb} - \text{S}}{\text{MMscf} - \text{gas}} \times \frac{1 \text{ scf} - \text{gas}}{1,000 \text{ Btu}} \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}} \times \frac{1 \text{ lb} - \text{mol}}{64 \text{ lb} - \text{S}} \times \frac{10.73 \text{ psi} - \text{ft}^3}{\text{lb} - \text{mol} - \text{ }^\circ\text{R}} \times \frac{520 \text{ }^\circ\text{R}}{14.7 \text{ psi}} \times 1,000,000 = 1.97 \text{ ppmv}$$

Since the SO_x concentration is ≤ 2,000 ppmv, the engine is expected to comply with Rule 4801.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has 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.

The GHG emissions increases associated with this project result from the combustion of fossil fuel(s), other than jet fuel, delivered from suppliers 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. 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. Issue the ATCs subject to the permit conditions on the attached draft ATCs in **Appendix G**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-37-159-0	3020-10 C	310 hp	\$264
S-37-160-0	3020-10 C	310 hp	\$264
S-37-161-0	3020-10 C	310 hp	\$264

Appendixes

- A: Quarterly Net Emissions Change
- B: Current PTO(s)
- C: BACT Guideline and BACT Analysis
- D: Source Test Results
- E: HRA Summary
- F: Compliance Certification
- G: Draft ATCs

APPENDIX A
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

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

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

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

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

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

QNEC (Each Engine)					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	365	91	0	0	91
SO _x	56	14	0	0	14
PM ₁₀	359	90	0	0	90
CO	2,478	620	0	0	620
VOC	305	76	0	0	76

APPENDIX B
Engines Being Replaced (PTOs)

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-37-84-5

EXPIRATION DATE: 08/31/2016

SECTION: 05 TOWNSHIP: 31S RANGE: 28E

EQUIPMENT DESCRIPTION:

165 BHP STATIONARY NATURAL GAS-FIRED INGERSOLL RAND, MODEL 6JVG (SERIAL #6AAJ226), I.C. ENGINE EQUIPPED WITH 3-WAY CATALYST SERVING THE NORTH HYDROGEN COMPRESSOR AT THE PLATFORMER UNIT (#S-37-4)

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; and 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. The Permittee shall begin the daily recording of the inlet temperature to the catalyst bed by June 26, 2012 in order to ensure compliance with the requirements of 40 CFR 64, Compliance Assurance Monitoring (CAM). [District Rule 2520, 9.4.2 and 40 CFR 64] Federally Enforceable Through Title V Permit
29. Pursuant to Rule 4702, beginning in 2014, 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-37-86-5

EXPIRATION DATE: 08/31/2016

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

EQUIPMENT DESCRIPTION:

165 BHP INGERSOLL-RAND MODEL 6JVG NATURAL GAS-FIRED IC ENGINE EQUIPPED WITH 3-WAY CATALYST SERVING THE #1 HYDROGEN COMPRESSOR - SOUTH, AT THE PLATFORMER UNIT (#S-37-4)

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; and 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. The Permittee shall begin the daily recording of the inlet temperature to the catalyst bed by June 26, 2012 in order to ensure compliance with the requirements of 40 CFR 64, Compliance Assurance Monitoring (CAM). [District Rule 2520, 9.4.2 and 40 CFR 64] Federally Enforceable Through Title V Permit
29. 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-37-88-5

EXPIRATION DATE: 08/31/2016

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 WEST HYDROGEN COMPRESSOR AT THE UNIFINER 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; and 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 2015, 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.

Appendix C
Source Test Results

TABLE #1
Kern Oil & Refining Company
NOx, CO & VOC Emission Results
Platformer North Compressor (S-37-84-5)

TEST	1	2	3	AVERAGE	LIMIT
Test Location	Outlet	Outlet	Outlet		
Test Date	2/18/2016	2/18/2016	2/18/2016		
Test Time	1339-1409	1419-1449	1500-1530		
Standard Temp., °F	60	60	60		
O ₂ , %	<0.25	<0.25	<0.25	<0.25	
NOx, ppm	53.28	53.54	52.67	53.16	
NOx, ppm @ 15% O ₂	15.22	15.30	15.05	15.19	25
NOx, lbs/MMBtu	0.0560	0.0562	0.0553	0.0558	
CO, ppm	587.97	605.77	617.92	603.89	
CO, ppm @ 15% O ₂	167.99	173.08	176.55	172.54	2000
CO, lbs/MMBtu	0.3759	0.3873	0.3950	0.3861	
VOC, ppm	3.80	4.50	3.80	4.03	
VOC, ppm @ 15% O ₂	1.09	1.29	1.09	1.15	250
VOC, lbs/MMBtu	0.0014	0.0016	0.0014	0.0015	

WHERE:

NOx = 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

TABLE #3
Kern Oil & Refining Company
NO_x, CO & VOC Emission Results
Platformer South Compressor (S-37-86-5)

TEST	1	2	3	AVERAGE	LIMIT
Test Location	Outlet	Outlet	Outlet		
Test Date	2/17/2016	2/17/2016	2/17/2016		
Test Time	1050-1120	1130-1200	1210-1240		
Standard Temp., °F	60	60	60		
O ₂ , %	0.69	0.76	0.73	0.73	
NO _x , ppm	35.95	32.76	36.94	35.21	
NO _x , ppm @ 15% O ₂	10.49	9.60	10.81	10.30	25
NO _x , lbs/MMBtu	0.0386	0.0353	0.0397	0.0379	
CO, ppm	4599.51	4998.47	4319.93	4639.30	
CO, ppm @ 15% O ₂	1342.44	1464.57	1263.91	1356.97	2000
CO, lbs/MMBtu	3.0038	3.2770	2.8280	3.0363	
VOC, ppm	10.40	11.30	11.00	10.90	
VOC, ppm @ 15% O ₂	3.04	3.31	3.22	3.19	250
VOC, lbs/MMBtu	0.0039	0.0042	0.0041	0.0041	

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

TABLE #2
Kern Oil & Refining Company
NOx, CO & VOC Emission Results
KHT West Compressor (S-37-88-5)

TEST	1	2	3	AVERAGE	LIMIT
Test Location	Outlet	Outlet	Outlet		
Test Date	2/18/2016	2/18/2016	2/18/2016		
Test Time	830-900	912-942	952-1022		
Standard Temp., °F	60	60	60		
O ₂ , %	0.30	0.29	0.30	0.30	
NOx, ppm	33.47	29.41	33.62	32.17	
NOx, ppm @ 15% O ₂	9.59	8.42	9.63	9.21	25
NOx, lbs/MMBtu	0.0352	0.0310	0.0354	0.0339	
CO, ppm	3085.83	3435.20	2020.76	2847.26	
CO, ppm @ 15% O ₂	883.80	983.58	578.80	815.40	2000
CO, lbs/MMBtu	1.9775	2.2008	1.2951	1.8245	
VOC, ppm	<0.50	121.00	0.60	40.70	
VOC, ppm @ 15% O ₂	<0.14	34.65	0.17	11.65	250
VOC, lbs/MMBtu	<0.0002	0.0443	0.0002	0.0149	

WHERE:

NOx = 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

Appendix D
BACT Guideline and Analysis

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 in the SIP	Technologically Feasible	Alternate Basic Equipment
NOx	0.07 g/bhp-hr or 5 ppmvd @ 15% O2		1. 2 ppmvd @ 15% O2 Natural Gas-Fired Turbine 2. Electric Motor (except for engines that will be used to generate electricity)
SOx	Compliance with District Rule 4702 SOx Emission Control Requirements		Electric Motor (except for engines that will be used to generate electricity)
PM10	0.06 g/bhp-hr (Total PM)***		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% O2 2. For compression-ignited engines > 500 bhp: 23 ppmvd @ 15% O2 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 5. For all other engines (not included in categories 1 through 4 above): 56 ppmvd @ 15% O2 or 0.6 g/bhp-hr	For all compression-ignited engines: 12 ppmvd @ 15% O2 using an oxidation catalyst	Electric Motor (except for engines that will be used to generate electricity)

Pollutant	Achieved in Practice or 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% O2 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% O2 or 0.069 g/bhp-hr	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.*

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.

The remaining control technologies from Step 1 are technologically feasible.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

- a) 5 ppmv NOx @ 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 NOx @ 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 2; Achieved-in-Practice
2. For compression-ignited engines > 500 bhp: 23 ppmvd @ 15% O₂ 3; 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 5; 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.

Appendix E
HRA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: David Torii – Permit Services
 From: Georgia Stewart – Technical Services
 Date: June 5, 2017
 Facility Name: Kern Oil and Refining
 Location: 7724 E Panama Lane, Bakersfield, CA
 Application #(s): S-37-159-0, 160-0 and 161-0
 Project #: S-1170679

A. RMR SUMMARY

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Natural Gas-Fired ICE (Unit 159-0)	0.504	0.01	0.00	7.93E-07	No	No
Natural Gas-Fired ICE (Unit 160-0)	0.504	0.01	0.00	7.85E-07	No	No
Natural Gas-Fired ICE (Unit 161-0)	0.504	0.01	0.00	7.72E-07	No	No
Project Totals	>1	3.02E-02	1.34E-02	2.35E-06		
Facility Totals	>1	9.48E-01	1.27E-01	1.77E-05		

Proposed Permit Requirements

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

Units # 159-0, 160-0 and 161-0

No special requirements are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on May 18, 2017, to perform an Ambient Air Quality Analysis and a Risk Management Review for the installation of 3 (three) 310 bhp natural gas-fired IC engines. Units 159-0, 160-0 and 161-0 will replace natural gas-fired IC engines S-37-84, 86 and 88.

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). The emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). The facility's prioritization score was greater than 1.0. 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 Units 159-0, 160-0 and 161-0			
Source Type	Point	Location Type	Rural
Stack Height (m)	2.438	Closest Receptor (m)	380
Stack Diameter. (m)	0.127	Type of Receptor	Business
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

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	Johnson Tank Farm – Kern (2015)	Pass ¹	X	X	X	Pass
SO _x	Fresno – Garland (2016)	Pass	Pass	X	Pass	Pass
PM ₁₀	Bakersfield – CA Ave (2015)	X	X	X	Pass ²	Pass ²
PM _{2.5}	Bakersfield – CA Ave (2015)	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 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).** However, the cancer risk associated with the project, i.e. Units 159-0, 160-0 and 161-0, is greater than 1.0 in a million but less than 20 in a million.

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.

Appendix F
Compliance Certification



Kern Oil & Refining Co.

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


May 4, 2017

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

VP Refining

Title

Appendix G
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-37-159-0

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 F18SE NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION SERVING THE NORTH HYDROGEN COMPRESSOR AT THE PLATFORMER UNIT (S-37-4)

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-37-84 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 - 53 lb, 2nd quarter - 53 lb, 3rd quarter - 53 lb, and fourth quarter - 54 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-1243-2 (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 Marjolle, Director of Permit Services

S-37-159-0: Jun 22 2017 7:09AM - TORID : Joint Inspection NOT Required

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 - 37 lb, 2nd quarter - 38 lb, 3rd quarter - 38 lb, and fourth quarter - 38 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-4782-4 (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 - 102 lb, 2nd quarter - 102 lb, 3rd quarter - 102 lb, and fourth quarter - 102 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-4724-1 (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-NO_x/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 NO_x, 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

DRAFT

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. NOx 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, NOx, 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: NOx (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 NOx, 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 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 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 NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx 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

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

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

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-37-160-0

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 F18SE NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION SERVING THE #1 HYDROGEN COMPRESSOR- SOUTH, AT THE PLATFORMER UNIT (S-37-4)

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-37-86 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 - 53 lb, 2nd quarter - 53 lb, 3rd quarter - 53 lb, and fourth quarter - 54 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-1243-2 (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

DRAFT

Arnaud Marjolle, Director of Permit Services
S-37-160-0 : Jun 22 2017 7:08AM -- TORID : Joint Inspection NOT Required

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 - 37 lb, 2nd quarter - 38 lb, 3rd quarter - 38 lb, and fourth quarter - 38 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-4782-4 (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 - 102 lb, 2nd quarter - 102 lb, 3rd quarter - 102 lb, and fourth quarter - 102 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-4724-1 (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 NO_x, 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

DRAFT

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

CONDITIONS CONTINUE ON NEXT PAGE

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

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-37-161-0

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 F18SE NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION SERVING THE WEST HYDROGEN COMPRESSOR AT THE UNIFIER 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-37-88 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 - 53 lb, 2nd quarter - 53 lb, 3rd quarter - 53 lb, and fourth quarter - 54 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-1243-2 (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 Marjolle, Director of Permit Services

8-37-161-0 - Jun 22 2017 7:09AM - TORID - Joint Inspection NOT Required

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 - 37 lb, 2nd quarter - 38 lb, 3rd quarter - 38 lb, and fourth quarter - 38 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-4782-4 (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 - 102 lb, 2nd quarter - 102 lb, 3rd quarter - 102 lb, and fourth quarter - 102 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-4724-1 (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

DRAFT

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

DRAFT
CONDITIONS CONTINUE ON NEXT PAGE

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

DRAFT