



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT



JUN 07 2013

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

Re: **Proposed Authority to Construct / Certificate of Conformity (Minor Mod)**  
**District Facility # S-33**  
**Project # S-1130353**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Alon Bakersfield Refining, located at 6451 Rosedale Highway in Bakersfield, which has been issued a Title V permit. Alon Bakersfield Refining is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Alon Bakersfield Refining has requested to designate the low-use engine an emergency only engine.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authority to Construct # S-33-130-7 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

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

Thank you for your cooperation in this matter.

Sincerely,

David Warner  
Director of Permit Services

Enclosures  
cc: Kris Rickards, Permit Services

Seyed Sadredin  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
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JUN 07 2013

Helen Ordway  
Alon Bakersfield Refining  
6451 Rosedale Highway  
Bakersfield, CA 93308

**Re: Proposed Authority to Construct / Certificate of Conformity (Minor Mod)**  
**District Facility # S-33**  
**Project # S-1130353**

Dear Ms. Ordway:

Enclosed for your review is the District's analysis of your application for Authority to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Alon Bakersfield Refining has requested to designate the low-use engine an emergency only engine.

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

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

Thank you for your cooperation in this matter.

Sincerely,



David Warner  
Director of Permit Services

Enclosures  
cc: Kris Rickards, Permit Services

**Seyed Sadredin**  
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**San Joaquin Valley Air Pollution Control District**  
**Authority to Construct**  
**Application Review**  
**Redesignate “Low-Use” Diesel-Fired IC Engine to an**  
**“Emergency Standby” Engine**

Facility Name:	Alon Bakersfield Refining	Date:	June 5, 2013
Mailing Address:	6451 Rosedale Highway Bakersfield, CA 93308	Engineer:	Kris Rickards
		Lead Engineer:	Rich Karrs
Contact Person:	Helen Ordway		
Telephone:	661-326-4422		
Application #:	S-33-130-7		
Project #:	S-1130353		
Complete:	March 13, 2013		

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## **I. Proposal**

Alon Bakersfield Refining (Alon) is requesting an Authority to Construct (ATC) to change the designation of an existing low-use diesel-fired IC engine to an emergency use engine that powers an air compressor.

During the Title V renewal process, future compliance conditions with Subpart ZZZZ for low-use engines were added. Alon applied prior to the compliance deadline for these new requirements to redesignate the engine as emergency use only. As a result of this project, Alon will comply with the emergency engine requirements of Subpart ZZZZ instead of the low-use engine requirements.

Alon received their Title V Permit on February 28, 2003. This modification can be classified as a Title V minor 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. Alon must apply to administratively amend their Title V permit.

## **II. Applicable Rules**

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)  
Rule 2520 Federally Mandated Operating Permits (6/21/01)  
Rule 4001 New Source Performance Standards (4/14/99)  
Rule 4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)

Rule 4101 Visible Emissions (2/17/05)  
Rule 4102 Nuisance (12/17/92)  
Rule 4201 Particulate Matter Concentration (12/17/92)  
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/03)  
Rule 4702 Stationary Internal Combustion Engines (8/18/11)  
Rule 4801 Sulfur Compounds (12/17/92)  
CH&SC 41700 Health Risk Assessment  
CH&SC 42301.6 School Notice  
Title 13 CCR, Section 2423 – Exhaust Emission Standards and Test Procedures, Off-Road Compression-Ignition Engines and Equipment (Required by Title 17 CCR, Section 93115 for New Emergency Diesel IC Engines)  
Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines  
California Environmental Quality Act (CEQA)  
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 project is located at 6451 Rosedale Highway in Bakersfield, CA. The District has verified that the equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### IV. Process Description

The engine powers an air compressor. Alon has proposed designating this engine an emergency engine. Other than emergency standby operation, the engine may be operated up to 20 hours per year for maintenance and testing purposes.

### V. Equipment Listing

#### Pre-Project Equipment Description:

**S-33-130-8:** 415 HP DIESEL-FIRED "LOW-USE" I.C. ENGINE #86-C36-G POWERING AN AIR COMPRESSOR

#### Proposed Modification:

**S-33-130-7:** MODIFICATION OF 415 HP DIESEL-FIRED "LOW-USE" I.C. ENGINE #86-C36-G POWERING AN AIR COMPRESSOR: CONVERT FROM LOW-USE TO EMERGENCY STANDBY SERVICE

#### Post Project Equipment Description:

**S-33-130-8:** 415 HP DIESEL-FIRED EMERGENCY STANDBY I.C. ENGINE #86-C36-G POWERING AN AIR COMPRESSOR

## VI. Emission Control Technology Evaluation

The diesel-fired IC engine is fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum). The use of very low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces SO<sub>x</sub> emissions by over 99% from standard diesel fuel.

## VII. General Calculations

### A. Assumptions

Emergency operating schedule:	24 hours/day
Non-emergency operating schedule:	20 hours/year (stationary ATCM)
Density of diesel fuel:	7.1 lb/gal
EPA F-factor (adjusted to 60 °F):	9,051 dscf/MMBtu
Fuel heating value:	137,000 Btu/gal (HHV)
BHP to Btu/hr conversion:	2,542.5 Btu/bhp-hr
Thermal efficiency of engine:	commonly ≈ 35%
PM <sub>10</sub> fraction of diesel exhaust:	0.96 (CARB, 1988)

### B. Emission Factors

Emission Factors			
Pollutant	Emission Factor (g/bhp-hr)	Emission Factor	Source
NO <sub>x</sub>	7.68 <sup>1</sup>	600 ppmv @ 15% O <sub>2</sub>	Current Permit to Operate
SO <sub>x</sub>	0.0051 <sup>2</sup>	-	Mass Balance Equation Below
PM <sub>10</sub>	0.41 <sup>3</sup>	0.1 grain/dscf	Current Permit to Operate (Rule 4201 limit)
CO	15.59 <sup>4</sup>	2,000 ppmv @ 15% O <sub>2</sub>	Current Permit to Operate
VOC	1.14 <sup>5</sup>	-	AP-42, Table 3.3-1, TOC Exhaust and Crankcase

1)	$\frac{600 \text{ parts} \cdot \text{NO}_x}{10^6 \text{ parts}} \left( \frac{9,051 \text{ dscf}}{\text{MMBtu}} \right) \frac{46 \text{ lb}}{\text{lb} \cdot \text{mol}} \left( \frac{20.9}{20.9 - 15} \right) \frac{1 \text{ lb} \cdot \text{mol}}{379.5 \text{ dscf}} \left( \frac{\text{MMBtu}}{393.24 \text{ bhp} \cdot \text{hr}} \right) \frac{453.59 \text{ g}}{\text{lb}} \left( \frac{1}{0.35} \right) = 7.68 \left( \frac{\text{g} \cdot \text{NO}_x}{\text{hp} \cdot \text{hr}} \right)$
2)	$\frac{0.000015 \text{ lb} - \text{S}}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb} - \text{fuel}}{\text{gallon}} \times \frac{2 \text{ lb} - \text{SO}_2}{1 \text{ lb} - \text{S}} \times \frac{1 \text{ gal}}{137,000 \text{ Btu}} \times \frac{1 \text{ bhp input}}{0.35 \text{ bhp out}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp} - \text{hr}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.0051 \frac{\text{g} - \text{SO}_x}{\text{bhp} - \text{hr}}$
3)	$0.1 \frac{\text{grain} - \text{PM}}{\text{dscf}} \times \frac{\text{g}}{15.43 \text{ grain}} \times \frac{1 \text{ Btu}_{\text{in}}}{0.35 \text{ Btu}_{\text{out}}} \times \frac{9,051 \text{ dscf}}{10^6 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{1 \text{ bhp} - \text{hr}} \times \frac{0.96 \text{ g} - \text{PM}_{10}}{1 \text{ g} - \text{PM}} = 0.41 \frac{\text{g} - \text{PM}_{10}}{\text{bhp} - \text{hr}}$
4)	$\frac{2,000 \text{ parts} \cdot \text{CO}}{10^6 \text{ parts}} \left( \frac{9,051 \text{ dscf}}{\text{MMBtu}} \right) \frac{28 \text{ lb}}{\text{lb} \cdot \text{mol}} \left( \frac{20.9}{20.9 - 15} \right) \frac{1 \text{ lb} \cdot \text{mol}}{379.5 \text{ dscf}} \left( \frac{\text{MMBtu}}{393.24 \text{ bhp} \cdot \text{hr}} \right) \frac{453.59 \text{ g}}{\text{lb}} \left( \frac{1}{0.35} \right) = 15.59 \left( \frac{\text{g} \cdot \text{CO}}{\text{hp} \cdot \text{hr}} \right)$
5)	$\left( 0.00247 + 0.000044 \frac{\text{lb}}{\text{hp} - \text{hr}} \right) \times \frac{453.6 \text{ g}}{\text{lb}} = 1.14 \frac{\text{g} - \text{VOC}}{\text{bhp} - \text{hr}}$

### C. Calculations

#### 1. Pre-Project Emissions (PE1)

Project Emissions (PE1)						
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Annual Hours of Operation (hrs/yr)	Daily PE1 (lb/day)	Annual PE1 (lb/yr)
NO <sub>x</sub>	7.68	415	24	200	168.6	1,405
SO <sub>x</sub>	0.0051	415	24	200	0.1	1
PM <sub>10</sub>	0.413	415	24	200	9.1	76
CO	15.59	415	24	200	342.3	2,853
VOC	1.14	415	24	200	25.0	209

#### 2. Post-Project PE (PE2)

Project Emissions (PE2)						
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Annual Hours of Operation (hrs/yr)	Daily PE2 (lb/day)	Annual PE2 (lb/yr)
NO <sub>x</sub>	7.68	415	24	20	168.6	141
SO <sub>x</sub>	0.0051	415	24	20	0.1	0
PM <sub>10</sub>	0.41	415	24	20	9.1	8
CO	15.59	415	24	20	342.3	285
VOC	1.14	415	24	20	25.0	21

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

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

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

#### **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.

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants; therefore, SSPE2 calculations are not necessary.

#### **5. Major Source Determination**

##### **Rule 2201 Major Source Determination:**

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

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

This source is an existing Major Source for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC and will remain a Major Source for these pollutants.

##### **Rule 2410 Major Source Determination:**

The facility or the equipment evaluated under this project is listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 100 tpy for any regulated NSR pollutant and 100,000 tpy for CO<sub>2</sub>e.

Pre-project gas combustion equipment at this facility totals more than 2,360.63 MMBtu/hr. The resultant CO<sub>2</sub>e is calculated using the factor for natural gas combustion (ARB GHG emission factor for natural gas) and 8,760 hours/year use as:

$$(2,360.63 \text{ MMBtu/hr})(116.67 \text{ lb-CO}_2\text{e/MMBtu})(8,760 \text{ hrs/yr}) \\ = 1,206,316 \text{ tons-CO}_2\text{e/yr.}$$

PSD Major Source Determination (tons/year)							
	NO <sub>2</sub>	VOC	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>	CO <sub>2e</sub>
Estimated Facility PE before Project Increase	-	-	-	-	-	-	>1,206,316
PSD Major Source Thresholds	100	100	100	100	100	100	100,000*
PSD Major Source ? (Y/N)	NA	NA	NA	NA	NA	NA	Y

\* It is assumed that total mass GHG emissions will also be greater than 250 tpy. For facilities with significant emissions of N<sub>2</sub>O, CH<sub>4</sub>, HFC, PFC or SF<sub>6</sub>, this assumption may not hold.

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

## 6. Baseline Emissions (BE)

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.23

Since this engine will be operated only for emergencies, it is exempt from offsets per Rule 2201 §4.6.2. Baseline emissions are calculated solely for determining whether offsets will be required; therefore, BE calculations will not be required for this project.

## 7. SB 288 Major Modification

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

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO <sub>x</sub>	141	50,000	No
SO <sub>x</sub>	0	80,000	No
PM <sub>10</sub>	8	30,000	No
VOC	21	50,000	No

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

## 8. Federal Major Modification

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

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

### Step 1

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

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

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

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period (5 years for electric utility steam generating units). The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

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

The existing low-use engine has the ability to operate a compressor that is also operated electrically. Alon has provided the following operating hours of the engine, summarized in the following table:

Actual Annual Usage	
Year	hours/year
2011	5.2
2012	8.7
2-year Average =	7.0

Since the UBC would equal the compressor run time minus the engine run time, the compressor would have to operate an average of 13.0 hours/year before the proposed 20 hours/year potential operating and maintenance time for the engine is reached.

The compressor is used to maintain instrument air at approximately 100 psi to the Area 2 facility at the refinery 24 hrs a day and 365 days a year. Records of compressor operating time have not been kept; however, it can be reasonably assumed that the compressor ran well in excess of 20 hours/year.

The engine was not prohibited by permit condition or any other physical means from operating the compressor for the maximum 200 hours allowed by the permit. Therefore, since the engine could have operated the compressor and Alon chose not to use it, the difference between the compressor actual usage (>>20.0 hrs/year) and engine actual usage (7.0 hours/year) is equal to the UBC and the emission increase is calculated as follows:

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

Where PAE is equal to PE2 (worst case as no detailed PAE was provided) of 20 hours per year, BAE is equal to 7.0, and UBC is equal to >13.0 as discussed previously:

$$\text{Emission Increase} = 20 \text{ hours} - 7.0 - >13.0 = <0.0 \text{ hrs/yr}$$

Since this project will result in a reduction of actual operating hours and the function for which the engine is operated is not changing (no change in load), there can be no increase in any emissions, this project does not constitute a Federal Major Modification, and no further analysis is required.

## **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)

- NO<sub>2</sub> (as a primary pollutant)
- SO<sub>2</sub> (as a primary pollutant)
- CO
- PM
- PM<sub>10</sub>
- Greenhouse gases (GHG): CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>

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

If the facility is an existing PSD Major Source, the second step to determine PSD applicability is to determine if the project results in a significant increase and if so, also a significant net emissions increase for any PSD pollutant.

If the facility is an existing source but not an existing PSD Major Source, the second step to determine PSD applicability is to determine if the project, by itself, would be a PSD Major Source. If so, then the project must be evaluated to determine if the the emissions increase of any PSD pollutant will result in a significant increase and if so, also a significant net emissions increase.

If the facility is new source, the second step to determine PDS applicability is to determine if this new facility will become a new PSD Major Soruce as a result of the project. If so, then the project must be evaluated to determine if the emissions increase of any PSD pollutant will result in a significant emissions increase and if so, also a significant net emissions increase.

### **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)						
	NO <sub>2</sub>	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>	CO <sub>2</sub> e
Total PE from New and Modified Units	0.0	0.0	0.1	0.0	0.0	4.9 <sup>1</sup>
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N

1) Calculated using the ARB CO<sub>2</sub>e emission factor for diesel of 0.000186757 metric tonnes-CO<sub>2</sub>e/hp-hr (not adjusted for efficiency) as follows:

$$\left( \frac{0.000186757 \text{ metric tonnes } CO_2e}{hp - hr} \right) \frac{1.1023 \text{ short tons}}{\text{metric tonne}} (415 \text{ hp}) \frac{20 \text{ hrs}}{\text{yr}} \left( \frac{1}{0.35} \right) = 4.9 \frac{\text{tons} - CO_2e}{\text{yr}}$$

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 C.

## VIII. Compliance

### Rule 2201 New and Modified Stationary Source Review Rule

#### A. Best Available Control Technology (BACT)

##### 1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following\*:

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

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

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

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

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

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

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

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

Where,

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

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

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

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

Where,

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

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

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

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

$$\begin{aligned} \text{AIPE}_{\text{NO}_x} &= 168.6 - 168.6 \\ &= 0.0 \text{ lb-NO}_x/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{SO}_x} &= 0.1 - 0.1 \\ &= 0.0 \text{ lb-SO}_x/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{PM}_{10}} &= 9.1 - 9.1 \\ &= 0.0 \text{ lb-PM}_{10}/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{CO}} &= 342.3 - 342.3 \\ &= 0.0 \text{ lb-CO}/\text{day} \end{aligned}$$

$$\begin{aligned} \text{AIPE}_{\text{VOC}} &= 25.0 - 25.0 \\ &= 0.0 \text{ lb-VOC}/\text{day} \end{aligned}$$

As demonstrated above, the AIPE is not greater than 2.0 lb/day for any emissions. 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 not constitute an SB 288 or Federal Major Modification for any emissions. Therefore BACT is not triggered for any pollutant.

### **B. Offsets**

Since emergency IC engines are exempt from the offset requirements of Rule 2201, per Section 4.6.2, offsets are not required for this engine, and no offset calculations are required.

## C. Public Notification

### 1. Applicability

Public noticing is required for:

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

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

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

As demonstrated in Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

#### b. PE > 100 lb/day

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

#### c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO <sub>x</sub>	>20,000	>20,000	20,000 lb/year	No
SO <sub>x</sub>	>54,750	>54,750	54,750 lb/year	No
PM <sub>10</sub>	>29,200	>29,200	29,200 lb/year	No
CO	>200,000	>200,000	200,000 lb/year	No
VOC	>20,000	>20,000	20,000 lb/year	No

As detailed previously, 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.

Since there are no other changes to the SSPE other than the decrease in annual emissions from the engine listed on permit S-33-130, the SSIPE is the difference in annual PE and SSPE1 and SSPE2 are not required:

<b>SSIPE Public Notice Thresholds</b>					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO <sub>x</sub>	-	-	-1,264	20,000 lb/year	No
SO <sub>x</sub>	-	-	-1	20,000 lb/year	No
PM <sub>10</sub>	-	-	-68	20,000 lb/year	No
CO	-	-	-2,568	20,000 lb/year	No
VOC	-	-	-188	20,000 lb/year	No

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

**2. Public Notice Action**

As discussed above, this project will not result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

**D. Daily Emissions Limits**

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.16 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.16.1 and 3.16.2, 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. Therefore, the following conditions will be listed on the ATC to ensure compliance:

- Emission rates shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 600 ppmv @ 15% O<sub>2</sub> or 20% reduction of uncontrolled NO<sub>x</sub> emissions, or CO: 2000 ppmv @ 15% O<sub>2</sub>. [District Rule 2520, 9.3.2 and 4701]

- Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rules 2201 and 4201]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, Kern County Rule 407, 40 CFR 63.6604, and 17 CCR 93115]

## **E. Compliance Assurance**

### **1. Source Testing**

Pursuant to District Policy APR 1705, source testing is not required for emergency standby IC engines to demonstrate compliance with Rule 2201.

### **2. Monitoring**

No monitoring is required to demonstrate compliance with Rule 2201.

### **3. Recordkeeping**

Recordkeeping requirements, in accordance with District Rule 4702, will be discussed in Section VIII, *District Rule 4702*, of this evaluation.

### **4. Reporting**

No reporting is required to ensure compliance with Rule 2201.

## **Rule 2520 Federally Mandated Operating Permits**

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

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility shall not implement the changes requested until the final permit is issued.

## **Rule 4001 New Source Performance Standards (NSPS)**

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR Part 60, Subpart IIII applies to owners and operators of stationary compression ignition (CI) internal combustion engines (ICE) that commence construction, modify, or reconstruction of their stationary CI ICE after July 11, 2005.

40 CFR Part 60, Subpart A, Section 2, defines a modification. §60.2 defines a modification as: “any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.”.

Therefore, the changing of this engine’s designation to an emergency standby engine is not considered a modification and the requirements of this subpart do not apply.

## **Rule 4002 National Emission Standards for Hazardous Air Pollutants**

### **40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Emissions (RICE)**

Emergency engines are subject to this subpart if they are operated at a major or area source of Hazardous Air Pollutant (HAP) emissions. A major source of HAP emissions is a facility that has the potential to emit any single HAP at a rate of 10 tons/year or greater or any combinations of HAPs at a rate of 25 tons/year or greater. An area source of HAPs is a facility is not a major source of HAPs.

The engine is an existing stationary RICE located at an area source of HAP emissions; therefore, this engine is subject to this Subpart.

The following conditions will ensure compliance with this subpart:

- This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 20 hours per calendar year. [District Rules 4701 and 4702, CCR §93115.3(j), and 40 CFR 63.6640 (f)(ii)]
- This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702, 40 CFR 63.6625 (f), and 17 CCR 93115]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, Kern County Rule 407, 40 CFR 63.6604, and 17 CCR 93115]
- 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 63.6625(h)]
- The engine's oil and filter shall be changed every 500 hours of operation or every 12 months, whichever comes first. [40 CFR 63.6603/63.6640]

- The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. [40 CFR 63 Subpart ZZZZ]
- The engine's air filter shall be inspected every 1,000 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63.6603/63.6640]
- The engine's hoses and belts shall be inspected every 500 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63.6603/63.6640]
- 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 63.6655(a)(3)/§63.10(b)(2)(viii) and §63.6655(a)(4)]
- The permittee shall maintain monthly records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of action taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 63.6655(a)(2) and (a)(5)]
- 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, 40 CFR 63.6660, and 17 CCR 93115]

Additionally, 40 CFR 63 Subpart ZZZZ requires the following engines to comply with 40 CFR 60 Subpart IIII:

1. New emergency engines located at area sources of HAPs
2. Emergency engines rated less than or equal to 500 bhp and located at major sources of HAPs

Since this engine is not new, nor is the source a major source of HAPs (as required by condition 43 on facility-wide PTO S-33-0-2), Subpart ZZZZ will not require 40 CFR 60 Subpart IIII to be applicable.

The engine is expected to be in compliance with 40 CFR 63 Subpart ZZZZ.

### 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. Therefore, the following condition will be listed on the ATC 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 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

### California Health & Safety Code 41700 (Health Risk Assessment)

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

As demonstrated above, there are no increases in emissions associated with this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

### Rule 4201 Particulate Matter Concentration

Rule 4201 limits particulate matter emissions from any single source operation to 0.1 g/dscf, which, as calculated below, is equivalent to a PM<sub>10</sub> emission factor of 0.4 g-PM<sub>10</sub>/bhp-hr.

$$0.1 \frac{\text{grain-PM}}{\text{dscf}} \times \frac{\text{g}}{15.43 \text{ grain}} \times \frac{1 \text{ Btu}_{in}}{0.35 \text{ Btu}_{out}} \times \frac{9,051 \text{ dscf}}{10^6 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{1 \text{ bhp-hr}} \times \frac{0.96 \text{ g-PM}_{10}}{1 \text{ g-PM}} = 0.4 \frac{\text{g-PM}_{10}}{\text{bhp-hr}}$$

The new engine has a PM<sub>10</sub> emission factor equal to 0.4 g/bhp-hr. Therefore, compliance is expected and the following condition will be listed on the ATC:

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rules 2201 and 4201]

### Rule 4701 Internal Combustion Engines – Phase 1

The purpose of this rule is to limit the emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines. Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 50 bhp, which requires a PTO.

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

### Rule 4702 Internal Combustion Engines

The following table demonstrates how the proposed engine will comply with the requirements of District Rule 4702.

<b>District Rule 4702 Requirements Emergency Standby IC Engines</b>	<b>Proposed Method of Compliance with District Rule 4702 Requirements</b>
Operation of emergency standby engines is limited to 100 hours or less per calendar year for non-emergency purposes, verified through the use of a non-resettable elapsed operating time meter.	The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits this engine maintenance and testing to 20 hours/year. Thus, compliance is expected.
Emergency standby engines cannot be used to reduce the demand for electrical power when normal electrical power line service has not failed, or to produce power for the electrical distribution system, or in conjunction with a voluntary utility demand reduction program or interruptible power contract.	The following conditions will be included on the permit: <ul style="list-style-type: none"> <li>• {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]</li> <li>• {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]</li> </ul>
The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.	A permit condition enforcing this requirement was shown earlier in the evaluation.

District Rule 4702 Requirements Emergency Standby IC Engines	Proposed Method of Compliance with District Rule 4702 Requirements
<p>The owner/operator must monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.</p>	<p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> <li>• {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]</li> </ul>
<p>Records of the total hours of operation of the emergency standby engine, type of fuel used, purpose for operating the engine, all hours of non-emergency and emergency operation, and support documentation must be maintained. All records shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request.</p>	<p>The following conditions will be included on the permit:</p> <ul style="list-style-type: none"> <li>• {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]</li> <li>• The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]</li> <li>• {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]</li> </ul>

## Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO<sub>2</sub>) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = (n \times R \times T) \div P$$

n = moles SO<sub>2</sub>

T (standard temperature) = 60 °F or 520 °R

$$R (\text{universal gas constant}) = \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{°R}}$$

$$\frac{0.000015 \text{ lb} - \text{S}}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb}}{\text{gal}} \times \frac{64 \text{ lb} - \text{SO}_2}{32 \text{ lb} - \text{S}} \times \frac{1 \text{ MMBtu}}{9,051 \text{ scf}} \times \frac{1 \text{ gal}}{0.137 \text{ MMBtu}} \times \frac{\text{lb} - \text{mol}}{64 \text{ lb} - \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} - \text{mol} \cdot \text{°R}} \times \frac{520 \text{°R}}{14.7 \text{ psi}} \times 1,000,000 = 1.0 \text{ ppmv}$$

Since 1.0 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, Kern County Rule 407, 40 CFR 63.6604, and 17 CCR 93115]

## 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.

## Title 13 California Code of Regulations (CCR), Section 2423 – Exhaust Emission Standards and Test Procedures, Off-Road Compression-Ignition Engines and Equipment (Required by Title 17 CCR, Section 93115 for New Emergency Diesel IC Engines)

This application does not involve a new engine, an engine that was installed without first getting an ATC from the District, or an in-use engine being retrofitted with a PM<sub>10</sub> control device to meet the ATCM requirements. Therefore, the engine involved with this application is not required to meet the requirements of Title 13 California Code of Regulations (CCR), Section 2423 and no further discussion is required.

**Title 17 California Code of Regulations (CCR), Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines**

The following table demonstrates how the proposed engine(s) will comply with the requirements of Title 17 CCR Section 93115.

<p><b>Title 17 CCR Section 93115 Requirements for In-Use Emergency IC Engines</b></p>	<p><b>Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements</b></p>
<p>Emergency engine(s) must be fired on CARB diesel fuel, or an approved alternative diesel fuel.</p>	<p>The applicant has proposed the use of CARB certified diesel fuel. The proposed permit condition, requiring the use of CARB certified diesel fuel, was included earlier in this evaluation.</p>
<p>The engine may not be operated more than 20 hours per year for maintenance and testing purposes.</p>	<p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> <li>This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 20 hours per calendar year. [District Rules 4701 and 4702, CCR §93115.6(b)(3), and 40 CFR 63.6640 (f)(ii)]</li> </ul>
<p>Engines, with a PM10 emissions rate greater than 0.01 g/bhp-hr and located at schools, may not be operated for maintenance and testing whenever there is a school sponsored activity on the grounds. Additionally, engines located within 500 feet of school grounds may not be operated for maintenance and testing between 7:30 AM and 3:30 PM</p>	<p>The District has verified that this engine is not located within 500' of a school.</p>
<p>An owner or operator shall maintain monthly records of the following: emergency use hours of operation; maintenance and testing hours of operation; hours of operation for emission testing; initial start-up testing hours; hours of operation for all other uses; and the type of fuel used. All records shall be retained for a minimum of 36 months.</p>	<p>Permit conditions enforcing these requirements were shown earlier in the evaluation.</p>

## 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.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

## IX. Recommendation

Pending a successful EPA noticing period, issue Authority to Construct S-33-130-7 subject to the permit conditions on the attached draft Authority to Construct in Appendix A.

## X. Billing Information

Billing Schedule			
Permit Number	Fee Schedule	Fee Description	Fee Amount
S-33-130-7	3020-10-D	415 bhp IC engine	\$479.00

## **Appendices**

- A. Draft ATC
- B. Emissions Profile
- C. QNEC Calculations

# Appendix A

Draft ATC

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**

**PERMIT NO:** S-33-130-7

**LEGAL OWNER OR OPERATOR:** ALON BAKERSFIELD REFINING  
**MAILING ADDRESS:** 6451 ROSEDALE HWY  
BAKERSFIELD, CA 93308

**LOCATION:** 6451 ROSEDALE HWY (AREA 1 & 2)  
BAKERSFIELD, CA 93308

**SECTION:** 28 **TOWNSHIP:** 29S **RANGE:** 27E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 415 HP DIESEL-FIRED "LOW-USE" I.C. ENGINE #86-C36-G POWERING AN AIR COMPRESSOR:  
CONVERT FROM LOW-USE TO EMERGENCY STANDBY SERVICE

**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. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rules 2201 and 4201] Federally Enforceable Through Title V Permit
4. Emission rates shall not exceed any of the following: NOx (as NO2): 600 ppmv @ 15% O2 or 20% reduction of uncontrolled NOx emissions, or CO: 2000 ppmv @ 15% O2. [District Rule 2520, 9.3.2 and 4701] Federally Enforceable Through Title V Permit
5. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 20 hours per calendar year. [District Rules 4701 and 4702, CCR §93115.6(b)(3), and 40 CFR 63.6640 (f)(ii)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

S-33-130-7, Jun 5 2013 4:38PM -- RICKARDK Joint Inspection NOT Required

6. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
7. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702, 40 CFR 63.6625 (f), and 17 CCR 93115] Federally Enforceable Through Title V Permit
8. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, Kern County Rule 407, 40 CFR 63.6604, and 17 CCR 93115] Federally Enforceable Through Title V Permit
9. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702] Federally Enforceable Through Title V Permit
10. During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702] Federally Enforceable Through Title V Permit
11. An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702] Federally Enforceable Through Title V Permit
12. This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702] Federally Enforceable Through Title V Permit
13. 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 63.6625(h)] Federally Enforceable Through Title V Permit
14. The engine's oil and filter shall be changed every 500 hours of operation or every 12 months, whichever comes first. [40 CFR 63.6603/63.6640] Federally Enforceable Through Title V Permit
15. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d of Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63 Subpart ZZZZ] Federally Enforceable Through Title V Permit
16. The engine's air filter shall be inspected every 1,000 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63.6603/63.6640] Federally Enforceable Through Title V Permit
17. The engine's hoses and belts shall be inspected every 500 hours of operation or every 12 months, whichever comes first, and replaced as necessary. [40 CFR 63.6603/63.6640] Federally Enforceable Through Title V Permit
18. 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 63.6655(a)(3)/§63.10(b)(2)(viii) and §63.6655(a)(4)] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

19. The permittee shall maintain monthly records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of action taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 63.6655(a)(2) and (a)(5)] Federally Enforceable Through Title V Permit
20. The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115] Federally Enforceable Through Title V Permit
21. The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115] Federally Enforceable Through Title V Permit
22. 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, 40 CFR 63.6660, and 17 CCR 93115] Federally Enforceable Through Title V Permit

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# **Appendix B**

## **Emissions Profile**

Permit #: S-33-130-7	<b>Last Updated</b>
Facility: ALON BAKERSFIELD REFINING	05/28/2013 RICKARDK

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	141.0	1.0	8.0	285.0	21.0
Daily Emis. Limit (lb/Day)	168.6	0.1	9.1	342.3	25.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	-316.0	0.0	-17.0	-642.0	-47.0
Q2:	-316.0	0.0	-17.0	-642.0	-47.0
Q3:	-316.0	0.0	-17.0	-642.0	-47.0
Q4:	-316.0	0.0	-17.0	-642.0	-47.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

## **Appendix C**

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### **Quarterly Net Emissions Change**

## Quarterly Net Emissions Change (QNEC)

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

$QNEC = PE2 - PE1$ , where:

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

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

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

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

$PE2_{quarterly} = PE2_{annual} \div 4 \text{ quarters/year}$

$PE1_{quarterly} = PE1_{annual} \div 4 \text{ quarters/year}$

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	35	351	-316
SO <sub>x</sub>	0	0	-1
PM <sub>10</sub>	2	19	-17
CO	71	713	-642
VOC	5	52	-47

# Appendix D

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Current PTO

# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-33-130-6

**EXPIRATION DATE:** 08/31/2016

**SECTION:** 28 **TOWNSHIP:** 29S **RANGE:** 27E

**EQUIPMENT DESCRIPTION:**

415 HP DIESEL-FIRED "LOW-USE" I.C. ENGINE #86-C36-G POWERING AN AIR COMPRESSOR

## PERMIT UNIT REQUIREMENTS

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1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Emission rates shall not exceed any of the following: NOx (as NO2): 600 ppmv @ 15% O2 or 20% reduction of uncontrolled NOx emissions, or CO: 2000 ppmv @ 15% O2. [District Rule 2520, 9.3.2 and 4701] Federally Enforceable Through Title V Permit
3. This engine shall not be operated more than 20 hours in any calendar year, as determined by a non-resettable totalizing hour-meter. Total time shall include all operational use and operation for maintenance and testing purposes. [District Rule 4701, 4702, and CCR §93115.3(j)] Federally Enforceable Through Title V Permit
4. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801 and Kern County Rule 407] Federally Enforceable Through Title V Permit
5. This engine shall be equipped with an operational nonresettable elapsed time meter. [District Rule 4702] Federally Enforceable Through Title V Permit
6. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District 4801, Kern County Rule 407, 40 CFR 63.6604, and 17 CCR 93115] Federally Enforceable Through Title V Permit
7. This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702] Federally Enforceable Through Title V Permit
8. During operation of the engine, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier. [District Rule 4702] Federally Enforceable Through Title V Permit
9. The operator shall maintain copies of all fuel invoices and supplier certifications. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. The permittee shall maintain records of hours of operation. Records shall include the date, the number of hours of operation, the type of fuel used, and records of operational characteristics monitoring. Such records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 4702] Federally Enforceable Through Title V Permit
11. On and after May 3, 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. After startup the emission standards applicable are specified in Table 2d of 40 CFR Part 63 Subpart ZZZZ. [40 CFR 63,6625(h)] 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.

12. On and after May 3, 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 63.6585/63.6595 (a)] Federally Enforceable Through Title V Permit
13. On and after May 3, 2013, the CO emissions from the engine shall be reduced by 70% or shall not exceed 49 ppmvd @ 15% O<sub>2</sub> (equivalent to 0.44 g-CO/bhp-hr). [40 CFR 63.6603/63.6640] Federally Enforceable Through Title V Permit
14. On and after May 3, 2013, the engine shall be equipped with either a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or an open crank crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals. The permittee shall follow the manufacturer's specified maintenance requirements for operating and maintaining crankcase ventilation system. [40 CFR 63.6625 (g)] Federally Enforceable Through Title V Permit
15. On and after May 3, 2013, the CO after-treatment control device, if any, shall be maintained per manufacturer recommendations. [40 CFR 63.6625 (e)] Federally Enforceable Through Title V Permit
16. By May 3, 2013, an initial performance testing to demonstrate compliance with the CO emission requirement shall be performed. [40 CFR 63.6615/66.6620] Federally Enforceable Through Title V Permit
17. The performance test shall consist of measuring the O<sub>2</sub> at the inlet and outlet of the control device with the use of a portable O<sub>2</sub> and CO analyzer following ASTM D6522-00 (2005) or Methods 3A and 10. Measurements to determine O<sub>2</sub> must be made at the same time as the measurements for the CO concentration. [40 CFR 63.6612/66.6620/66.6640] Federally Enforceable Through Title V Permit
18. The performance test shall consist of measuring the CO at the inlet and outlet of the control device with the use of a portable O<sub>2</sub> and CO analyzer following ASTM D6522-00 (2005), Method 10 of 40 CFR Appendix A, Method 320 of 40 CFR Part 63 Appendix A, or ASTM D6348-03. The CO concentration shall be corrected to 15% O<sub>2</sub>, dry basis. Measurements to determine O<sub>2</sub> must be made at the same time as the measurements for the CO concentration. [40 CFR 63.6612/66.6620/66.6640] Federally Enforceable Through Title V Permit
19. 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
20. On and after May 3, 2013, the owner/operator shall submit an initial compliance demonstration report to the District within 60 days after the required source test. [District Rule 1081 and 40 CFR 63.6645 (g)] Federally Enforceable Through Title V Permit
21. On and after May 3, 2013, the permittee shall maintain monthly records that include any information necessary to demonstrate compliance with 40 CFR 63, ZZZZ. [District Rule 1070 and 40 CFR 63.6655] Federally Enforceable Through Title V Permit
22. On and after May 3, 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 63.6655(a)(3)/§63.10(b)(2)(viii) and §63.6655(a)(4)] Federally Enforceable Through Title V Permit
23. On and after May 3, 2013, the permittee shall maintain monthly records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment. The permittee shall also maintain monthly records of action taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [District Rule 1070 and 40 CFR 63.6655(a)(2) and (a)(5)] Federally Enforceable Through Title V Permit
24. By May 3, 2012, the owner/operator shall submit an Authority to Construct (ATC) permit application to the District to comply with 40 CFR 63, ZZZZ. [40 CFR 63.6625(h)] Federally Enforceable Through Title V Permit

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