



JAN 09 2020

Kelsay Padilla
E&B Natural Resources Mgmt.
3000 James Road
Bakersfield, CA 93308

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-1624
Project Number: S-1193935

Dear Ms. Padilla:

Enclosed for your review and comment is the District's analysis of E&B Natural Resources Mgmt.'s application for an Authority to Construct for four diesel IC engines powering electrical generators, in central Kern county.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. William Jones of Permit Services at (661) 392-5610.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:wej

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email

Samir Sheikh

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
Transportable Diesel-Fired IC Engines

Facility Name:	E&B Natural Resources Mgmt.	Date:	1/8/20
Mailing Address:	3000 James Road Bakersfield, CA 93308	Engineer:	William Jones
Contact Person:	Kelsay Padilla	Lead Engineer:	Rich Karrs
Telephone:	661-448-5955		
Fax:			
E-Mail:	sfaulkenburg@envirotechteam.com		
Application #(s):	S-1624-348-0, '-349-0, '-350-0, and '-351-0		
Project #:	S-1193935		
Deemed Complete:	12/16/19		

RWK
1-9-20

I. Proposal

E&B Natural Resources Mgmt. (E&B) has requested an Authority to Construct (ATC) permit install four (4) 2,722 bhp Caterpillar limited-use Tier 2 or equivalent diesel-fired engines for the temporary generation of electricity to power operations at the Poso Creek field. The proposed engines with the electrical generators are rental transportable units, which will be operated for no more than 12 consecutive months or until the serving utility (PG&E) returns power to the field.

The applicant has proposed a limited use of 24 hours per day and 125 hours per year for each of the engines being installed.

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

S-9277-2-0 through '-5-0:

- This engine shall not be operated at one location or site at a facility for more than 12 consecutive months, or if at a seasonal source, the engine shall not be operated at one location or site at a facility for more than the duration of the season. [District Rules 2201 and 4701, and 17 CCR 93116]
- The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]

- The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]
- Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
- No emission factor and no emissions shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]

The draft ATC(s) are included in **Appendix A**.

E&B has received their Title V Permit. 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). But the facility has not requested that this project be processed in that manner; therefore, E&B will be required to submit a Title V minor modification application prior to operating under the revised provisions of the ATC(s) issued with this project.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (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 equipment will be located in the Poso Creek Oil Field, within the following Section/Township/Range:

- SE/4 Section 32, Township 27S, Range 28E
- SW/4 Section 31, Township 29S, Range 21E
- SW/4 Section 33, Township 27S, Range 28E

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 engines proposed in this project will provide electrical power to the various equipment throughout this facility, until the facility gets connected to the electrical grid.

V. Equipment Listing

Pre-Project Equipment Description:

S-1624-130-0: 1,350 BBL FIXED ROOF PETROLEUM STORAGE TANK

Proposed Modification:

~~S-1624-130-0: 1,350 BBL FIXED ROOF PETROLEUM STORAGE TANK (SURRENDERED)~~

S-1624-348-0: 2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

S-1624-349-0: 2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

S-1624-350-0: 2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

S-1624-351-0: 2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

Post-Project Equipment Description:

S-1624-348-0: 2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

S-1624-349-0: 2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

S-1624-350-0: 2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

S-1624-351-0: 2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

VI. Emission Control Technology Evaluation

Internal combustion engines produce air contaminants such as sulfur oxides (SO_x), nitrogen oxides (NO_x), volatile organic compounds (VOC), carbon monoxide (CO), and particulate matter 10 microns or less in aerodynamic diameter (PM₁₀).

The applicant has proposed to install Tier 2 certified diesel-fired IC engines that are fired on very low-sulfur diesel fuel. The District has verified through the Engine manufacture, that Tier 2 is the latest tier engine available for the proposed engine size.

The use of CARB certified diesel fuel (0.0015% by weight sulfur maximum) reduces SO_x emissions by over 99% from standard diesel fuel.

VII. General Calculations

A. Assumptions

S-1624-348-0 through -351-0:

- The maximum hours of operation for each engine are 24 hours per day and 125 hours per year (per applicant).
- All calculations and physical constants used are corrected to Standard Conditions as defined in District Rule 1020, Section 3.47 (60 °F and 14.7 lb./in²).
- Facility utilizes very low sulfur (0.0015% fuel S by weight) diesel.
- Density of diesel fuel: 7.1 lb./gal
- EPA F-factor (adjusted to 60°F): 9,051 dscf/MMBtu
- Diesel fuel heating value: 137,000 Btu/gal
- BHP to Btu/hr conversion: 2,542.5 Btu/hp·hr.
- Thermal efficiency of engine: commonly ≈ 35%
- PM10 fraction of diesel exhaust: 0.96 (CARB, 1988)
- Conversion factor: 1.34 bhp/kw
- To streamline emission calculations, PM2.5 emissions are assumed to be equal to PM10 emissions. Only if needed to determine if a project is a Federal major modification for PM2.5 will specific PM2.5 emission calculations be performed.

B. Emission Factors

S-1624-348-0 through '-351-0:

For the new diesel-fired IC engine, the emissions factors for NO_x, CO, VOC, and PM₁₀ are provided by the applicant and are guaranteed by the engine manufacturer. The SO_x emission factor is calculated using the sulfur content in the diesel fuel (0.0015% sulfur).

Diesel-fired IC Engine Emission Factors		
Pollutant	g/hp-hr.	Source
NO _x	3.83	Engine Manufacturer
*SO _x	0.0051	Mass Balance Equation Below
PM ₁₀	0.1119	Engine Manufacturer
CO	1.04	Engine Manufacturer
VOC	0.20	Engine Manufacturer

$$\frac{0.000015 \text{ lb} \cdot \text{S}}{\text{lb} \cdot \text{fuel}} \times \frac{7.1 \text{ lb} \cdot \text{fuel}}{\text{gallon}} \times \frac{2 \text{ lb} \cdot \text{SO}_2}{1 \text{ lb} \cdot \text{S}} \times \frac{1 \text{ gal}}{137,000 \text{ Btu}} \times \frac{1 \text{ hp input}}{0.35 \text{ hp out}} \times \frac{2,542.5 \text{ Btu}}{\text{hp} \cdot \text{hr}} \times \frac{453.6 \text{ g}}{\text{lb}} = 0.0051 \frac{\text{g} \cdot \text{SO}_x}{\text{hp} \cdot \text{hr}}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

S-1624-130-0:

See project S-1152500 for emissions calculations:

Pre-Project Potential to Emit (PE1) for S-1624-130-0		
Pollutant	Daily PE (lb./day)	Annual PE (lb. /yr.)
VOC	73.2	3,616

S-1624-348-0 through '-351-0:

Since this is a new emissions unit, PE1 = 0 for all pollutants.

2. Post-Project Potential to Emit (PE2)

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

$$\text{Daily PE (lb./day)} = \text{Emission factor (g/bhp - hr.)} \cdot \text{Rating (bhp)} \cdot \text{Daily hours of operation (hrs./day)} \cdot (1 \text{ lb./}453.59 \text{ g})$$

$$\text{Daily PE (lb./yr.)} = \text{Emission factor (g/bhp - hr.)} \cdot \text{Rating (bhp)} \cdot \text{Annual hours of operation (hrs./yr.)} \cdot (1 \text{ lb./}453.59 \text{ g})$$

S-1624-348-0, '-349-0, '-350-0, and '-351-0:

Post-Project Potential to Emit (PE2) for each engine						
Pollutant	Emission factor (g/bhp - hr.)	Rating (bhp)	Daily hours of operation (hrs./day)	Annual hours of operation (hrs. /yr.)	Daily PE (lb./day)	Annual PE (lb. /yr.)
NOx	3.83	2,722	24	125	551.6	2,873
SOx	0.0051	2,722	24	125	0.7	4
PM	0.1119	2,722	24	125	16.1	84
CO	1.04	2,722	24	125	149.8	780
VOC	0.2	2,722	24	125	28.8	150

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; 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.

Since facility emissions are already above the Offset and Major Source Thresholds, 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 and will remain a Major Source. However, the emission increases associated with this project are the result of non-road IC engines, and are therefore not used in this determination.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO₂	VOC	SO₂	CO	PM	PM₁₀
Estimated Facility PE before Project Increase	57.9	952.8	24.0	300.1	47.8	47.8
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source?	No	Yes	No	Yes	No	No

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 calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

S-1624-348-0 through '1-351-0:

Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

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."

Non-road engines shall not be considered in determining whether a project is an SB 288 Major Modification. The Federal CAA reserves the regulation of non-road engines to Title II (National Emission Standards) of the CAA.

Therefore this project is not 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.

Non-road engines shall not be considered in determining whether a project is a Federal Major Modification. The Federal CAA reserves the regulation of non-road engines to Title II (National Emission Standards) of the CAA.

Therefore this project is not a Federal Major Modification.

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

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

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

I. Project Location Relative to Class 1 Area

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

II. Project Emission Increase – Significance Determination

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

As a screening tool, the post-project potential to emit from all 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	5.7	0.0	1.6	0.1	0.1
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 E.

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install a four diesel-fired IC engine with a PE greater than 2 lb. /day for NO_x, PM₁₀, CO, and VOC. BACT is triggered for NO_x, SO_x, PM₁₀, and VOC only since the PEs are greater than 2 lb. /day. However BACT is triggered for CO since the SSPE2 for CO is greater than 200,000 lb. /year, as demonstrated in Section VII.C.5 above.

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 not constitute an SB 288 and/or Federal Major Modification for any pollutant. Therefore BACT is not triggered for any pollutant.

2. BACT Guideline

BACT Guideline 3.2.11, applies to the Transportable Compression-Ignited IC Engines (Non-Agricultural), applies to the diesel-fired IC engines involved in this project. (See **Appendix B**)

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, BACT will be satisfied with the following:

NO_x: Latest available CARB certification standard for the particular horsepower range: Tier 2 for the proposed engine size.

VOC: Latest available CARB certification standard for the particular horsepower range: Tier 2 for the proposed engine size.

The supplier stated that Tier 4 final engines of the needed horsepower rating were not available within the state. Since Tier 2 engines are the highest tier engines available in the state for the proposed engine size, the proposed Tier 2 engine will be allowed.

B. Offsets

1. Offset Applicability

Pursuant to District Rule 2201, Section 4.5, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

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

Offset Determination (lb./year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	127,283	48,053	95,906	603,282	1,906,123
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	Yes	Yes	Yes

2. Quantity of Offsets Required

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

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

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

Where,

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

BE = Baseline Emissions, (lb. /year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

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

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

NO_x:

Per section VII.C.8, this project is not a Federal Major Modification, however the facility has decided to utilize ERCs generated at multiple locations, therefore the DOR will vary depending on the location of the ERC's original origin. The value of the proposed ERCs is listed below:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total</u>
ERC #S-5131-2	2,165	2,165	2,165	2,165	8,660
ERC #S-0291001-2	2,115	2,138	2,162	2,162	8,577

The proposed ERC S-5131-2 was generated within 15 miles of the new emissions unit's Stationary Source therefore the ERCs will be processed with a DOR of 1.3. per District Rule 2201 section 4.8.4. E&B has proposed to use ERC #S-5131-2, in its entirety, in the values indicated above. As stated above the DOR for using this ERC at the proposed location is 1.3:1. Therefore, the ERC will account for the following value towards the required NO_x NSR offsets.

$$\begin{aligned}
 PE_{\text{Offset by S-5131-2}} &= (\text{ERC value (lb./year)} / \text{DOR}) \\
 &= (8,660 \text{ lb. NO}_x/\text{year}) / 1.3 \\
 &= 6,661.5 \text{ lb. NO}_x/\text{year} \\
 &= 6,662 \text{ lb. NO}_x/\text{year}
 \end{aligned}$$

The remaining required offsets will be provided by ERC S-0291001-2. This ERC was generated 15 miles or more from the new unit's Stationary Source, therefore the ERC will be processed with a DOR of 1.5 per District Rule 2201 section 4.8.4. As stated above the DOR for using this ERC at the proposed location is 1.5:1. Therefore, the ERC will account for the following value towards the required NO_x NSR offsets.

$$\begin{aligned}
 \text{Offsets Required (lb. /year)} &= (PE2 - PE_{\text{Offset by S-5131-2}}) \times DOR \\
 &= (11,491 \text{ lb.} - 6,662 \text{ lb.}) \times 1.5 \\
 &= (4,829 \text{ lb. NO}_x/\text{year}) \times 1.5 \\
 &= 7,243.5 \text{ lb. NO}_x/\text{year}
 \end{aligned}$$

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

$$\begin{aligned}
 \text{Quarterly offsets required (lb. /qtr.)} &= (8,660 + 7,243.5 \text{ /year}) \div (4 \text{ quarters/year}) \\
 &= (15,903.5 \text{ lb. NO}_x/\text{year}) \div (4 \text{ quarters/year}) \\
 &= 3,975.9 \text{ lb. NO}_x/\text{qtr.}
 \end{aligned}$$

= 3,976 lb. NO_x /qtr.

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

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

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

Therefore the appropriate quarterly emissions to be offset for this project are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
3,976	3,976	3,976	3,976	15,904

The required quarterly emissions required for each on the four individual engines are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
994	994	994	994	3,976

The applicant has stated that the facility plans to use ERC certificate S-0291001-2, and S-5131-2 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 #S-5131-2	2,165	2,165	2,165	2,165
ERC S-0291001-2	2,115	2,138	2,162	2,162

As seen above, the facility has sufficient credits to fully offset the quarterly NO_x emissions increases associated with this project. Each of the four unit will include the following conditions:

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 – 994 lb., 2nd quarter – 994 lb., 3rd quarter – 994 lb., and 4th quarter – 994 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]
- ERC Certificate Number S-0291001-2, and S-5131-2 (or a certificate split from these 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]

PM:

E&B has proposed to use SO_x ERCs to satisfy the required PM₁₀ offsets for this project. Interpollutant offset ratios for trades between SO_x and PM₁₀ are allowed pursuant to Rule 2201, Section 4.13.3.1.2. Pursuant to draft District policy APR 1430, SO_x ERCs may be used to offset PM₁₀ at an interpollutant ratio of 1.0: 1.0. An interpollutant ratio of 1.0: 1.0 for SO_x to PM₁₀ will be applied. Per District Rule 2201 section 4.13.3. The Offsets Required (lb. /year) = ([PE2 – BE] + ICCE) x DOR

$$\begin{aligned} \text{PE2 (PM)} &= 336 \text{ lb. /year} \\ \text{BE (PM)} &= 0 \text{ lb. /year} \\ \text{ICCE} &= 0 \text{ lb. /year} \end{aligned}$$

Per section VII.C.8, this project is not a Federal Major Modification. However, the SO_x ERCs originated 15 miles or more from the new unit's Stationary Source, therefore the ERC will be processed with a DOR of 1.5:1, per District Rule 2201 section 4.8.4.

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

$$\begin{aligned} \text{Offsets Required (lb. /year)} &= ([336] + 0) \times 1.5 \\ &= 336 \times 1.5 \\ &= 503.6 \text{ lb. SO}_x\text{/year} \\ &= 504 \text{ lb. SO}_x\text{/year} \end{aligned}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb. /qtr.)} &= (504 \text{ lb. SO}_x\text{/year}) \div (4 \text{ quarters/year}) \\ &= 126 \text{ lb. /qtr.} \end{aligned}$$

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

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
126	126	126	126	504

The required quarterly emissions required for each on the four individual engines are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
31	31	32	32	126

The applicant has stated that the facility plans to use ERC certificate S-5069-5 to offset the increases in PM emissions associated with this project. The above certificate has available quarterly SO_x credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #S-5069-5	5,027	4,438	4,337	4,673

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 SO_x emission reduction credits for the following quantity of emissions: 1st quarter - 31 lb., 2nd quarter - 31 lb., 3rd quarter - 32 lb., and 4th quarter - 32 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]
- ERC Certificate Number S-5069-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

CO:

Notwithstanding the above, Section 4.6.1 of Rule 2201 states that emissions offsets are not required for increases in carbon monoxide in attainment areas provided the applicant demonstrates to the satisfaction of the APCO that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of Ambient Air Quality Standards. The District performed an Ambient Air Quality Analysis and determined that this project will not result in or contribute to a violation of an Ambient Air Quality Standard for CO (see **Appendix C**). Therefore, CO offsets are not required for this project.

VOC:

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

$$\begin{aligned} \text{PE2 (VOC)} &= \text{PE2}^{-348-0}, \text{PE2}^{-349-0}, \text{PE2}^{-350-0}, \text{PE2}^{-351-0} - \text{PE2}_{\text{surrendered unit}^{-130}} \\ &= 150 + 150 + 150 + 150 - 3,616 \\ &= - 3,016 \\ &= 0 \text{ lb. /year} \\ \text{BE (VOC)} &= 0 \text{ lb. /year} \\ \text{ICCE} &= 0 \text{ lb. /year} \end{aligned}$$

$$\begin{aligned} \text{Offsets Required (lb./year)} &= (\Sigma[\text{PE2} - \text{BE}] + \text{ICCE}) \times \text{DOR}, \\ &= (0 + 0) \times \text{DOR}, \\ &= 0 \end{aligned}$$

As demonstrated in the calculation above, the amount of offsets is zero. Therefore, offsets will not be required for this project.

Proposed Rule 2201 (offset) Conditions:

- Upon implementation of this ATC, permit S-1624-130 shall be surrendered. [District Rule 2201]

3. ERC Withdrawal Calculations

The applicant must identify the ERC Certificate(s) to be used to offset the increase in emissions for the project. As indicated in previous section, the applicant is proposing to use ERC certificate #S-5069-2, S-0291001-2, and S-5131-2 to mitigate the increases of NOx, and PM emissions associated with this project. See **Appendix F** for detailed ERC Withdrawal Calculations.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, 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 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

The PE2 for these new units are compared to the daily PE Public Notice thresholds in the following table:

PE > 100 lb./day Public Notice Thresholds			
Pollutant	PE2 (lb./day)	Public Notice Threshold	Public Notice Triggered?
NO _x	551.6	100 lb./day	Yes
SO _x	0.7	100 lb./day	No
PM ₁₀	16.1	100 lb./day	No
CO	149.8	100 lb./day	Yes
VOC	28.8	100 lb./day	No

Therefore, public noticing for PE > 100 lb. /day purposes is required.

c. Offset Threshold

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	SSPE1 (lb./year)	SSPE2 (lb./year)	Offset Threshold	Public Notice Required?
NO _x	115,791	127,283	20,000 lb./year	No
SO _x	48,038	48,053	54,750 lb./year	No
PM ₁₀	95,570	95,906	29,200 lb./year	No
CO	600,161	603,282	200,000 lb./year	No
VOC	1,905,523	1,906,123	20,000 lb./year	No

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

d. SSIPE > 20,000 lb. /year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb./year)	SSPE1 (lb./year)	SSIPE (lb./year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	127,283	115,791	11,492	20,000 lb./year	No
SO _x	48,053	48,038	15	20,000 lb./year	No
PM ₁₀	95,906	95,570	336	20,000 lb./year	No
CO	603,282	600,161	3,121	20,000 lb./year	No
VOC	1,906,123	1,905,523	600	20,000 lb./year	No

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

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project does not constitute a Title V significant modification. Therefore, public noticing for Title V significant modifications is not required for this project.

2. Public Notice Action

As discussed above, public noticing is required for this project for NO_x emissions in excess of 100 lb. /day. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website 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.

For this IC engine, the DELs are stated in the form of emission factors (g/hp-hr or lb./MMBtu), the maximum engine horsepower rating, and the maximum operational time of 24 hours per day.

Proposed Rule 2201 (DEL) Conditions:

- Emissions from this unit shall not exceed any of the following limits: 3.83 g-NOx/bhp-hr, 0.2 g-VOC/bhp-hr, or 1.04 g-CO/bhp-hr. [District Rules 2201 and 4702, and 17 CCR 93116]
- PM10 emissions rate shall not exceed 0.11 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93116]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702 and 4801, and 17 CCR 93116]
- The engine shall operate a maximum of 12 hours per day. [District Rule 2201]
- 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 125 hours per calendar year. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201. However, monitoring is required per Rule 4702 (Internal Combustion Engines). See discussion under Rule 4702 below.

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 monthly records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed. [District Rules 2201, 4701, and 4702]
- 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, 4701, and 4702]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

Section 4.14 of District Rule 2201 requires that an AAQA 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 C** 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}.

Rule 2410 Prevention of Significant Deterioration

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

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, Minor Permit Modifications are permit modifications that:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;

2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
 - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements;
7. Do not grant or modify a permit shield.

Additionally, Section 11.4 requires a description of the proposed change, the emissions resulting from the change, any new applicable requirements that will apply if the change occurs, suggested draft permits, compliance certification and an EPA 45-day review period of the proposed permit modification (or a shorter period if EPA has notified the District that EPA will not object to issuance of the permit modification, whichever is first).

As discussed above, the facility has not applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with a minor modification, prior to operating with the proposed modifications. Upon receipt of the minor modification application, the District will forward to EPA, for a 45-day review period, the proposed modified Title V permit, the ATCs issued in this project, a compliance certification form, and a copy of this evaluation, which demonstrates compliance with the minor permit modification requirements in Section 11.4. The facility may construct/operate under the ATC upon submittal of the Title V minor modification application.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60.

40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The engines in this project are transportable. Therefore, this rule does not apply.

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

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63.

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

The engines in this project are transportable. Therefore, this rule 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. Therefore, the following condition will be listed on the ATCs 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. Section 4.0 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. 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.

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 C**), 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:

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
348	0.00	0.00	0.00	6.84E-08	No	Yes
349	0.00	0.00	0.00	6.84E-08	No	Yes
350	0.00	0.00	0.00	2.17E-07	No	Yes
351	0.00	0.00	0.00	2.17E-07	No	Yes
Project Totals	0.00	0.00	0.00	5.71E-07		
Facility Totals	>1	0.73	0.03	17.5E-06		

Notes:

1. Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.
2. Acute Hazard Index was not calculated since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

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.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 20 in a million). As outlined by the HRA Summary in **Appendix C** of this report, the emissions increases for this project was determined to be less than significant.

Unit # 348-0 thru 351-0:

1. The PM₁₀ emissions rate shall not exceed 0.11 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
2. 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 125 hours per calendar year.

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

$$0.1119 \frac{g}{hp \cdot hr} \times \frac{1hp \cdot hr}{2,542.5 Btu} \times \frac{10^6 Btu}{9,051 dscf} \times \frac{0.35 Btu_{out}}{1 Btu_{in}} \times \frac{15.43 grain}{g} = 0.025 \frac{grain}{dscf}$$

Since 0.025 grain/dscf is less than 0.1 grain/dscf, compliance with this rule is expected. Therefore, the following condition will be listed on the ATCs to ensure compliance:

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

Rule 4702 Internal Combustion Engines

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines.

This rule applies to any internal combustion engine with a rated brake horsepower greater than 50 horsepower. The engines on this project are greater than 50 hp; therefore, this rule applies to this project.

Per section 5.2.4.4 the owner of an internal combustion engine shall not operate it in such a manner that results in emissions exceeding the limits in the Engine Emission Limits table below:

Table 4		
Engine Type	Emission Limit/ Standard	Compliance Date
2. Certified Compression-Ignited Engine		
a. EPA Certified Tier 1 or Tier 2 Engine	EPA Tier 4	1/1/2015 or 12 years after installation date, but not later than 6/1/18
b. EPA Certified Tier 3 or Tier 4 Engine	Meet Certified Compression-Ignited Engine Standard in effect at time of installation	At time of installation

As discussed in Section VIII A, the proposed engines are Tier 2 engines. Engines with a higher Tier rating, either Tier 4I or 4F are not available in 2 MW size. As such the Tier 2 IC engine are the last available and satisfy the requirements of this rule

Section 5.9.2 requires the owner to properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.

Section 5.9.3 requires the owner to monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.

Section 5.9.4 requires each engine to install and operate a non-resettable elapsed operating time meter. In lieu of installing a non-resettable time meter, the owner of an engine 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.

Section 5.9.5 is applicable to engines retrofitted with a NOx exhaust control. The engines in this project do not have add-on NOx controls. Therefore, the requirements of Section 5.9.5 are not applicable.

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

- *{4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93116]*
- *{3844} The engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]*
- *{3845} During periods of operation, 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]*

Section 6.1 requires that the owner of an engine subject to the requirements of Section 5.1 or Section 8.0, except for an engine specified in Section 6.1.1, shall submit to the APCO an emission control plan (ECP) of all actions to be taken to satisfy the emission requirements of Section 5.1 and the compliance schedules of Section 7.0.

Section 6.1.1 states Sections 6.1.2 through Section 6.1.3 shall not apply to an engine specified below:

- 6.1.1.1 A certified compression-ignited engine that has not been retrofitted with an exhaust control and is not subject to the requirements of Section 8.0.

The engines in this project are certified compression-ignited engines, not retrofitted with exhaust control and are not subject to Section 8.0. Therefore, an ECP is not required.

Section 6.2 requires that except for engines subject to Section 4.0, the owner of an engine subject to the requirements of Section 5.1 shall maintain an engine operating log to demonstrate compliance with this rule. 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.

Section 6.2.2 requires that the data collected pursuant to the requirements of Section 5.7 shall be maintained for at least five years, shall be readily available, and made available to the APCO upon request.

Therefore, the following conditions will be added to the permits to ensure compliance:

- *The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed. [District Rules 2201, 4701, and 4702]*
- *{3873} 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 Rules 2201, 4701, and 4702]*

Section 6.3 requires that the owner of an engine subject to the requirements of Section 5.1 or the requirements of Section 8.0, shall comply with the requirements of Section 6.3, except for an engine specified in Section 6.3.1.

Section 6.3.1 states Sections 6.3.2 through Section 6.3.4 shall not apply to an engine specified below:

- 6.3.1.1 A certified compression-ignited engine that has not been retrofitted with an exhaust control and is not subject to the requirements of Section 8.0.

The engines in this project are certified compression-ignited engines, not retrofitted with exhaust control and are not subject to Section 8.0. Therefore, source testing is not applicable.

Section 6.5 requires that the owner of an engine subject to the requirements of Section 5.1 or the requirements of Section 8.0, except for an engine specified in Section 6.5.1, shall submit to the APCO for approval, an I&M plan that specified all actions to be taken to satisfy the requirements of Section 6.5 and 5.7.

Section 6.5.1 states Sections 6.5.2 through Section 6.5.9 shall not apply to an engine specified below:

- 6.5.1.1 A certified compression-ignited engine that has not been retrofitted with an exhaust control and is not subject to the requirements of Section 8.0.

The engines in this project are certified compression-ignited engines not retrofitted with exhaust control and are not subject to Section 8.0. Therefore, an I&M Plan is not applicable.

Rule 4801 Sulfur Compounds

This rule contains a limit on sulfur compounds. The limit at the point of discharge is 0.2 percent by volume -2,000 ppmv-, calculated as sulfur dioxide (SO₂), on a dry basis averaged over 15 consecutive minutes.

The maximum sulfur content of the diesel combusted shall not exceed 0.0015% by weight. Therefore, the sulfur concentration is:

$$\text{S Conc.} = 0.0015\% \text{ S} \times 7.1 \text{ lb/gal} \times 64 \text{ lb-SO}_2/32 \text{ lb-S} \times \text{MMBtu}/9,051 \text{ scf} \times \text{gal-fuel}/0.137 \text{ MMBtu} \\ \times \text{lb-mol}/64 \text{ lb-SO}_2 \times 10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R} \times 520 \text{ }^\circ\text{R}/14.7 \text{ psi}$$

$$\text{S Conc.} = 1 \text{ ppmv}$$

Since 1 ppmv is $\leq 2,000$ ppmv, this project is expected to comply with Rule 4801. Therefore, the following condition (already mentioned in this evaluation) will be listed on the ATCs to ensure compliance:

- *{3849} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rule 2201, 4702, and 4801 and 17 CCR 93116]*

Title 17 California Code of Regulations (CCR), Section 93116 - Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines rated at 50 Horsepower and Greater

Section 93116.3 (a)(1) requires that all diesel-fueled portable engines be fueled on CARB diesel. The applicant has proposed to use this fuel.

§ 93116.2 states the definition of "portable".

(bb) Portable means designed and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. For the purposes of this regulation, dredge engines on a boat or barge are considered portable. The engine is not portable if:

- (1) the engine or its replacement is attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. The period during which the engine is maintained at a storage facility shall be excluded from the residency time determination. Any engine, such as a back-up or stand-by engine, that replace engine(s) at a location, and is intended to perform the same or similar function as the engine(s) being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engine(s), including the time between the removal of the original engine(s) and installation of the replacement engine(s), will be counted toward the consecutive time period; or
- (2) the engine remains or will reside at a location for less than 12 consecutive months if the engine is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or
- (3) the engine is moved from one location to another in an attempt to circumvent the portable residence time requirements.

93116 (b)(2) requires that portable diesel-fueled engines that have not been permitted or registered prior to January 1, 2010, shall not be permitted or registered unless they are certified to the most stringent standard contained in the federal or California emission standards for nonroad engines. The proposed engines are certified to meet the most stringent standard available in the region and for that hp rating. Therefore, the engines meet this requirement, and compliance is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

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

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

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

located, would be determined to have a less than significant individual and cumulative impact for GHG emission.

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing or mitigating GHG emissions from targeted industries. Facilities subject to the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. Any growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

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

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

1. Group 1: Large industrial facilities

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

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

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

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

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

This facility is subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative impact on global climate change.

District CEQA Findings

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity consists of issuing a permit for a piece of transportable equipment to be used at various locations within the District. The District makes the following findings regarding this activity: 1) Issuance of the permit does not have a significant environmental impact. 2) Assessment of potential environmental effects resulting from the use of the transportable equipment on a development project is the responsibility of the Lead Agency approving the specific project, and will be determined on a project specific basis. The District has determined that no additional findings are required.

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.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC S-1624-348-0, '-349-0, '-350-0, and '-351-0 subject to the permit conditions on the attached draft ATC in **Appendix C**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1624-348-0	3020-10-F	2,722 hp IC engine	\$900
S-1624-349-0	3020-10-F	2,722 hp IC engine	\$900
S-1624-350-0	3020-10-F	2,722 hp IC engine	\$900
S-1624-351-0	3020-10-F	2,722 hp IC engine	\$900

Appendixes

- A: Draft ATC
- B: BACT Guideline & BACT Analysis
- C: HRA/AAQA Summary
- D: SSPE1 Calculations
- E: Quarterly Net Emissions Change
- F: ERC Withdrawal Calculations

APPENDIX A:
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

DRAFT

PERMIT NO: S-1624-348-0

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES MGMT

MAILING ADDRESS: 1600 NORRIS RD
BAKERSFIELD, CA 93308

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: NW33 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Upon implementation of this ATC, permit S-1624-130 shall be surrendered. [District Rule 2201]
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 31 lb., 2nd quarter - 31 lb., 3rd quarter - 32 lb., and 4th quarter - 32 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]
4. ERC Certificate Number S-5069-5 (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]
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 994 lb, 2nd quarter - 994 lb, 3rd quarter - 994 lb, and 4th quarter - 944 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Arnaud Marjolle, Director of Permit Services

S-1624-348-0 Jan 9 2020 1:02PM - JONESW Joint Inspection NOT Required

6. ERC Certificate Number S-0291001-2, and S-5131-2 (or a certificate split from these 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]
7. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
8. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201]
9. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
10. No emission factor and no emissions shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]
11. This engine shall not be operated at one location or site at a facility for more than 12 consecutive months, or if at a seasonal source, the engine shall not be operated at one location or site at a facility for more than the duration of the season. [District Rules 2201 and 4701, and 17 CCR 93115]
12. {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]
13. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
14. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, and 17 CCR 93116]
15. This engine shall be operated only for testing and maintenance of the engine, and required regulatory purposes. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 125 hours per calendar year. [District Rule 2201]
16. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
17. 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]
18. Emissions from this unit shall not exceed any of the following limits: 3.83 g-NOx/bhp-hr, 0.20 g-VOC/bhp-hr, or 1.04 g-CO/bhp-hr. [District Rules 2201 and 4702, and 17 CCR 93116]
19. The PM10 emissions rate shall not exceed 0.11 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93116]
20. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
21. {3844} The engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
22. {3845} During periods of operation, 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]
23. The permittee shall maintain monthly records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed. [District Rules 2201, 4701, and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

24. 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, 4701, and 4702]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1624-349-0

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES MGMT
MAILING ADDRESS: 1600 NORRIS RD
BAKERSFIELD, CA 93308

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: NW33 TOWNSHIP: 27S RANGE: 27E

EQUIPMENT DESCRIPTION:

2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Upon implementation of this ATC, permit S-1624-130 shall be surrendered. [District Rule 2201]
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 31 lb., 2nd quarter - 31 lb., 3rd quarter - 32 lb., and 4th quarter - 32 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]
4. ERC Certificate Number S-5069-5 (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]
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 994 lb, 2nd quarter - 994 lb, 3rd quarter - 994 lb, and 4th quarter - 944 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Arnaud Marjolle, Director of Permit Services

S-1624-349-0 Jan 9 2020 1:02PM -- JONESW Joint Inspection NOT Required

6. ERC Certificate Number S-0291001-2, and S-5131-2 (or a certificate split from these 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]
7. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
8. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201]
9. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
10. No emission factor and no emissions shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]
11. This engine shall not be operated at one location or site at a facility for more than 12 consecutive months, or if at a seasonal source, the engine shall not be operated at one location or site at a facility for more than the duration of the season. [District Rules 2201 and 4701, and 17 CCR 93115]
12. {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]
13. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
14. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, and 17 CCR 93116]
15. This engine shall be operated only for testing and maintenance of the engine, and required regulatory purposes. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 125 hours per calendar year. [District Rule 2201]
16. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
17. 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]
18. Emissions from this unit shall not exceed any of the following limits: 3.83 g-NOx/bhp-hr, 0.20 g-VOC/bhp-hr, or 1.04 g-CO/bhp-hr. [District Rules 2201 and 4702, and 17 CCR 93116]
19. The PM10 emissions rate shall not exceed 0.11 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93116]
20. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
21. {3844} The engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
22. {3845} During periods of operation, 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]
23. The permittee shall maintain monthly records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed. [District Rules 2201, 4701, and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

24. 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, 4701, and 4702]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1624-350-0

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES MGMT

MAILING ADDRESS: 1600 NORRIS RD
BAKERSFIELD, CA 93308

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: NW33 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Upon implementation of this ATC, permit S-1624-130 shall be surrendered. [District Rule 2201]
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 31 lb., 2nd quarter - 31 lb., 3rd quarter - 32 lb., and 4th quarter - 32 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]
4. ERC Certificate Number S-5069-5 (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]
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 994 lb, 2nd quarter - 994 lb, 3rd quarter - 994 lb, and 4th quarter - 944 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Arnaud Marjolle, Director of Permit Services

S-1624-350-0 : Jan 9 2020 1:02PM -- JONESW Joint Inspection NOT Required

6. ERC Certificate Number S-0291001-2, and S-5131-2 (or a certificate split from these 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]
7. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
8. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201]
9. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
10. No emission factor and no emissions shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]
11. This engine shall not be operated at one location or site at a facility for more than 12 consecutive months, or if at a seasonal source, the engine shall not be operated at one location or site at a facility for more than the duration of the season. [District Rules 2201 and 4701, and 17 CCR 93115]
12. {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]
13. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
14. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, and 17 CCR 93116]
15. This engine shall be operated only for testing and maintenance of the engine, and required regulatory purposes. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 125 hours per calendar year. [District Rule 2201]
16. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
17. 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]
18. Emissions from this unit shall not exceed any of the following limits: 3.83 g-NOx/bhp-hr, 0.20 g-VOC/bhp-hr, or 1.04 g-CO/bhp-hr. [District Rules 2201 and 4702, and 17 CCR 93116]
19. The PM10 emissions rate shall not exceed 0.11 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93116]
20. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
21. {3844} The engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
22. {3845} During periods of operation, 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]
23. The permittee shall maintain monthly records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed. [District Rules 2201, 4701, and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

24. 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, 4701, and 4702]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1624-351-0

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES MGMT

MAILING ADDRESS: 1600 NORRIS RD
BAKERSFIELD, CA 93308

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: NW33 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:

2,722 BHP CATERPILLAR MODEL 3516C DITA TIER 2 (OR EQUIVALENT) CERTIFIED DIESEL-FIRED LIMITED-USE IC ENGINE POWERING AN ELECTRICAL GENERATOR.

CONDITIONS

1. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. Upon implementation of this ATC, permit S-1624-130 shall be surrendered. [District Rule 2201]
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 31 lb., 2nd quarter - 31 lb., 3rd quarter - 32 lb., and 4th quarter - 32 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]
4. ERC Certificate Number S-5069-5 (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]
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 994 lb, 2nd quarter - 994 lb, 3rd quarter - 994 lb, and 4th quarter - 944 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Arnaud Marjolle, Director of Permit Services
S-1624-351-0: Jan 9 2020 1:02PM -- JONESW Joint Inspection NOT Required

6. ERC Certificate Number S-0291001-2, and S-5131-2 (or a certificate split from these 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]
7. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
8. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201]
9. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
10. No emission factor and no emissions shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]
11. This engine shall not be operated at one location or site at a facility for more than 12 consecutive months, or if at a seasonal source, the engine shall not be operated at one location or site at a facility for more than the duration of the season. [District Rules 2201 and 4701, and 17 CCR 93115]
12. {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]
13. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
14. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4702, and 4801, and 17 CCR 93116]
15. This engine shall be operated only for testing and maintenance of the engine, and required regulatory purposes. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 125 hours per calendar year. [District Rule 2201]
16. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]
17. 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]
18. Emissions from this unit shall not exceed any of the following limits: 3.83 g-NOx/bhp-hr, 0.20 g-VOC/bhp-hr, or 1.04 g-CO/bhp-hr. [District Rules 2201 and 4702, and 17 CCR 93116]
19. The PM10 emissions rate shall not exceed 0.11 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93116]
20. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
21. {3844} The engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]
22. {3845} During periods of operation, 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]
23. The permittee shall maintain monthly records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed. [District Rules 2201, 4701, and 4702]

CONDITIONS CONTINUE ON NEXT PAGE

24. 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, 4701, and 4702]

DRAFT

**APPENDIX B:
BACT Guideline & BACT Analysis**

Top Down BACT Analysis for the Transportable IC Engines

BACT Guideline 3.2.11 applies to transportable compression-ignited IC engines. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

BACT Analysis for NO_x and VOC Emissions:

a. Step 1 - Identify all control technologies

BACT Guideline 3.2.11 identifies only the following options:

- Latest CARB certification standard (EPA Tier level) for applicable horsepower range [Achieved in Practice]
- LPG/Propane-fired engine [Alternate Basic Equipment]

For engines with an hp rating greater than 500, the latest CARB certification standards are the following:

Power Rating (bhp)	Tier	Model Year	NO _x	HC	NMHC +NO _x	CO	PM
300 ≤ hp < 600	1	1996 - 2000	6.9	1.0	-	8.5	0.4
	2	2001 - 2005	-	-	4.8	2.6	0.15
	3	2006 - 2010			3.0		
	4I	2011 - 2013	1.5	0.14	-		0.01
	4F	2014+	0.29				
600 ≤ hp < 750	1	1996 - 2001	6.9	1.0	-	8.5	0.4
	2	2002 - 2005	-	-	4.8	2.6	0.15
	3	2006 - 2010			3.0		
	4I	2011 - 2013	1.5	0.14	-		0.01
	4F	2014+	0.29				
≥ 750	1	2000 - 2005	6.9	1.0	-	8.5	0.4
	2	2006 - 2010	-	-	4.8	2.6	0.15
	4I	2011 - 2014	2.6	0.3	-		0.07
	4F	2015+		0.14			0.03

b. Step 2 - Eliminate technologically infeasible options

According to engine rental company that the applicant has been working with, there are no LPG/propane-fired units of that size, only natural gas engines which are only in a limited quantity in the US and which will require a gas line to operate. The nature of this operation and its energy requirements will identify the LPG/propane-fired engines as technologically infeasible.

The other option is the use of EPA Tier 4 certified engines. However, as discussed previously in Section VIII, the applicant stated that Tier 4 engines of the needed horsepower rating were not available within the state. As such, the Tier 2 engine proposed by the applicant is the latest available for the size and satisfies BACT.

c. Step 3 - Rank remaining options by control effectiveness

The only remaining option is as follows:

1. Latest CARB certification standard: Tier 2

d. Step 4 - Cost Effectiveness Analysis

As previously stated in Step 2, the use of LPG/propane-fired engines will not be considered. Therefore, no cost effective analysis will be required.

e. Step 5 - Select BACT

BACT will be satisfied with the use of Tier 2 certified engines. The applicant is proposing these type of engines for the facility. The engine supplier has confirmed that there are no tier 4 engines available for the proposed sized engine. Therefore, BACT will be satisfied.

**APPENDIX C:
HRA Summary**

San Joaquin Valley Air Pollution Control District Risk Management Review and Ambient Air Quality Analysis

To: Will Jones – Permit Services
 From: Kyle J Melching – Technical Services
 Date: December 30, 2019
 Facility Name: E&B NATURAL RESOURCES MGMT
 Location: HEAVY OIL CENTRAL,
 Application #(s): S-1624-348-0, -349-0, -350-0, -351-0
 Project #: S-1193935

Summary

RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
348	0.00	0.00	0.00	6.84E-08	No	Yes
349	0.00	0.00	0.00	6.84E-08	No	Yes
350	0.00	0.00	0.00	2.17E-07	No	Yes
351	0.00	0.00	0.00	2.17E-07	No	Yes
Project Totals	0.00	0.00	0.00	5.71E-07		
Facility Totals	>1	0.73	0.03	17.5E-06		

Notes:

- Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.
- Acute Hazard Index was not calculated since there is no risk factor or the risk factor is so low that it has been determined to be insignificant for this type of unit.

AAQA

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass		Pass		
NO _x	Pass				Pass
SO _x	Pass	Pass		Pass	Pass
PM10				Pass	Pass
PM2.5				Pass	Pass

Notes:

- Results were taken from the attached AAQA Report.
- The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) unless otherwise noted below.
- Modeled PM10 concentrations were below the District SIL for non-fugitive sources of 5 µg/m³ for the 24-hour average concentration and 1 µg/m³ for the annual concentration.
- Modeled PM2.5 concentrations were below the District SIL for non-fugitive sources of 1.2 µg/m³ for the 24-hour average concentration and 0.2 µg/m³ for the annual concentration.
- The unit initially surpassed the NO_x 1 Hour standard; however, the facility will be offsetting the entire amount of NO_x from this project with ERCs.

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

Unit # 348-0 thru 351-0

3. The PM₁₀ emissions rate shall not exceed 0.11 g/bhp-hr based on US EPA certification using ISO 8178 test procedure.
4. 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 125 hours per calendar year.

Project Description

Technical Services received a request on December 18, 2019 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -348-0: 2,722 BHP (INTERMITTENT) CATERPILLAR MODEL 3516C DITA TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR
- Unit -349-0: 2,722 BHP (INTERMITTENT) CATERPILLAR MODEL 3516C DITA TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR
- Unit -350-0: 2,722 BHP (INTERMITTENT) CATERPILLAR MODEL 3516C DITA TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR
- Unit -351-0: 2,722 BHP (INTERMITTENT) CATERPILLAR MODEL 3516C DITA TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

RMR Report

Analysis

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

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

Then, generally no further analysis is required.

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

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

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

- Diesel PM10 emissions were calculated and provided by the processing engineer.

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

The AERMOD model was used, with the parameters outlined below and meteorological data for 2013-2017 from Bakersfield (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Source Process Rates					
Unit ID	Process ID	Process Material	Process Units	Hourly Process Rate	Annual Process Rate
348	1	Diesel PM10	lb	0.67	84
349	1	Diesel PM10	lb	0.67	84
350	1	Diesel PM10	lb	0.67	84
351	1	Diesel PM10	lb	0.67	84

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
348	2,722 DICE	4.27	480	11.10	0.15	Capped
349	2,722 DICE	4.27	480	11.10	0.15	Capped
350	2,722 DICE	4.27	480	11.10	0.15	Capped
351	2,722 DICE	4.27	480	11.10	0.15	Capped

AAQA Report

The District modeled the impact of the proposed project on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy APR-1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51). The District uses a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO₂ standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL.

The modeling analyses predicts the maximum air quality impacts using the appropriate emissions for each standard's averaging period. Required model inputs for a refined AAQA include background ambient air quality data, land characteristics, meteorological inputs, a receptor grid, and source parameters including emissions. These inputs are described in the sections that follow.

Ambient air concentrations of criteria pollutants are recorded at monitoring stations throughout the San Joaquin Valley. Monitoring stations may not measure all necessary pollutants, so background data may need to be collected from multiple sources. The following stations were used for this evaluation:

Monitoring Stations				
Pollutant	Station Name	County	City	Measurement Year
CO	Bakersfield-Muni	Kern	Bakersfield	2016
NOx	Bakersfield-California Avenue	Kern	Bakersfield	2016
PM10	3311 MANOR ST., OILDALE	Kern	Oildale	2016
PM2.5	Bakersfield-California Avenue	Kern	Bakersfield	2016
SOx	Fresno - Garland	Fresno	Fresno	2016

Technical Services performed modeling for directly emitted criteria pollutants with the emission rates below:

Emission Rates (lbs/hour)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
348	1	22.98	0.03	6.24	0.67	0.67
349	1	22.98	0.03	6.24	0.67	0.67
350	1	22.98	0.03	6.24	0.67	0.67
351	1	22.98	0.03	6.24	0.67	0.67

Emission Rates (lbs/year)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
348	1	2,873	4	54,662	84	84
349	1	2,873	4	54,662	84	84
350	1	2,873	4	54,662	84	84
351	1	2,873	4	54,662	84	84

The AERMOD model was used to determine if emissions from the project would cause or contribute to an exceedance of any state of federal air quality standard. The parameters outlined below and meteorological data for 2013-2017 from Bakersfield (rural dispersion coefficient selected) were used for the analysis:

The following parameters were used for the review:

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
348	2,722 DICE	4.27	480	11.10	0.15	Capped
349	2,722 DICE	4.27	480	11.10	0.15	Capped
350	2,722 DICE	4.27	480	11.10	0.15	Capped
351	2,722 DICE	4.27	480	11.10	0.15	Capped

Conclusion

RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this project is less than 1.0 in a million. **In accordance with the District's**

Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).

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

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

AAQA

CO, SO_x, PM₁₀, and PM_{2.5} emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

NO_x emissions from the proposed equipment will cause and contribute significantly to a violation of the State and National AAQS; however, the facility as choose to mitigate NO_x emissions fully down to zero for the project.

Attachments

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

**APPENDIX D:
SSPE1 Calculations**

Detailed SSPE Report

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1624	0	1						0
S	1624	4	3	0	0	0	0	44644	0
S	1624	5	8	0	0	0	0	234	0
S	1624	6	5	0	0	0	0	88	0
S	1624	7	4	0	0	0	0	88	0
S	1624	8	4	0	0	0	0	88	0
S	1624	9	5	0	0	0	0	88	0
S	1624	10	4	0	0	0	0	88	0
S	1624	11	3	0	0	0	0	12868	0
S	1624	13	11	2650	3445	1590	71306	723	0
S	1624	25	4	1418	516	1289	129	645	0
S	1624	26	4	1850	673	1682	168	841	0
S	1624	29	3	0	0	0	0	22372	0
S	1624	31	9	0	0	0	0	234	0
S	1624	32	3	0	0	0	0	88	0
S	1624	33	3	0	0	0	0	88	0
S	1624	34	3	0	0	0	0	6234	0
S	1624	36	3	0	0	0	0	51424	0
S	1624	37	3	0	0	0	0	51424	0
S	1624	38	3	0	0	0	0	51424	0
S	1624	39	3	0	0	0	0	51424	0
S	1624	41	3	0	0	0	0	12868	0
S	1624	43	3	0	0	0	0	12868	0
S	1624	45	3	0	0	0	0	9613	0
S	1624	46	5	0	0	0	0	19197	0
S	1624	47	5	0	0	0	0	19197	0

Friday, December 20, 2019

Page 1 of 8

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region Facility</i>	<i>Unit Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
S 1624	52 4	0	0	0	0	88	0
S 1624	56 9	0	0	0	0	234	2
S 1624	58 3	0	0	0	0	12868	0
S 1624	60 4	0	0	0	0	88	0
S 1624	61 3	0	0	0	0	51424	0
S 1624	62 3	0	0	0	0	51424	0
S 1624	63 4	0	0	0	0	38062	0
S 1624	64 4	0	0	0	0	88	0
S 1624	65 4	0	0	0	0	88	0
S 1624	66 4	0	0	0	0	88	0
S 1624	67 4	0	0	0	0	88	0
S 1624	70 2	0	0	0	0	51424	0
S 1624	71 3	0	0	0	0	51424	0
S 1624	72 5	0	0	0	0	51424	0
S 1624	75 3	0	0	0	0	88	0
S 1624	81 4	0	0	0	0	77122	0
S 1624	82 4	0	0	0	0	257003	0
S 1624	83 3	0	0	0	0	6234	0
S 1624	84 4	0	0	0	0	77122	0
S 1624	85 3	0	0	0	0	257003	0
S 1624	86 3	0	0	0	0	25727	0
S 1624	90 4	0	0	0	0	88	0
S 1624	92 3	0	0	0	0	88	0
S 1624	94 2	0	0	0	0	25727	0
S 1624	95 3	0	0	0	0	88	0
S 1624	97 5	0	0	0	0	4494	0
S 1624	98 4	0	0	0	0	23725	0
S 1624	100 8	0	0	0	0	453	1
S 1624	101 3	0	0	0	0	62	0

Friday, December 20, 2019

Page 2 of 8

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region Facility</i>	<i>Unit</i>	<i>Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
S	1624	103	1					0
S	1624	104	1					0
S	1624	114	1	0	0	0	67	0
S	1624	115	1	0	0	0	2923	0
S	1624	116	1	0	0	0	3100	0
S	1624	117	1	0	0	0	160	0
S	1624	118	1	0	0	0	1464	0
S	1624	119	1	0	0	0	180	0
S	1624	121	3	0	0	0	88	0
S	1624	122	3	0	0	0	88	0
S	1624	123	3	0	0	0	88	0
S	1624	128	1					0
S	1624	129	1					0
S	1624	130	1					0
S	1624	132	1	0	0	0	0	0
S	1624	133	1	0	0	0	0	0
S	1624	136	4	0	0	0	15146	0
S	1624	138	1					0
S	1624	140	1	0	0	0	296	0
S	1624	143	1					0
S	1624	145	2					0
S	1624	146	2					0
S	1624	148	2					0
S	1624	150	3					0
S	1624	151	2					0
S	1624	153	1					0
S	1624	154	1					0
S	1624	155	1					0
S	1624	156	1					0

Friday, December 20, 2019

Page 3 of 8

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region</i>	<i>Facility</i>	<i>Unit</i>	<i>Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
S	1624	157	3	0	0	0	0	3431	0
S	1624	158	1						0
S	1624	159	2	0	0	0	0	2347	0
S	1624	160	3	0	0	0	0	158	0
S	1624	162	1	0	0	0	0	249	0
S	1624	164	2	0	0	0	0	6429	0
S	1624	165	2	0	0	0	0	6427	0
S	1624	167	1	0	0	0	0	746	0
S	1624	168	2	0	0	0	0	88	0
S	1624	169	6	0	0	0	0	62	0
S	1624	170	2	0	0	0	0	53	0
S	1624	171	2	0	0	0	0	47	0
S	1624	172	2	0	0	0	0	47	0
S	1624	173	2	0	0	0	0	9254	0
S	1624	174	5	0	0	0	0	0	0
S	1624	175	2	0	0	0	0	37018	0
S	1624	176	2	0	0	0	0	39036	0
S	1624	177	2	0	0	0	0	18379	0
S	1624	178	4	0	0	0	0	179	0
S	1624	183	2	0	0	0	0	47	0
S	1624	184	2	0	0	0	0	47	0
S	1624	185	2					62	0
S	1624	186	2	0	0	0	0	53	0
S	1624	187	2	0	0	0	0	88	0
S	1624	188	1	0	0	0	0	12848	0
S	1624	189	3	0	0	0	0	51424	0
S	1624	190	3	0	0	0	0	51424	0
S	1624	191	3	0	0	0	0	18868	0
S	1624	192	1	0	0	0	0	119	0

Friday, December 20, 2019

Page 4 of 8

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region Facility</i>	<i>Unit</i>	<i>Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>	
S	1624	194	7	0	0	0	336	0	
S	1624	195	7	0	0	0	219	6	
S	1624	196	7	0	0	0	73	1	
S	1624	197	6	0	0	0	73	1	
S	1624	200	2	0	0	0	129	0	
S	1624	201	2	0	0	0	55268	0	
S	1624	202	3	0	0	0	129	0	
S	1624	204	3	0	0	0	9254	0	
S	1624	205	3	0	0	0	18379	0	
S	1624	206	3	0	0	0	3702	0	
S	1624	207	3	0	0	0	129	0	
S	1624	208	2	0	0	0	2247	0	
S	1624	210	2	0	0	0	62	0	
S	1624	212	2	0	0	0	73	0	
S	1624	213	2	0	0	0	73	0	
S	1624	214	4	0	0	0	986	0	
S	1624	215	4	0	0	0	0	0	
S	1624	216	2	0	0	0	88	0	
S	1624	217	2	0	0	0	88	0	
S	1624	218	4	8078	339	950	43956	7484	0
S	1624	219	1	0	0	0	87	0	
S	1624	220	1	4542	2122	2606	23827	4095	0
S	1624	221	1	4542	2122	2606	23827	4095	0
S	1624	222	1	4542	2122	2606	23827	4095	0
S	1624	223	1	4542	2122	2606	23827	4095	0
S	1624	224	1	4542	2122	2606	23827	4095	0
S	1624	225	1	0	0	0	146	0	
S	1624	226	1	0	0	0	88	0	
S	1624	227	1	0	0	0	88	0	

Friday, December 20, 2019

Page 5 of 8

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region</i>	<i>Facility</i>	<i>Unit</i>	<i>Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
S	1624	228	1						0
S	1624	229	1	0	0	0	0	9821	0
S	1624	230	2	0	0	0	0	0	0
S	1624	231	1	0	0	0	0	0	0
S	1624	232	2	0	0	0	0	0	0
S	1624	234	1	0	0	0	0	956	0
S	1624	235	1	0	0	0	0	956	0
S	1624	236	1	0	0	0	0	48	0
S	1624	237	1	0	0	0	0	0	0
S	1624	238	1	28470	6901	45958	170820	1119	0
S	1624	239	1	2392	3635	1664	16177	1205	0
S	1624	240	1	0	0	0	0	0	0
S	1624	241	1	0	0	0	0	0	0
S	1624	242	1	0	0	0	0	3873	0
S	1624	243	1	0	0	0	0	0	0
S	1624	244	3	0	0	0	0	2247	0
S	1624	245	2	0	0	0	0	0	0
S	1624	246	1					82	0
S	1624	247	1					82	0
S	1624	248	2	0	0	0	0	378	0
S	1624	249	2	0	0	0	0	508	0
S	1624	250	2	0	0	0	0	508	0
S	1624	251	1	0	0	0	0	73	0
S	1624	252	1	0	0	0	0	73	0
S	1624	253	1	0	0	0	0	88	0
S	1624	254	1	4542	2122	2606	27550	4095	0
S	1624	255	1	4542	2122	2606	27550	4095	0
S	1624	257	1	0	0	0	0	73	0
S	1624	258	1	0	0	0	0	79	0

Friday, December 20, 2019

Page 6 of 8

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region Facility</i>	<i>Unit Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>
S 1624	261 1	0	0	0	0	88	1
S 1624	263 1	0	0	0	0	329	0
S 1624	264 1	0	0	0	0	78	0
S 1624	266 2	0	0	0	0	183	0
S 1624	267 2	0	0	0	0	183	0
S 1624	268 2	0	0	0	0	183	0
S 1624	269 3	0	0	0	0	0	0
S 1624	270 2	2502	699	294	13616	2318	0
S 1624	271 1	0	0	0	0	2645	0
S 1624	274 1	0	0	0	0	55	0
S 1624	275 1	0	0	0	0	55	0
S 1624	276 1	0	0	0	0	55	0
S 1624	277 1	0	0	0	0	55	0
S 1624	278 1	0	0	0	0	55	0
S 1624	279 1	0	0	0	0	55	0
S 1624	280 1	0	0	0	0	78	0
S 1624	281 4	0	0	0	0	182	0
S 1624	282 1	0	0	0	0	55	0
S 1624	283 1	0	0	0	0	181	0
S 1624	284 1	4468	2122	2606	13552	4095	0
S 1624	285 1	4468	2122	2606	13552	4095	0
S 1624	286 1	0	0	0	0	65	0
S 1624	287 1	0	0	0	0	65	0
S 1624	288 0	4617	2122	2606	13775	4095	0
S 1624	291 1	0	0	0	0	78	0
S 1624	292 1	0	0	0	0	55	0
S 1624	293 0	4617	2122	2606	13775	4095	0
S 1624	295 1	4616	2122	5659	13775	4095	0
S 1624	301 1	0	0	0	0	40	0

Friday, December 20, 2019

Page 7 of 8

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

<i>Region Facility</i>	<i>Unit</i>	<i>Mod</i>	<i>NOx</i>	<i>SOx</i>	<i>PM10</i>	<i>CO</i>	<i>VOC</i>	<i>Number of Outstanding ATCs</i>	
S	1624	302	1	0	0	0	40	0	
S	1624	303	1	0	0	0	40	0	
S	1624	304	1	0	0	0	40	1	
S	1624	305	1	0	0	0	73	0	
S	1624	306	1	0	0	0	73	0	
S	1624	307	0	4617	2122	2606	13775	4095	0
S	1624	308	0	4617	2122	2606	13775	4095	0
S	1624	309	0	0	0	0	73	1	
S	1624	317	0	4617	2122	2606	13775	4095	0
S	1624	323	0	0	0	0	37	0	
S	1624	324	0					0	
<i>SSPE (lbs)</i>				115791	48038	95570	600161	1905523	

Friday, December 20, 2019

Page 8 of 8

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.

**APPENDIX E:
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.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

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

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

S-1624-348-0, '-349-0, '-350-0, and '-351-0 each engine:

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb./qtr.)	PE1 (lb./qtr.)	QNEC (lb./qtr.)
NO _x	718.25	0	718.25
SO _x	1	0	1
PM ₁₀	21	0	21
CO	195	0	195
VOC	37.5	0	37.5

**APPENDIX F:
ERC Withdrawal Calculations**

NO _x	1 st Quarter (lb.)	2 nd Quarter (lb.)	3 rd Quarter (lb.)	4 th Quarter (lb.)
ERC #S-5131-2	2,165	2,165	2,165	2,165
ERC #S-0291001-2	2,115	2,138	2,162	2,162
Offsets Required (Includes distance offset ratio)	3,975	3,976	3,976	3,976
Amount Remaining	305	327	351	351
Credits reissued under S-5150-2	305	327	351	351

PM ₁₀	1 st Quarter (lb.)	2 nd Quarter (lb.)	3 rd Quarter (lb.)	4 th Quarter (lb.)
ERC S-5069-5	5,027	4,438	4,337	4,673
Offsets Required (Includes distance offset ratio)	126	126	126	126
Amount Remaining	4,901	4,312	4,211	4,547
Credits reissued under ERC S-5148-5	4,901	4,312	4,211	4,547