



AUG 20 2018

Mr. Doug Shaffer
California Resources Production Corp
11109 River Run Blvd.
Bakersfield, CA 93311

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
Facility Number: S-1738
Project Number: S-1182776

Dear Mr. Shaffer:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The permits are for ten portable well pump IC engines.

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

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

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

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

Samir Sheikh
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III. Project Location

IC engines S-1738-518, '519, '520 and '521 will be authorized to operate at various unspecified locations in the Pleito Ranch facility boundary within Sections 25, 26, 35, 36, Township 11N, Range 21W and Section 30 Township 11N, Range 20W

IC engines S-1738-522, '523 and '524 will be authorized to operate at various unspecified locations in the Yowlumne facility boundary within Sections 32, 33 and 34, Township 12N, Range 22W and Sections 1 through 5, 9 through 15 Township 11N, Range 22W.

IC engines S-1738-525, '526 and '527 will be authorized to operate at various unspecified locations in the Buena Vista Nose facility boundary within Sections 1 through 23, Township 32S, Range 25E and Sections 31 through 35 Township 31S, Range 25E.

All locations are in CRPC's Light Oil Western stationary source. 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 will be used to power crude oil well pumps.

V. Equipment Listing

- S-1738-518-0: 215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE PLEITO RANCH BOUNDARY)
- S-1738- 519-0: 215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE PLEITO RANCH BOUNDARY)
- S-1738-520-0: 215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE PLEITO RANCH BOUNDARY)
- S-1738- 521-0: 215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE PLEITO RANCH BOUNDARY)
- S-1738- 522-0: 215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE YOWLUMNE FACILITY BOUNDARY)

- S-1738-523-0: 215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE YOWLUMNE FACILITY BOUNDARY)
- S-1738-524-0: 215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE YOWLUMNE FACILITY BOUNDARY)
- S-1738-525-0: 215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE BUENA VISTA NOSE FACILITY BOUNDARY)
- S-1738-526-0: 215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE BUENA VISTA NOSE FACILITY BOUNDARY)
- S-1738-527-0: 215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE BUENA VISTA NOSE FACILITY BOUNDARY)

VI. Emission Control Technology Evaluation

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

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

VII. General Calculations

A. Assumptions

- Operating Schedule 24 hrs/day, 8,760 hrs/yr (per applicant)
- The engines will operate continuously.
- Maximum continuous rated brake horsepower (bhp): 215 (engines manufacturer)
- The engines will be authorized to fire on either commercial propane or natural gas with a maximum sulfur content 3.0 gr/100 scf.
(per Applicant)

- Natural/field gas heating value is 1,000 Btu/scf (APR 1720)
- EPA F-factor (adjusted to 60 °F) is 8,578 dscf/MMBtu (40 CFR 60 Appendix B)
- Sulfur content of natural/field gas 3.0 gr/100 scf (applicant)
- Operating Schedule is 24 hrs/day, 8,760 hrs/yr
- BHP to Btu/hr conversion is MMBtu/393.24 bhp-hr
- Thermal efficiency of engine is commonly ≈ 35%

B. Emission Factors

Emission Factors			
Pollutant	Emission Factor	Emission Factor (g/bhp-hr)*	Source
NO _x	5 ppm ^{††}	0.061	BACT and proposed
SO _x	--	0.028	Equation Below*
PM ₁₀	--	0.04	Source Test (S-990589)**
CO	50 ppm ^{††}	0.369	Proposed
VOC	25 ppm ^{††}	0.106	Proposed

††g/bhp-hr equivalent of ppm values are calculated as follows:

$$\frac{5 \text{ parts} \cdot NO_x}{10^6 \text{ parts}} \left(\frac{8,578 \text{ dscf}}{MMBtu} \right) \frac{46 \text{ lb}}{\text{lb} \cdot \text{mol}} \left(\frac{20.9}{20.9 - 15} \right) \frac{1 \text{ lb} \cdot \text{mol}}{379.5 \text{ dscf}} \left(\frac{MMBtu}{393.24 \text{ bhp} \cdot \text{hr}} \right) \frac{453.59 \text{ g}}{\text{lb}} \left(\frac{1}{0.35} \right) = 0.061 \left(\frac{\text{g} \cdot NO_x}{\text{hp} \cdot \text{hr}} \right)$$

$$\frac{50 \text{ parts} \cdot CO}{10^6 \text{ parts}} \left(\frac{8,578 \text{ dscf}}{MMBtu} \right) \frac{28 \text{ lb}}{\text{lb} \cdot \text{mol}} \left(\frac{20.9}{20.9 - 15} \right) \frac{1 \text{ lb} \cdot \text{mol}}{379.5 \text{ dscf}} \left(\frac{MMBtu}{393.24 \text{ bhp} \cdot \text{hr}} \right) \frac{453.59 \text{ g}}{\text{lb}} \left(\frac{1}{0.35} \right) = 0.369 \left(\frac{\text{g} \cdot CO}{\text{hp} \cdot \text{hr}} \right)$$

$$\frac{25 \text{ parts} \cdot VOC}{10^6 \text{ parts}} \left(\frac{8,578 \text{ dscf}}{MMBtu} \right) \frac{16 \text{ lb}}{\text{lb} \cdot \text{mol}} \left(\frac{20.9}{20.9 - 15} \right) \frac{1 \text{ lb} \cdot \text{mol}}{379.5 \text{ dscf}} \left(\frac{MMBtu}{393.24 \text{ bhp} \cdot \text{hr}} \right) \frac{453.59 \text{ g}}{\text{lb}} \left(\frac{1}{0.35} \right) = 0.106 \left(\frac{\text{g} \cdot VOC}{\text{hp} \cdot \text{hr}} \right)$$

*(3 gr-S/100 scf)(1 scf/1000 Btu)(1 lb/7000gr)(2 lb-SO₂/1 lb-S)(2,543 Btu/hp-hr_{in})(1 hp_{out}/0.35 hp)(453.6 g/lb) = 0.028 g-SO_x/hp-hr [note that the SO_x EF for natural gas with a maximum sulfur content 3.0 gr/100 scf is greater than the commercial propane EF (0.012 gr-SO_x/hp-hr); therefore, the EF will be set at: 0.028 g/hp-hr

Note that the proposed PM₁₀ emission factor is lower than the AP-42 PM₁₀ emission factor for natural gas-fired rich-burn IC engines as well as the GEAR 11 PM₁₀ emission factor for propane-fired IC engines. Therefore, a PM₁₀ source test will be performed to ensure compliance with the proposed 0.04 g-PM₁₀/bhp-hr limit when propane-fired and also when fired on natural gas.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

2. Post Project Potential to Emit (PE2)

The potential to emit for each engine (as they are all identical) is calculated as follows, and summarized in the table below:

Daily Post Project Emissions						
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	PE2 Total Each Engine (lb/day)	PE2 Total All 10 Engines (lb/day)
NO _x	0.061	215	24	453.6	0.7	6.9
SO _x	0.028	215	24	453.6	0.3	3.2
PM ₁₀	0.04	215	24	453.6	0.5	4.6
CO	0.369	215	24	453.6	4.2	42.0
VOC	0.106	215	24	453.6	1.2	12.1

Annual Post Project Emissions						
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Annual Hours of Operation (hrs/yr)	Conversion (g/lb)	PE2 Total Each Engine (lb/yr)	PE2 Total All 10 Engines (lb/yr)
NO _x	0.061	215	8,760	453.6	253	2,533
SO _x	0.028	215	8,760	453.6	116	1,163
PM ₁₀	0.04	215	8,760	453.6	166	1,661
CO	0.369	215	8,760	453.6	1,532	15,321
VOC	0.106	215	8,760	453.6	440	4,401

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

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

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

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

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

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

5. Major Source Determination

Rule 2201 Major Source Determination:

This source is an existing Major Source for all pollutants and will remain so. No change in other pollutants are proposed or expected as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is 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)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase				>250		
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)				y		

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

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to 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.

Since are new emissions units, 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."

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	2,533	50,000	N
SO _x	1,163	80,000	N
PM ₁₀	1,661	30,000	N
VOC	4,401	50,000	N

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

8. Federal Major Modification

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

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

Step 1

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

The project's combined total emission increases are to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x	2,533	0	Y
VOC	4,401	0	Y
PM ₁₀	1,661	30,000	N
PM _{2.5}	1,661	20,000	N
SO _x	1,163	80,000	N

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

Federal Offset Quantities:

The Federal offset quantity is only calculated only for the pollutants for which the project is a Federal Major Modification. The Federal offset quantity is the sum of the annual

emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) during the baseline period for each emission unit times the applicable federal offset ratio. There are no special calculations performed for units covered by an SLC.

NOx		Federal Offset Ratio	1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-1738-518-0 through '527-0	0	2,533	2,533
Net Emission Change (lb/year):			2,533
Federal Offset Quantity: (NEC * 1.5)			3,800

VOC		Federal Offset Ratio	1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-1738-518-0 through '527-0	0	4,401	4,401
Net Emission Change (lb/year):			4,401
Federal Offset Quantity: (NEC * 1.5)			6,602

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

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

I. Project Location Relative to Class 1 Area

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

II. Project Emission Increase – Significance Determination

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

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO₂	SO₂	CO	PM	PM₁₀
Total PE from New and Modified Units	1.3	0.6	7.7	0.8	0.8
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	n	n	n	n	n

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

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an 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 new IC engines each with a PE greater than 2 lb/day for CO. Therefore BACT for new units with PE > 2 lb/day purposes is triggered for CO.

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

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

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

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

d. SB 288/Federal Major Modification

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

2. BACT Guideline

BACT Guideline 3.3.12, applies to the fossil fuel-fired IC engines greater than 50 horsepower (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 (see **Appendix B**), BACT has been satisfied with the following:

NO_x: 5 ppm @ 15% O₂
CO: 50 ppm @ 15% O₂
VOC: 25 ppm @ 15% O₂

B. Offsets

1. Offset Applicability

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

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

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

2. Quantity of Offsets Required

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

Pursuant to section 4.6.1 of Rule 2201, increases in CO in attainment areas are exempt from offsetting if the applicant demonstrates to the satisfaction of the APCO, that the Ambient Air Quality Standards are not violated in the areas to be affected and such emissions will be consistent with Reasonable Further Progress and will not cause or contribute to a violation of Ambient Air Quality Standards. As shown below in section VII.F, Ambient Air Quality Standards are not violated; therefore, offsets are not required for CO.

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.

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

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 new emissions units; therefore BE = 0. Also, there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

NOx:

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

Assuming an offset ratio of 1.5:1, the amount of NOx ERCs that need to be withdrawn is for each engine:

$$\begin{aligned} \text{Offsets Required for each engine (lb/year)} &= ([253 - 0] + 0) \times 1.5 \\ &= 380 \text{ lb NO}_x\text{/year} \end{aligned}$$

$$\begin{aligned} \text{Total Offsets Required for all engines (lb/year)} &= ([2,533 - 0] + 0) \times 1.5 \\ &= 3,800 \text{ lb NO}_x\text{/year} \end{aligned}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (380 \text{ lb NO}_x\text{/year}) \div (4 \text{ quarters/year}) \\ &= 95.0 \text{ lb/qtr} \end{aligned}$$

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

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
95	95	95	95

The applicant has stated that the facility plans to use the following ERC certificates to offset the increases in NOx emissions associated with this project. The certificate has available quarterly NOx credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total</u>
ERC #N-1211-2	443	443	443	435	1764
ERC #C-1231-2	186	186	186	186	744
ERC #C-1329-2	428	428	428	428	1712
	Total:				4220

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

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter – 95 lb, 2nd quarter – 95 lb, 3rd quarter – 95 lb, and 4th quarter – 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201]
- ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal.

Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

SOx:

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

PM10:

Pursuant to Policy APR 1130, PM10 offsets will not be required for this project since the increase in permitted emissions is less than or equal to 0.5 lb/day and is therefore rounded to zero for the purposes of triggering NSR requirements. However, to minimize future rounding errors, the figures are presented in the EE and in the permit without rounding the daily increase in emissions to zero.

VOC:

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

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

$$\begin{aligned} \text{Offsets Required for each engine (lb/year)} &= ([440 - 0] + 0) \times 1.5 \\ &= 660 \text{ lb VOC/year} \end{aligned}$$

$$\begin{aligned} \text{Total Offsets Required for all engines (lb/year)} &= ([4,401 - 0] + 0) \times 1.5 \\ &= 6,602 \text{ lb VOC/year} \end{aligned}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (660 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 165 \text{ lb/qtr} \end{aligned}$$

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

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
165	165	165	165

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

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total</u>
ERC #N-1153-1	592	592	592	591	2367
ERC #S-4908-1*	346	380	413	413	1,552
ERC #S-1703-1	394	1333	1998	1038	4763
				Total:	6,315

*Offspring of proposed ERC S-1593-1

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

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter – 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201]
- ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) 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]

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

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

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

b. PE > 100 lb/day

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

c. Offset Threshold

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

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

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds			
Pollutant	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	2,533	20,000 lb/year	No
SO _x	1,163	20,000 lb/year	No
PM ₁₀	1,661	20,000 lb/year	No
CO	15,321	20,000 lb/year	No
VOC	4,401	20,000 lb/year	No

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

e. Title V Significant Permit Modification

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

2. Public Notice Action

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

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Y

Emissions from this IC engine shall not exceed any of the following limits: NO_x: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ]

E. Compliance Assurance

1. Source Testing

Source testing of PM₁₀ emission concentrations shall be conducted while firing on propane on one of engines S-1738-518-0 through '527-0 within 60 days of initial startup. [District Rule 2201]

Source testing of PM₁₀ emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201]

Source testing of NO_x, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701 and 4702]

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Y

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

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

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

G. Compliance Certification

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

H. Alternate Siting Analysis

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

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

Rule 2410 Prevention of Significant Deterioration

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

Rule 2520 Federally Mandated Operating Permits

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

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

Rule 4001 New Source Performance Standards (NSPS)

40 CFR Part 60, Subpart JJJJ

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

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

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

<p>Per Section 60.4233(d), owners must comply with the emission standards for field testing in 40 CFR 1048.101(c) for their non-emergency stationary SI ICE. 40 CFR 1048.101(c)(2) lists the HC + NOx standard as 3.8 g/kW-hr (equivalent to 2.8 g/bhp-hr) and the CO standard as 6.5 g/kW-hr (equivalent to 4.8 g/bhp-hr).</p>	<p>The following previously proposed condition will ensure compliance:</p> <ul style="list-style-type: none"> Emissions from this IC engine shall not exceed any of the following limits: NOx: 5 ppmv @ 15% O2 or 0.061 g/bhp-hr; 0.028 g-SOx/hp-hr, 0.04 g-PM10/hp-hr, CO: 50 ppmv @ 15% O2 or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O2 or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ] Y
<p>Section 60.4234 states owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in Section 60.4233 over the entire life of the engine</p>	<p>District Rule 4702 requires periodic monitoring to ensure that the applicable emission limits contained in the permit are met. Additionally, the emissions rates for the engines will be listed as a permit condition for the life of the permit. Therefore, the requirements of this section are satisfied.</p>
<p>Section 60.4236(a) states that after July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 hp that do not meet the applicable requirements of Section 60.4233.</p>	<p>As previously discussed, the proposed engines meet the applicable requirements of Section 60.4233. Therefore, the requirements of Section 60.4236 are satisfied.</p>
<p>Section 60.4243(b)(2)(i) states that owner must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, an initial performance test to demonstrate compliance is required.</p>	<p>The following conditions will be added to the permits to ensure compliance:</p> <ul style="list-style-type: none"> The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NOx, CO, and O2 measurements; (5) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Source testing to measure natural gas-combustion NOx, CO, and VOC emissions from this engine shall be conducted within 60 days of initial startup and not less than once every 24 months thereafter. [District Rule 4702 and 40 CFR 60 Subpart JJJJ]

	<ul style="list-style-type: none"> This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ]
<p>Section 60.4243(g) states that it is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.</p>	<p>The following condition will be added to the permits to ensure compliance:</p> <ul style="list-style-type: none"> Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ]
<p>Section 60.4244 lists test methods and other procedures for owners and operators of stationary SI ICE who conduct performance tests. Three separate test runs are required for each performance test, and each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load. Additionally, performance tests may not be conducted during periods of startup, shutdown, or malfunction.</p>	<p>The following condition will be added to the permits to ensure compliance:</p> <ul style="list-style-type: none"> For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] {modified 3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ]
<p>Section 60.4245(a) states that owners and operators of all stationary SI ICE must keep records</p>	<p>The following condition will be added to the permits to ensure compliance:</p> <ul style="list-style-type: none"> The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NOx, CO, and O2 measurements;

	<p>(5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ]</p>
<p>Section 60.4245(d) states owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test within 60 days after the test has been completed.</p>	<p>The following condition will be added to the permits to ensure compliance:</p> <ul style="list-style-type: none"> • The results of each source test shall be submitted to the District and EPA within 60 days after completion of the source test. [District Rule 1081 and 40 CFR 60 Subpart JJJJ]

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

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

This subpart is applicable to ICEs installed before June 12, 2006. The subject ICEs are newer than 6/12/06 and; therefore, are not subject to the subpart.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). As the IC engines are fired solely on natural gas and propane, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Also, based on past inspections of the facility continued compliance is expected.

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or

modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (**Appendix 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:

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 518-0 to 521-0 (NG Engines Each)	0.362	0.00	0.00	3.91E-08	No	Yes
Unit 522-0 to 523-0 (NG Engines Each)	0.362	0.00	0.00	3.30E-06	Yes	Yes
Unit 524-0 (NG Engine)	0.362	0.00	0.00	5.26E-08	No	Yes
Unit 525-0 to 527-0 (NG Engines Each)	0.362	0.01	0.00	7.46E-07	No	Yes
Project Totals	3.62	0.03	0.00	9.05E-06		
Facility Totals	>1	0.87	0.04	19.96E-06		

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 required for units S-1738-522-0 and '523-0 because the HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements. Note that although units '522-0 through 524-0 are authorized to operate in the same lease, '524-0 is required to operate at a greater receptor distance than '522-0 and '523-0; consequently, '524-0 did not trigger T-BACT.

For this project T-BACT is triggered for VOC. T-BACT is satisfied with BACT for VOC (see Appendix B), which is a VOC limit of 25 ppmv @ 15% O₂ or 0.15 g/bhp-hr; therefore, compliance with the District's Risk Management Policy is expected.

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.

$$0.04 \frac{g - PM_{10}}{bhp - hr} \times \frac{1g - PM}{0.96g - PM_{10}} \times \frac{1bhp - hr}{2,542.5 Btu} \times \frac{10^6 Btu}{8,578 dscf} \times \frac{0.35 Btu_{out}}{1 Btu_{in}} \times \frac{15.43 grain}{g} = 0.01 \frac{grain - PM}{dscf}$$

Since 0.01 grain-PM/dscf is ≤ to 0.1 grain per dscf, compliance with Rule 4201 is expected.

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

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:

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 518-0 to 521-0 (NG Engines Each)	0.362	0.00	0.00	3.91E-08	No	Yes
Unit 522-0 to 523-0 (NG Engines Each)	0.362	0.00	0.00	3.30E-06	Yes	Yes
Unit 524-0 (NG Engine)	0.362	0.00	0.00	5.26E-08	No	Yes
Unit 525-0 to 527-0 (NG Engines Each)	0.362	0.01	0.00	7.46E-07	No	Yes
Project Totals	3.62	0.03	0.00	9.05E-06		
Facility Totals	>1	0.87	0.04	19.96E-06		

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 required for units S-1738-522-0 and '523-0 because the HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements. Note that although units '522-0 through 524-0 are authorized to operate in the same lease, '524-0 is required to operate at a greater receptor distance than '522-0 and '523-0; consequently, '524-0 did not T-BACT.

For this project T-BACT is triggered for VOC. T-BACT is satisfied with BACT for VOC (see Appendix B), which is a VOC limit of 25 ppmv @ 15% O₂ or 0.15 g/bhp-hr; therefore, compliance with the District's Risk Management Policy is expected.

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.

$$0.04 \frac{g - PM_{10}}{bhp - hr} \times \frac{1g - PM}{0.96g - PM_{10}} \times \frac{1bhp - hr}{2,542.5 Btu} \times \frac{10^6 Btu}{8,578 dscf} \times \frac{0.35 Btu_{out}}{1 Btu_{in}} \times \frac{15.43 grain}{g} = 0.01 \frac{grain - PM}{dscf}$$

Since 0.01 grain-PM/dscf is ≤ to 0.1 grain per dscf, compliance with Rule 4201 is expected.

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

Rule 4701 Internal Combustion Engine – Phase 1

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

There are ten natural gas-fired IC engines included in this project. Pursuant to Section 2.0 of District Rule 4701, these engines are subject to District Rule 4701 - *Internal Combustion Engines – Phase 1*. In addition, the engines are also subject to District Rule 4702 - *Internal Combustion Engines*.

Since the emissions limits of District Rule 4702 and all other requirements are equivalent or more stringent than District Rule 4701 requirements, compliance with 4702 rule requirements will satisfy the requirements of District Rule 4701.

Therefore, the IC engines are expected to comply with District Rule 4701 requirements and no further discussion is required.

Rule 4702 Internal Combustion Engines

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

The new spark-ignited internal combustion engines are rich-burn and is rated 215 bhp. Therefore, they are subject to the requirements of this rule.

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

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

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

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

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

5.2.2.1.1 NO_x, CO, and VOC emission limits pursuant to Table 2;

- 5.2.2.1.2 SOx control requirements of Section 5.7, pursuant to the deadlines specified in Section 7.5; and
- 5.2.2.1.3 Monitoring requirements of Section 5.10, pursuant to the deadlines specified in Section 7.5.

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

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

Table 2. Rule 4702 Emission Limits			
Engine Type	NOx Emission Limit (ppmv @ 15% O₂, dry)	CO Emission Limit (ppmv @ 15% O₂, dry)	VOC Emission Limit (ppmv @ 15% O₂, dry)
Rich-burn Engine, not listed above	11	2,000	250

The proposed emissions are 5 ppmv @3% NOx, 50 ppmv @ 3% CO, and 25 ppmv @ 3% VOCs. Therefore, compliance with Table 2 is expected.

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

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

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

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

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

- 5.7.6 Install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight as determined by the test method specified in Section 6.4.6.

The IC engines will be fired on natural gas fuel sulfur content limited to 3.0 grains of total sulfur per one hundred (100) standard cubic feet or will be fired on commercial propane; therefore, the requirements of Section 5.7 are met.

Section 5.8 requires the operator with an engine equipped with an external control device to either install, operate, and maintain continuous monitoring equipment (CEMs) for NO_x, CO, and oxygen, as identified in Rule 1080 (Stack Monitoring), or install, operate, and maintain APCO-approved alternate monitoring consisting of one or more of the following:

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

The engine will utilize periodic monitoring of emissions with a portable analyzer and have the following conditions listed on the permit to ensure compliance:

- *The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]*
- *{3786} If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4702]*
- *{3787} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified*

in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702]

Section 5.8.3 requires alternate monitoring system to be approved by APCO. Compliance with this requirement is expected.

Sections 5.8.4 and 5.8.5 apply to installed monitoring systems (CEMS). This section does not apply.

Section 5.8.6 requires that each engine shall have a non-resettable operating time meter. The units will be authorized for full-time operation; therefore, a nonresettable elapsed time meter is not required.

Section 5.8.7 requires that, for the engine, the operator implement the Inspection and Monitoring (I&M) plan, if any, submitted to and approved by the APCO pursuant to Section 6.5.

Section 5.8.8 requires that, for the engine, the operator collect data through the I&M plan in a form approved by the APCO.

Monthly NO_x and CO monitoring will satisfy both Section 5.8.7 (I&M Program) and Section 5.8.9 (quarterly NO_x alternate monitoring) requirements of Rule 4702. The following conditions will ensure compliance:

- *{3202} This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702]*
- *The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Y*
- *The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702]*

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

- *The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a*

portable emission monitor that meets District specifications. [In-stack O2 monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702]

Section 5.9 includes the monitoring requirements for other engines not subject to Section 5.8 – not applicable

Section 5.10 includes the SOx emissions monitoring requirements, which are applicable after compliance deadline in Table 7.5.

Section 5.10.1 requires an annual fuel sulfur analysis, which is applicable after compliance deadline in Table 7.5.

Sections 5.10.2 and 5.10.3 are applicable only if SOx control device used, which it has not proposed. Therefore, this section does not apply.

Section 5.11 applies to PEERS; therefore, it is not applicable.

Section 6.1 requires the submission of an APCO-approvable emission control plan to satisfy the emission requirements of Section 5.2 and the compliance schedules of Section 7.0. The submission of this application satisfies this requirement.

Section 6.2.1 requires to maintain an operating log to demonstrate compliance with this rule. The following condition will satisfy this Section of the Rule:

- *The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NOx, CO, and O2 measurements; (5) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701 and 4702] Y*

Section 6.2.2 states that the data collected shall be maintained for at least five years, shall be readily available and made available to the APCO upon request. The following condition will satisfy this requirement:

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

Section 6.3 identifies the source testing requirements. Engines retrofitted with exhaust control devices must comply with Sections 6.3.2 through 6.3.4 (source testing frequency, under normal

conditions, source test protocol). The engines are fitted with catalytic convertors. The following conditions will be listed on the permit to ensure compliance:

- *Source testing of the NO_x, VOC and CO emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 4701 and 4702]*
- *{3791} Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702]*
- *{3792} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% O₂. [District Rule 4702]*

Section 6.3.5 applies to engines combusting PUC-quality gas only where reoccurring VOC testing is required.

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

Section 6.4 specifies the required testing methods. The following conditions are listed on the permit to ensure compliance:

- *{3793} The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] N*
- *{109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]*
- *{110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]*

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

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

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

The proposed engine has an exhaust control device. Therefore, Sections 6.5.2 through 6.5.9 apply.

Section 6.5.2 requires procedures for establishing ranges for control equipment parameters, engine operating parameters, and engine exhaust oxygen concentrations that source testing has shown result in pollutant concentrations within the rule limits.

Section 6.5.3 requires procedures for monthly inspections as approved by the APCO. The applicable control equipment parameters and engine operating parameters will be inspected and monitored weekly (proposed by the applicant) in conformance with a regular inspection schedule listed in the I&M plan. Such weekly inspection and monitoring of the control equipment and engine operating parameters will be accompanied by quarterly emissions monitoring as specified in the approved alternate monitoring plan.

Section 6.5.4 requires procedures for the corrective actions on the noncompliant parameter(s) that the owner or operator will take when an engine is found to be operating outside the acceptable range for control equipment parameters, engine operating parameters, and engine exhaust NO_x, CO, VOC, or oxygen concentrations.

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

The alternate monitoring scheme proposed in Section 5.8.1 above will satisfy the requirements of Sections 6.5.2, 6.5.3, 6.5.4 and 6.5.5 of the rule. Therefore, compliance with Sections 6.5.2, 6.5.3, 6.5.4, and 6.5.5 is expected.

Section 6.5.6 requires procedures for preventive and corrective maintenance performed for the purpose of maintaining an engine in proper operating condition. The alternate monitoring procedure proposed in Section 5.6.1 above will satisfy the requirements of Section 6.5.6. Moreover, the applicant will operate and maintain engines according to the manufacturer's specifications:

- *This engine shall be operated and maintained in proper operating condition according to the manufacturer's specifications. [District Rule 4702]*

Section 6.5.7 requires procedures and a schedule for using a portable NO_x analyzer to take NO_x emission readings pursuant to Section 5.8.9. This is cover in the I&M program.

Section 6.5.8 requires procedures for collecting and recording required data and other information in a form approved by the APCO including, but not limited to, data collected through

the I&M plan and the monitoring systems described in Sections 5.8.1 and 5.8.2. Data collected through the I&M plan shall have retrieval capabilities as approved by the APCO.

The data collection and recordkeeping requirement described in Section 6.2.1 above will satisfy the requirements of Section 6.5.8.

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

- *{3212} The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702]*

Section 7.0 describes compliance schedules.

Sections 7.1 and 7.2 are related to loss of exemption and permanent removal requirements, which are not applicable to this project.

Sections 7.3 and 7.4 apply to compression ignition engines, which is not applicable to this project.

Section 7.5 requires that non-AO spark ignited ICEs operate in compliance with the dates in Table 5 after the listed compliance dates.

Section 8.0 describes the Alternate Emissions Control Plan, which has not been proposed by the applicant.

Section 9.0 includes the Exhaust Control Certification Requirements – NSCR Certification, which has not been proposed by the applicant.

Compliance with Rule 4702 is expected.

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume.

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

Oil and gas operations in Kern County must comply with the *Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting*. In 2015, Kern County revised the Kern County Zoning Ordinance Focused on Oil and Gas Activities (Kern Oil and Gas Zoning Ordinance) in regards to future oil and gas exploration, and drilling and production of hydrocarbon resource projects occurring within Kern County.

Kern County served as lead agency for the revision to their ordinance under the California Environmental Quality Act (CEQA), and prepared an Environmental Impact Report (EIR) that was certified on November 9, 2015. The EIR evaluated and disclosed to the public the environmental impacts associated with the growth of oil and gas exploration in Kern County, and determined that such growth will result in significant GHG impacts in the San Joaquin Valley. As such, the EIR included mitigation measures for GHG.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating GHGs. The District has determined that the applicant is responsible for implementing GHG mitigation measures imposed in the EIR by the Kern County for the Kern County Zoning Ordinance.

District CEQA Findings

The proposed project is located in Kern County and is thus subject to the Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting. The Kern County Zoning Ordinance was developed by the Kern County Planning Agency as a

comprehensive set of goals, objectives, policies, and standards to guide development, expansion, and operation of oil and gas exploration within Kern County.

In 2015, Kern County revised their *Kern County Zoning Ordinance* in regards to exploration, drilling and production of hydrocarbon resources projects. Kern County, as the lead agency, is the agency that will enforce the mitigation measures identified the EIR, including the mitigation requirements of the Oil and Gas ERA. As a responsible agency the District complies with CEQA by considering the EIR prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project involved (CCR §15096). The District has reviewed the EIR prepared by Kern County, the Lead Agency for the project, and finds it to be adequate. The District also prepared a full findings document. The full findings document, *California Environmental Quality Act (CEQA) Statement of Findings for the Kern County Zoning Ordinance EIR* contains the details of the District's findings regarding the Project. The District's implementation of the Kern Zoning Ordinance and its EIR applies to ATC applications received for any new/modified equipment used in oil/gas production in Kern County, including new wells. The full findings applies to the Project and the Project's related activity equipment(s) is covered under the Kern Zoning Ordinance. To reduce project related impacts on air quality, the District evaluates emission controls for the project such as Best Available Control Technology (BACT) under District Rule 2201 (New and Modified Stationary Source Review). In addition, the District is requiring the applicant to surrender emission reduction credits (ERC) for stationary source emissions above the offset threshold.

Thus, the District concludes that through a combination of project design elements, permit conditions, and the Oil and Gas ERA, the project will be fully mitigated to result in no net increase in emissions. Pursuant to CCR §15096, prior to project approval and issuance of ATCs the District prepared findings.

Indemnification Agreement/Letter of Credit Determination

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

The revision to the *Kern County Zoning Ordinance* went through an extensive public process that included a Notice of Preparation, a preparation of an EIR, scoping meetings, and public hearings. The process led to the certification of the final EIR and approval of the revised *Kern County Zoning Ordinance* in November 2015 by the Kern County Board of Supervisors. As mentioned above, the proposed project will be fully mitigated and will result in no net increase in emissions. In addition, the proposed project is not located at a facility of concern; therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue the ATCs subject to the permit conditions on the attached draft ATCs in **Appendix E**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
All ATCs	3020-10 C	215 bhp	\$277

Appendixes

- A: Quarterly Net Emissions Change
- B: BACT Guideline and BACT Analysis
- C: HRA Summary
- D: Compliance Certification
- E: Draft ATCs

APPENDIX A
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

- QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
- PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
- PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

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

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

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

Quarterly NEC [QNEC] (All ATCs)					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	253	63	0	0	63
SO _x	116	29	0	0	29
PM ₁₀	166	42	0	0	42
CO	1,532	383	0	0	383
VOC	440	110	0	0	110

APPENDIX B
BACT Guideline and BACT Analysis

Best Available Control Technology (BACT) Guideline 3.3.12
Last Update: 3/19/2015

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

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
NOx	0.07 g/bhp-hr or 5 ppmvd @ 15% O2		1. 2 ppmvd @ 15% O2 Natural Gas-Fired Turbine 2. Electric Motor (except for engines that will be used to generate electricity)
SOx	Compliance with District Rule 4702 SOx Emission Control Requirements		Electric Motor (except for engines that will be used to generate electricity)
PM10	0.06 g/bhp-hr (Total PM)***		Electric Motor (except for engines that will be used to generate electricity)
CO	1. For compression-ignited engines > 300 bhp and < or = 500 bhp: 49 ppmvd @ 15% O2 2. For compression-ignited engines > 500 bhp: 23 ppmvd @ 15% O2 3. For four stroke lean burn spark-ignited engines > 500 bhp: 47 ppmvd @ 15% O2 4. For all engines rated > or = 2,064 bhp: 33 pmvd @ 15% O2 5. For all other engines (not included in categories 1 through 4 above): 56 ppmvd @ 15% O2 or 0.6 g/bhp-hr	For all compression-ignited engines: 12 ppmvd @ 15% O2 using an oxidation catalyst	Electric Motor (except for engines that will be used to generate electricity)
VOC	1. For all compression-ignited engines: Use of an engine meeting the latest Tier standard 2. For all spark-ignited engines: 25 ppmvd @ 15% O2 or 0.15 g/bhp-hr	1. For all compression-ignited engines: 50 percent reduction of latest Tier standard for VOC emissions using a catalytic oxidation system. 2. For rich-burn spark-ignited engines: 12 ppmvd @ 15% O2 or 0.069 g/bhp-hr	Electric Motor (except for engines that will be used to generate electricity)

**** For the purposes of this determination, fossil fuels includes diesel, gasoline, natural gas, propane, kerosene, and similar hydrocarbon compounds derived from petroleum oil or natural gas. Fossil fuels also include similar synthetic fuels such as biodiesel and/or any fuel containing one or more fossil fuels. ***This total PM10 emission limit is based on EPA**

Method 5 (front half and back half) testing, which typically yields results as much as four times higher than when using the ISO 8178 Test Method. The ISO 8178 Test Method only reports filterable (i.e. front half) emissions.

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

This is a Summary Page for this Class of Source. For background information, see Permit Specific BACT Determinations on Details Page.

NOx Emissions

Step 1 – Identify All Control Technologies

- 5 ppmv NOx @ 15% O₂ or 0.07 g/bhp-hr, as Achieved-in-Practice.
- Use of a natural gas-fired turbine with a NOx emission rate of 2 ppmv, as Alternate Basic Equipment
- Electric Motor (except for engines that will be used to generate electricity) as Alternate Basic Equipment

Step 2 – Eliminate Technologically Infeasible Options

Owing to the steady-state operating nature of turbine engines they are not well suited for powering well pumps. The oil pumping units have cyclic loads and are periodically idled or throttled to depending on product flow into the well casing. Therefore, this option is eliminated.

The well pumping sites where the proposed engines will be used do not have supplied electricity; therefore, electric motors are not feasible. This option is eliminated.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

- 5 ppmv NOx @ 15% O₂ or 0.07 g/bhp-hr.

Step 4 – Cost Effectiveness Analysis

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

Step 5 – Select BACT

BACT for the engine is an emission limit of 5 ppmv NOx @ 15% O₂ or 0.07 g/bhp-hr.

CO Emissions

Step 1 – Identify All Control Technologies

- 56 ppmv @ 15% O₂ or 0.6 g/bhp-hr.
- Electric Motor (except for engines that will be used to generate electricity) as Alternate Basic Equipment

Step 2 – Eliminate Technologically Infeasible Options

The well pumping sites where the proposed engines will be used do not have supplied electricity; therefore, electric motors are not feasible. This option is eliminated.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

- 56 ppmv @ 15% O₂ or 0.6 g/bhp-hr

Step 4 – Cost Effectiveness Analysis

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

Step 5 – Select BACT

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

VOC Emissions

Step 1 – Identify All Control Technologies

- 25 ppmv VOC @ 15% O₂ or 0.15 g/bhp-hr, as Achieved-in-Practice
- 12 ppmv @ 15% O₂ or 0.069 g/bhp-hr, as Technologically Feasible
- Electric Motor (except for engines that will be used to generate electricity) as Alternate Basic Equipment

Step 2 – Eliminate Technologically Infeasible Options

The well pumping sites where the proposed engines will be used do not have supplied electricity; therefore, electric motors are not feasible. This option is eliminated.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

- a) 12 ppmv VOC @ 15% O₂
- b) 25 ppmv VOC @ 15% O₂

Step 4 – Cost Effectiveness Analysis

Installation of an oxidation/VOC catalyst would be required to achieve 12 ppmv-VOC @ 15% O₂. To install a 12 ppmv-VOC @15% O₂ catalytic oxidation system, N-pentane and N-butane would need to be removed from the fuel gas. To accomplish this an additional gas compressor, a refrigeration skid, instrumentation, PLCs, piping, and mechanical construction would be required. However, to meet the Technologically Feasible BACT, CRPC would need to spend approximately \$1.3 million on the refrigeration skid and supporting equipment, and an additional \$25,000 per year on operational and maintenance costs. Detailed costs are included in the table below.

The annual amount of VOC reduced is calculated below.

Industry standard VOC emissions: 25 ppmv @ 15% O₂ (0.15 g/bhp-hr)

Technologically Feasible VOC emissions: 12 ppmv @ 15% O₂ (0.069 g/bhp-hr)

$$[(0.15 - 0.069) \text{ g/hp-hr} \times 215 \text{ hp} \times 8760 \text{ hr/yr}] / (453.6 \text{ g/lb} \times 2000 \text{ lb/ton}) = 0.17 \text{ ton/yr}$$

Based on the below capital and operational costs and a reduction of 0.17 ton/yr, as calculated above, the cost effectiveness of the Technologically Feasible BACT is \$ 1,406,655 per ton, which exceeds the District's threshold of \$17,500 per ton.

A B C D E F G H I

BACT Cost Effectiveness Worksheet

Capital Costs (P) to be financed (supplied by applicant)	\$1,315,744.06 (1)	Estimated
Interest rate for financing (assume 10%)	0.10 (1)	
time period of financing (assume 10 years)	10 (n)	
annualization factor = $\frac{i(1+i)^n}{(1+i)^n - 1}$	0.16 (2)	
annualized capital costs [Calculated as (1) X (2)]	\$214,131.29 (3)	
annual cost of operation and maintenance	\$25,000.00 (4)	
total cost of control technology [(3) + (4)]	\$239,131.29 (5)	
tons/year reduced by control technology being analyzed	1.00 (6)	Difference in VOC from 25 to 12 ppm
cost effectiveness (\$/ton) [(5) / (6)]	\$239,131.29 (7)	
Pollutant	Cost Effectiveness Threshold	
VOC	\$ 17,500.00	

California Resources Corporation BV Nose Field Development 10H Gas Dehydration Skid Installation Class 4 - Cost Estimate					
6-Feb-07					Rev A
<u>Description</u>	<u>Qty</u>	<u>Unit</u>	<u>Equip /Mat</u> [US\$]	<u>Labor</u> [US\$]	<u>Total</u> [US\$]
1 ENGINEERING					\$ 91,416.46
Mechanical & Civil Engineering	1	Lot	\$ -	\$ 55,094.74	\$ 55,094.74
Electrical & Automation Engineering	1	Lot	\$ -	\$ 36,321.72	\$ 36,321.72
2 HES & PERMITS					\$ -
Air Permit	1	EA		\$ -	\$ -
GHG & ERCs	1	Lot			\$ -
County Permits	2	EA		\$ -	\$ -
3 PROCUREMENT					\$ 602,003.00
Gas Compressor	2	EA	\$ 240,000.00		\$ 240,000.00
Refrigeration Skid	1	EA	\$ 250,000.00	\$ -	\$ 250,000.00
Instruments	1	Lot	\$ 42,000.00	\$ -	\$ 42,000.00
PLC	1	EA	\$ 30,000.00	\$ -	\$ 30,000.00
Bulk Materials - Mechanical	1	Lot	\$ 25,000.00	\$ 1.00	\$ 25,001.00
Bulk Materials - Electrical	1	Lot	\$ 15,000.00	\$ 2.00	\$ 15,002.00
4 CONSTRUCTION					\$ 393,270.00
Set Equipment, Structural & Civil	1	Lot	\$ -	\$ 60,270.00	\$ 60,270.00
Piping & Mechanical Construction	1	Lot	\$ -	\$ 200,900.00	\$ 200,900.00
Electrical Construction	1	Lot	\$ -	\$ 102,900.00	\$ 102,900.00
Automation & Programming	1	Lot	\$ -	\$ 29,200.00	\$ 29,200.00
5 COMMISSIONING & START-UP					\$ 25,000.00
Commissioning & Start-up	1	Lot	\$ -	\$ 15,000.00	\$ 15,000.00
Vendor Support	1	Lot	\$ -	\$ 10,000.00	\$ 10,000.00
6 CONTINGENCY (20%)	1	Lot	\$ 120,400.00	\$ 83,654.60	\$ 204,054.60
CLASS 4 - TOTAL INSTALLED COST			\$ 722,400.00	\$ 593,344.06	\$ 1,315,744.06
INSTALL ONLY WITHOUT EQUIPMENT COSTS					\$ 713,741.06

Step 5 – Select BACT

BACT for the engines is an emission limit of 25 ppmv VOC @ 15% O₂ or 0.15 g/bhp-hr.

APPENDIX C
HRA Summary

California Resources Production Corp, 1182776, S-1738
San Joaquin Valley Air Pollution Control District
Risk Management Review

To: Dan Klevann – Permit Services
 From: Will Worthley – Technical Services
 Date: June 27, 2018
 Facility Name: California Resources Production Corporation
 Location: Various Light Oil Western Stationary Source
 Application #(s): S-1738-518-0 to 527-0
 Project #: S-1182776

A. RMR SUMMARY

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 518-0 to 521-0 (NG Engines Each)	0.362	0.00	0.00	3.91E-08	No	Yes
Unit 522-0 to 523-0 (NG Engines Each)	0.362	0.00	0.00	3.30E-06	Yes	Yes
Unit 524-0 (NG Engine)	0.362	0.00	0.00	5.26E-08	No	Yes
Unit 525-0 to 527-0 (NG Engines Each)	0.362	0.01	0.00	7.46E-07	No	Yes
Project Totals	3.62	0.03	0.00	9.05E-06		
Facility Totals	>1	0.87	0.04	19.96E-06		

Proposed Permit Requirements

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

Units # 518-0 to 521-0, & 524-0 to 527-0

1. 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.
2. Engines shall be operated at least 1,500 feet from any receptor.

Units # 522-0 & 523-0

1. 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.
2. Engines shall be operated at least 125 feet from any receptor.

T-BACT is required for units 522-0 & 523-0 because of emissions of PAHs-w/o which is a VOC.

B. RMR REPORT**I. Project Description**

Technical Services received a request on June 26, 2018, to perform a Risk Management Review for a proposed installation of a 10 new various location natural gas fired engines powering well pumps. There are three oilfield leases where the engines will be used. The ten engines will be split, 4 engines at Pleito, 3 at Yowlumne, and 3 at Buena Vista Nose.

II. Analysis

Toxic emissions for this proposed unit were calculated using 2000 AP42 emission factors for Natural Gas Fired internal combustion 4 Stroke Rich Burn Engine . (The use of a catalyst reduces TACs by 76% (NESHAP), and input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 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 Conner to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 518-0 to 521-0 & 524-0 to 527-0 (Each)			
Source Type	Point	Location Type	Rural
Stack Height (m)	3.66	Closest Receptor (m)	457
Stack Diameter. (m)	0.10	Type of Receptor	Residential
Stack Exit Velocity (m/s)	62.87	Max Hours per Year	8760
Stack Exit Temp. (°K)	810	Fuel Type	NG
Fuel Usage (mmscf/hr)	0.00162	Fuel Usage (mmscf/yr)	14.1912

Analysis Parameters Unit 522-0 to 523-0 (Each)			
Source Type	Point	Location Type	Rural
Stack Height (m)	3.66	Closest Receptor (m)	38.1
Stack Diameter. (m)	0.10	Type of Receptor	Residential
Stack Exit Velocity (m/s)	62.87	Max Hours per Year	8760
Stack Exit Temp. (°K)	810	Fuel Type	NG
Fuel Usage (mmscf/hr)	0.00162	Fuel Usage (mmscf/yr)	14.1912

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

Unit #	NO _x (Lbs.)		SO _x (Lbs.)		CO (Lbs.)		PM ₁₀ (Lbs.)	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.
518-0 to 527-0	0.03	263	0.05	438	0.17	1489	0.008	88

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

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

*Results were taken from the attached PSD spreadsheet.

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

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

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

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk associated with the project is greater than 1.0 in a million, but less than 20 in a million. **In accordance with the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT).**

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

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

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

APPENDIX D
Compliance Certification



January 26, 2018

San Joaquin Valley Air Pollution Control District
Attn: Leonard Scandura
Permit Services Manager
34969 Flyover Ct
Bakersfield, CA 93308

Subject: California Resources Production Corporation - Certification of Compliance

Dear Mr. Scandura:

Rule 2201 section 4.15.2 requires that an owner or operator proposing a federal major modification certify that all major stationary sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California are either in compliance or on a schedule for compliance with all applicable emission limitations and standards. This letter certifies compliance for California Resources Production Corporation (CRPC) and its affiliates.

CRPC has Notices of Violation outstanding issued by your office. However, all issues associated with the Notices of Violation have been addressed. Affiliated companies of CRPC own interests in or own and/or operate other major stationary sources in California. These major stationary sources are currently in compliance with applicable compliance schedules (if any) and substantially comply with all applicable laws and regulations.

This certification is made on information and belief and is based upon a review of CRPC and affiliated company major stationary sources in the State of California by employees of CRPC and its affiliates who have responsibility for compliance with environmental requirements.

This certification is as of the date of its execution.

Sincerely,



Jim Robinson
VP, HSE

cc: Raymond Rodriguez, Environmental Manager-North CRC

APPENDIX E
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-518-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:

215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE PLEITO RANCH BOUNDARY)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 95 lb, 3rd quarter - 95 lb, and 4th quarter - 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

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Arnaud Marjollet, Director of Permit Services

S-1738-518-0 : Aug 14 2018 3 17PM -- TORID - Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
10. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
11. No emission factor and no emission 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] Federally Enforceable Through Title V Permit
12. IC engine is authorized to operate only in Sections 25, 26, 35, 36, Township 11N, Range 21W and Section 30 Township 11N, Range 20W. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
13. Permittee shall notify the District Compliance Division of each location at which the IC engine is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
15. The engine shall be operated at least 1,500 feet from any receptor. [District Rule 4102]
16. IC engine shall be equipped with air/fuel ratio controller which readily indicates air/fuel ratio setting within tolerance limits as recommended by the catalyst system supplier. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: NOx: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies [District Rule 4702] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
25. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time [District Rule 4702] Federally Enforceable Through Title V Permit
26. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
27. Source testing of PM₁₀ emission concentrations shall be conducted while firing on propane on one of engines S-1738-518-0 through '527-0 within 60 days of firing on propane. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Source testing of PM₁₀ emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The following PM₁₀ test methods shall be used: EPA Method 201A or EPA Method 5. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing of NO_x, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701, 4702 and CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
31. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-519-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:

215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE PLEITO RANCH BOUNDARY)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 95 lb, 3rd quarter - 95 lb, and 4th quarter - 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCCO

Arnaud Marjolle, Director of Permit Services

S-1738-519-0 Aug 14 2018 3:17PM - TORID : Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
10. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
11. No emission factor and no emission 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] Federally Enforceable Through Title V Permit
12. IC engine is authorized to operate only in Sections 25, 26, 35, 36, Township 11N, Range 21W and Section 30 Township 11N, Range 20W. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
13. Permittee shall notify the District Compliance Division of each location at which the IC engine is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
15. The engine shall be operated at least 1,500 feet from any receptor. [District Rule 4102]
16. IC engine shall be equipped with air/fuel ratio controller which readily indicates air/fuel ratio setting within tolerance limits as recommended by the catalyst system supplier. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: NO_x: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies [District Rule 4702] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
25. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time [District Rule 4702] Federally Enforceable Through Title V Permit
26. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
27. Source testing of PM₁₀ emission concentrations shall be conducted while firing on propane on one of engines S-1738-518-0 through '527-0 within 60 days of firing on propane. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Source testing of PM₁₀ emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The following PM₁₀ test methods shall be used: EPA Method 201A or EPA Method 5. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing of NO_x, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701, 4702 and CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
31. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: S-1738-520-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:

215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE PLEITO RANCH BOUNDARY)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 95 lb, 3rd quarter - 95 lb, and 4th quarter - 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

Arnaud Marjolle, Director of Permit Services

S-1738-520-0, Aug 14 2018 3:17PM -- TORID - Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
10. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
11. No emission factor and no emission 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] Federally Enforceable Through Title V Permit
12. IC engine is authorized to operate only in Sections 25, 26, 35, 36, Township 11N, Range 21W and Section 30 Township 11N, Range 20W. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
13. Permittee shall notify the District Compliance Division of each location at which the IC engine is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
15. The engine shall be operated at least 1,500 feet from any receptor. [District Rule 4102]
16. IC engine shall be equipped with air/fuel ratio controller which readily indicates air/fuel ratio setting within tolerance limits as recommended by the catalyst system supplier. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: NO_x: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies [District Rule 4702] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
25. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time [District Rule 4702] Federally Enforceable Through Title V Permit
26. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
27. Source testing of PM₁₀ emission concentrations shall be conducted while firing on propane on one of engines S-1738-518-0 through '527-0 within 60 days of firing on propane. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Source testing of PM₁₀ emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The following PM₁₀ test methods shall be used: EPA Method 201A or EPA Method 5. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing of NO_x, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701, 4702 and CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
31. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-521-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:

215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE PLEITO RANCH BOUNDARY)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 95 lb, 3rd quarter - 95 lb, and 4th quarter - 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

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Arnaud Marjolle, Director of Permit Services

S-1738-521-0 Aug 14 2016 2:17PM - TORID - Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
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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] Federally Enforceable Through Title V Permit
10. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
11. No emission factor and no emission 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] Federally Enforceable Through Title V Permit
12. IC engine is authorized to operate only in Sections 25, 26, 35, 36, Township 11N, Range 21W and Section 30 Township 11N, Range 20W. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
13. Permittee shall notify the District Compliance Division of each location at which the IC engine is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
15. The engine shall be operated at least 1,500 feet from any receptor. [District Rule 4102]
16. IC engine shall be equipped with air/fuel ratio controller which readily indicates air/fuel ratio setting within tolerance limits as recommended by the catalyst system supplier. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: NOx: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies [District Rule 4702] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
25. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time [District Rule 4702] Federally Enforceable Through Title V Permit
26. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
27. Source testing of PM₁₀ emission concentrations shall be conducted while firing on propane on one of engines S-1738-518-0 through '527-0 within 60 days of firing on propane. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Source testing of PM₁₀ emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The following PM₁₀ test methods shall be used: EPA Method 201A or EPA Method 5. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing of NO_x, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701, 4702 and CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
31. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: S-1738-522-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:

215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE YOWLUMNE FACILITY BOUNDARY)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 95 lb, 3rd quarter - 95 lb, and 4th quarter - 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCCO

Arnaud Marjolle, Director of Permit Services

S-1738-522-0 Aug 14 2018 3:17PM -- TORID : Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
10. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
11. No emission factor and no emission 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] Federally Enforceable Through Title V Permit
12. IC engine is authorized to operate only in Sections 32, 33 and 34, Township 12N, Range 22W and Sections 1 through 5, 9 through 15 Township 11N, Range 22W. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
13. Permittee shall notify the District Compliance Division of each location at which the IC engine is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
15. The engine shall be operated at least 125 feet from any receptor. [District Rule 4102]
16. IC engine shall be equipped with air/fuel ratio controller which readily indicates air/fuel ratio setting within tolerance limits as recommended by the catalyst system supplier. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: NOx: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 4801] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies [District Rule 4702] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
25. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time [District Rule 4702] Federally Enforceable Through Title V Permit
26. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
27. Source testing of PM₁₀ emission concentrations shall be conducted while firing on propane on one of engines S-1738-518-0 through '527-0 within 60 days of firing on propane. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Source testing of PM₁₀ emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The following PM₁₀ test methods shall be used: EPA Method 201A or EPA Method 5. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing of NO_x, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701, 4702 and CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
31. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-523-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:

215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE YOWLUMNE FACILITY BOUNDARY)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 95 lb, 3rd quarter - 95 lb, and 4th quarter - 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director 7 APCO

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Arnaud Marjollet, Director of Permit Services

S-1738-523-0 Aug 14 2018 3:17PM - TOR/D - Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
10. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
11. No emission factor and no emission 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] Federally Enforceable Through Title V Permit
12. IC engine is authorized to operate only in Sections 32, 33 and 34, Township 12N, Range 22W and Sections 1 through 5, 9 through 15 Township 11N, Range 22W. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
13. Permittee shall notify the District Compliance Division of each location at which the IC engine is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
15. The engine shall be operated at least 125 feet from any receptor. [District Rule 4102]
16. IC engine shall be equipped with air/fuel ratio controller which readily indicates air/fuel ratio setting within tolerance limits as recommended by the catalyst system supplier. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: NO_x: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies [District Rule 4702] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
25. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time [District Rule 4702] Federally Enforceable Through Title V Permit
26. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
27. Source testing of PM₁₀ emission concentrations shall be conducted while firing on propane on one of engines S-1738-518-0 through '527-0 within 60 days of firing on propane. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Source testing of PM₁₀ emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The following PM₁₀ test methods shall be used: EPA Method 201A or EPA Method 5. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing of NO_x, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701, 4702 and CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
31. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-524-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:

215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE YOWLUMNE FACILITY BOUNDARY)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 95 lb, 3rd quarter - 95 lb, and 4th quarter - 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

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Arnaud Marjolle, Director of Permit Services

S-1738-524-0 Aug 14 2018 3:17PM -- TORID - Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
10. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
11. No emission factor and no emission 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] Federally Enforceable Through Title V Permit
12. IC engine is authorized to operate only in Sections 32, 33 and 34, Township 12N, Range 22W and Sections 1 through 5, 9 through 15 Township 11N, Range 22W. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
13. Permittee shall notify the District Compliance Division of each location at which the IC engine is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
15. The engine shall be operated at least 1,500 feet from any receptor. [District Rule 4102]
16. IC engine shall be equipped with air/fuel ratio controller which readily indicates air/fuel ratio setting within tolerance limits as recommended by the catalyst system supplier. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: NO_x: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies [District Rule 4702] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
25. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time [District Rule 4702] Federally Enforceable Through Title V Permit
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28. Source testing of PM₁₀ emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The following PM₁₀ test methods shall be used: EPA Method 201A or EPA Method 5. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing of NO_x, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701, 4702 and CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
31. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1738-525-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:

215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE BUENA VISTA NOSE FACILITY BOUNDARY)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 95 lb, 3rd quarter - 95 lb, and 4th quarter - 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCCO

Arnaud Marjolle, Director of Permit Services

S-1738-525-0 Aug 14 2018 3:17PM -- TORID -- Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
10. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
11. No emission factor and no emission 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] Federally Enforceable Through Title V Permit
12. IC engine is authorized to operate only in Sections 1 through 23, Township 32S, Range 25E and Sections 31 through 35 Township 31S, Range 25E. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
13. Permittee shall notify the District Compliance Division of each location at which the IC engine is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
15. The engine shall be operated at least 1,500 feet from any receptor. [District Rule 4102]
16. IC engine shall be equipped with air/fuel ratio controller which readily indicates air/fuel ratio setting within tolerance limits as recommended by the catalyst system supplier. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: NOx: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O2 monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies [District Rule 4702] Federally Enforceable Through Title V Permit
23. If either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
25. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time [District Rule 4702] Federally Enforceable Through Title V Permit
26. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
27. Source testing of PM10 emission concentrations shall be conducted while firing on propane on one of engines S-1738-518-0 through '527-0 within 60 days of firing on propane. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Source testing of PM10 emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The following PM10 test methods shall be used: EPA Method 201A or EPA Method 5. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing of NOx, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701, 4702 and CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
31. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-526-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:

215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE BUENA VISTA NOSE FACILITY BOUNDARY)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 95 lb, 3rd quarter - 95 lb, and 4th quarter - 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

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Arnaud Marjolle, Director of Permit Services

S-1738-526-0 Aug 14 2018 3:17PM - TORID - Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
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] Federally Enforceable Through Title V Permit
10. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
11. No emission factor and no emission 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] Federally Enforceable Through Title V Permit
12. IC engine is authorized to operate only in Sections 1 through 23, Township 32S, Range 25E and Sections 31 through 35 Township 31S, Range 25E. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
13. Permittee shall notify the District Compliance Division of each location at which the IC engine is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
15. The engine shall be operated at least 1,500 feet from any receptor. [District Rule 4102]
16. IC engine shall be equipped with air/fuel ratio controller which readily indicates air/fuel ratio setting within tolerance limits as recommended by the catalyst system supplier. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: NO_x: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies [District Rule 4702] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
25. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time [District Rule 4702] Federally Enforceable Through Title V Permit
26. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
27. Source testing of PM₁₀ emission concentrations shall be conducted while firing on propane on one of engines S-1738-518-0 through '527-0 within 60 days of firing on propane. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Source testing of PM₁₀ emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The following PM₁₀ test methods shall be used: EPA Method 201A or EPA Method 5. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing of NO_x, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701, 4702 and CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
31. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201 and 4702] Federally Enforceable Through Title V Permit

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1738-527-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP
MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:

215 BHP (CONTINUOUS) ARROW MODEL A160 (OR EQUIVALENT) NATURAL GAS/FIELD GAS/LPG FIRED RICH BURN IC ENGINE WITH NSCR AND AIR FUEL RATIO CONTROLLER (OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE BUENA VISTA NOSE FACILITY BOUNDARY)

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 95 lb, 2nd quarter - 95 lb, 3rd quarter - 95 lb, and 4th quarter - 95 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers N-1211-2, C-1231-2 and C-1329-2 (or a certificates split from these certificates) shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCO

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Arnaud Marjollet, Director of Permit Services

S-1738-527-0, Aug 14 2018 3:17PM -- TORID Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 165 lb, 2nd quarter - 165 lb, 3rd quarter - 165 lb, and 4th quarter - 165 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 2/18/16) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Numbers N-1153-1, S-1703-1 and S-4908-1 (or a certificates split from these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. 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] Federally Enforceable Through Title V Permit
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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] Federally Enforceable Through Title V Permit
10. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
11. No emission factor and no emission 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] Federally Enforceable Through Title V Permit
12. IC engine is authorized to operate only in Sections 1 through 23, Township 32S, Range 25E and Sections 31 through 35 Township 31S, Range 25E. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
13. Permittee shall notify the District Compliance Division of each location at which the IC engine is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
14. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
15. The engine shall be operated at least 1,500 feet from any receptor. [District Rule 4102]
16. IC engine shall be equipped with air/fuel ratio controller which readily indicates air/fuel ratio setting within tolerance limits as recommended by the catalyst system supplier. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
17. Air-to-fuel ratio controller(s) shall be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. [District Rule 2201 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
18. This engine shall be operated and maintained in proper operating condition per the manufacturer's requirements as specified on the Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
19. Unit shall be fired only on commercial propane; or natural gas or field gas with a sulfur content of less than or equal to 3.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801] Federally Enforceable Through Title V Permit
20. Emissions from this IC engine shall not exceed any of the following limits: NO_x: 5 ppmv @ 15% O₂ or 0.061 g/bhp-hr; 0.028 g-SO_x/hp-hr, 0.04 g-PM₁₀/hp-hr, CO: 50 ppmv @ 15% O₂ or 0.369 g/bhp-hr, or VOC: 25 ppmv @ 15% O₂ or 0.106 g/hp-hr. [District Rules 2201, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

21. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
22. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every calendar quarter (in which a source test is not performed) using a portable emission monitor that meets District specifications. [In-stack O₂ monitors may be allowed if approved by the APCO] Monitoring shall be performed not less than once every month for 12 months if 2 consecutive deviations are observed during quarterly monitoring. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month if on a monthly monitoring schedule, or within the last quarter if on a quarterly monitoring schedule. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies [District Rule 4702] Federally Enforceable Through Title V Permit
23. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than eight (8) hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after eight (8) hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
24. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
25. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time [District Rule 4702] Federally Enforceable Through Title V Permit
26. The operator shall collect data through the I&M plan in a form approved by the APCO. [District Rule 4702] Federally Enforceable Through Title V Permit
27. Source testing of PM₁₀ emission concentrations shall be conducted while firing on propane on one of engines S-1738-518-0 through '527-0 within 60 days of firing on propane. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Source testing of PM₁₀ emission concentrations shall be conducted while firing on field gas on one of engines S-1738-518-0 through '527-0 within 60 days of firing on field gas. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The following PM₁₀ test methods shall be used: EPA Method 201A or EPA Method 5. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Source testing of NO_x, CO and VOC emission concentrations shall be conducted within 60 days of initial startup and at least once every 24 months thereafter. [District Rules 2201, 4701, 4702 and CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
31. Emissions source testing shall be conducted with the engine operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit

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32. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. Each test run shall be conducted within 10 percent of 100 percent peak (or the highest achievable) load. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. VOC emissions shall be reported as methane. VOC, NO_x, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
33. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
36. The permittee shall update the I&M plan for this engine prior to any planned change in operation. The permittee must notify the District no later than seven days after changing the I&M plan and must submit an updated I&M plan to the APCO for approval no later than 14 days after the change. The date and time of the change to the I&M plan shall be recorded in the engine's operating log. For modifications, the revised I&M plan shall be submitted to and approved by the APCO prior to issuance of the Permit to Operate. The permittee may request a change to the I&M plan at any time. [District Rule 4702] Federally Enforceable Through Title V Permit
37. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 2201, 4701 and 4702] Federally Enforceable Through Title V Permit
38. The permittee shall maintain an engine operating log to demonstrate compliance. The permittee shall maintain records of: (1) total hours of operation; (2) type and quantity of fuel used; (3) maintenance or modifications performed; (4) the date and time of NO_x, CO, and O₂ measurements; (5) the O₂ concentration in percent and the measured NO_x and CO concentrations corrected to 15% O₂; (6) make and model of exhaust gas analyzer; (7) exhaust gas analyzer calibration records; and (8) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4701, 4702 and 40 CFR 60 Subpart JJJJ] Federally Enforceable Through Title V Permit
39. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 2201 and 4702] Federally Enforceable Through Title V Permit

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