San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JUN 2 9 2018

Juan Campos
California Resources Production Corp.
10800 Stockdale Highway
Bakersfield, CA 93311

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-8282
Project Number: S-1181300

Dear Mr. Campos:

Enclosed for your review and comment is the District's analysis of California Resources Production Corp.'s application for an Authority to Construct for the installation of two 1,680 bhp natural gas-fired IC engines, in western Kern county.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice comment periods, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as Significant Modification, in accordance with District Rule 2520.

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

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:wej

Enclosures

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

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

Facility Name:	California Resources Production Corporation	Date:	6/11/18
Mailing Address:	10800 Stockdale Highway Bakersfield, CA 93311	Engineer:	William Jones
		Lead Engineer:	Richard Karrs
Contact Person:	Juan Campos		
Telephone:	661-529-4370		
Fax:			
E-Mail:			
Application #(s):	S-8282-203-0, "-203-0		
Project #:	S1181300		
Deemed Complete:	5/22/18		

I. Proposal

California Resources Production Corporation (CRPC) has requested an Authority to Construct (ATC) permit for the installation of (2) 1,680 bhp Waukesha model 7044 GSI natural gas-fired IC engines. Both units will operate full-time, and be used to power gas compressors at verious locations within Section 35, Township 31S, Range 23E as part of CRPC's western kern county light oil production stationary source. These units are currently permited as fully-offset units within CRPC's facility S-2234 (a seprate stationary source), and will be relocated and permited as new emissions units within CRPC facility S-8282. There is no increase in emission or utalization associated with this project.

CRPC received their Title V Permit on January 31, 2012. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). But the facility has not requested that this project be processed in that manner; therefore, CRPC will be required to submit a Title V significant modification application and receive a revised permit prior to operating under the revised provisions of the ATC(s) issued with this project.

Facilities S-382, S-1216, S-1738, S-8282, and S-8454 constitute the same light oil western kern county stationary source.

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

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410 Prevention of Significant Deterioration (6/16/11)

Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99) – 40 CFR 60 Subparts JJJJ
Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/03)
Rule 4702 Stationary Internal Combustion Engines – Phase 2 (4/20/06)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The equipment will be operated at various locations within Section 35, Township 31S, Range 23E. 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 mentioned IC engines will be used to drive compressors are various unspesified locations within the CRPC facility S-8282. The IC engine driven compressors will be used to compress natural gas so that it may be transported via pipeline to various processing and distributing facilities.

V. Equipment Listing

S-8282-203-0: 1,680 BHP WAUKESHA MODEL L7044 GSI NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION AND POSITIVE CRANKCASE VENTILATION POWERING A GAS COMPRESSOR OPERATING AT VARIOUS UNSPECIFIED LOCATIONS WITHIN FACILITY S-8282

S-8282-204-0: 1,680 BHP WAUKESHA MODEL L7044 GSI NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION AND POSITIVE CRANKCASE VENTILATION POWERING A GAS COMPRESSOR OPERATING AT VARIOUS UNSPECIFIED LOCATIONS WITHIN FACILITY S-8282

VI. Emission Control Technology Evaluation

The engine is equipped with:
[X] Positive Crankcase Ventilation (PCV) or 90% efficient control device

[X] Non-Selective Catalytic Reduction
[X] Air/Fuel Ratio or an O_2 Controller
[ ] Lean Burn Technology

The PCV system reduces crankcase VOC and PM_{10} emissions by at least 90% over an uncontrolled crankcase vent.

Non-Selective Catalytic Reduction (NSCR) decreases NO_X, CO and VOC emissions by using a catalyst to promote the chemical reduction of NO_X into N_2 and O_2, and the chemical oxidation of VOC and CO into H_2O and CO_2.

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

- EPA F-factor (adjusted to 60 °F): 8,578 dscf/MMBtu (40 CFR 60 Appendix B)
- Fuel heating value: 1,000 Btu/dscf (District Policy APR-1720, dated 12/20/01)
- BHP to Btu/hr conversion: 2,542.5 Btu/bhp-hr
- Sulfur concentration: 2.85 lb-S/MMscf (District Policy APR-1720, dated 12/20/01)
- Thermal efficiency of engine: commonly ≈ 35%
- No increase in fugitive component counts assoicated with the installation of the compressors associated with this project.
- There are two emission sources per permit unit: combustion emissions from the IC engine and fugitive VOC emissions from the compressor
- Each engine is fired on PUC-regulated or pipeline quality natural gas (i.e. a sulfur content of 1 gr/ 100 scf or 0.00285 lb-SOx/MMBtu).
- Fugitive VOC Emissions will be calculated using CAPCOA Screening Value Emission Factors.
- For compressors associated with IC engines the PE is based on the fluid streams being 100% VOC.
- The applicant has proposed a *brake specific fuel consumption* (BSFC) of 8,990 Btu/bhp-hr (equivalent to 28% engine efficiency). This value represents the heat or fuel input to power output and is based upon source tests of similar engines owned and operated by OEHI (see ATC project S-1032982). In the calculations below, the reciprocal of the BSFC will be used, i.e. 1.112×10^{-4} bhp-hr/Btu
- To streamline emission calculations, PM2.5 emissions are assumed to be equal to PM10 emissions. Only if needed to determine if a project is a Federal major modification for PM2.5 will specific PM2.5 emission calculations be performed.

S-8282-203-0:

- The daily potential to emit will be based on a maximum operation of 24 hrs/day
- The annual PE potential to emit will be based on a fuel usage limit of 88.184 MMscf/year.

S-8282-204-0:

- The daily potential to emit will be based on a maximum operation of 24 hrs/day
- The annual PE potential to emit will be based on a fuel usage limit of 104.6 MMscf/year.

B. Emission Factors

Since these engines are identical, the following emission factors will be used for both units:

IC Engines Emission Factors		
Pollutant	Emission Factor (g/bhp-hr)	Source
NO_X	0.07	Current PTO S-2234-184-4
SO_X	0.0094	Mass Balance Equation Below*
PM_{10}	0.02	Current PTO S-2234-184-4
CO	0.475	Current PTO S-2234-184-4
VOC	0.121	Current PTO S-2234-184-4

*SO_X is calculated as follows:

$$0.00285 \quad \frac{lb-SO_x}{MMBtu} \times \frac{1\,MMBtu}{1{,}000{,}000\,Btu} \times \frac{2{,}542.5\,Btu}{bhp-hr} \times \frac{1\,bhp\,input}{0.35\,bhp\,out} \times \frac{453.6\,g}{lb} = \quad 0.0094 \quad \frac{g-SO_x}{bhp-hr}$$

Component Count for Each Compressor		
Component	Service	Number (per compressor)
Valves	Gas/Light Liquid	57
	Light Crude Oil	0
	Heavy Crude Oil	0
Pump Seals	Gas/Light Liquid	0
	Light Crude Oil	0
	Heavy Crude Oil	0
Others	Gas/Light Liquid	3
	Light Crude Oil	0
	Heavy Crude Oil	0
Connectors	Gas/Light Liquid	425
	Light Crude Oil	0
	Heavy Crude Oil	0
Flanges	Gas/Light Liquid	220
	Light Crude Oil	0
	Heavy Crude Oil	0
Open-Ended Lines	Gas/Light Liquid	0
	Light Crude Oil	0
	Heavy Crude Oil	0

C. Calculations

1. Pre-Project Potential to Emit (PE1)

S-8282-203-0 & "-204-0:
Since this is a new emissions unit, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

S-8282-203-0:

Daily PE2 for Engine						
Pollutant	Emissions Factor (g/bhp-hr)	I/BSFC (bhp-hr/Btu)	Daily Fuel Consumption (scf/day)	Natural Gas Heating Value (Btu/scf)	Conversion (g/lb)	Daily PE2 (lb/day)
NO_X	0.07	0.0001112	241,600	1,000	0.0022046	4.1
SO_X	0.0094	0.0001112	241,600	1,000	0.0022046	0.6
PM_{10}	0.02	0.0001112	241,600	1,000	0.0022046	1.2
CO	0.475	0.0001112	241,600	1,000	0.0022046	28.1
VOC	0.121	0.0001112	241,600	1,000	0.0022046	7.2

Annual PE2 for Engine			
Pollutant	Daily Emission (lb/day)	Operating days/year (day/yr)	Annual PE2 (lb.yr)
NO_X	4.1	365	1,497
SO_X	0.6	365	219
PM_{10}	1.2	365	438
CO	28.1	365	10,257
VOC	7.2	365	2,628

S-8282-204-0:

Daily Pre-Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	PE1 Total (lb/day)
NO_X	0.07	1680	24	453.6	6.2
SO_X	0.0094	1680	24	453.6	0.8
PM_{10}	0.02	1680	24	453.6	1.8
CO	0.475	1680	24	453.6	42.2
VOC	0.121	1680	24	453.6	10.8

Annual PE2 for Engine						
Pollutant	Emissions Factor (g/bhp-hr)	I/BSFC (bhp-hr/Btu)	Daily Fuel Consumption (scf/year)	Natural Gas Heating Value (Btu/scf)	Conversion (g/lb)	Daily PE2 (lb/year)
NO_X	0.07	0.0001112	104,600,000	1,000	0.0022046	1,795
SO_X	0.0094	0.0001112	104,600,000	1,000	0.0022046	241
PM_{10}	0.02	0.0001112	104,600,000	1,000	0.0022046	513
CO	0.475	0.0001112	104,600,000	1,000	0.0022046	12,180
VOC	0.121	0.0001112	104,600,000	1,000	0.0022046	3,103

PE2 for Compressors:

The compressors powered by the IC engines also are a source of fugitive VOC emissions based on component counts. Using CARB/CAPCOA screening value emission factors, an assumed VOC content of the gas and liquid streams of 100%, and no leaking components, each compressor will emit 0.7 lb-VOC/day. Spreadsheet calculations can be found in **Appendix H**.

Fugitive Emissions (each compressor)	
	VOC Emissions
Daily Emissions (lb/day)	0.7
Annual Emissions (lb/yr)	256

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 multiple pollutant; therefore, SSPE1 calculations are not necessary.

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

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

Since facility emissions are already above the Offset and Major Source Thresholds for multiple pollutants, SSPE2 calculations are not necessary.

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

This source is an existing Major Source and will remain a Major Source.

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*	277	577	39	2,740	42	42
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	Y	Y	N	Y	N	N

* These values were obtained from project S-1173681

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

7. SB 288 Major Modification

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

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

SB 288 Major Modification Thresholds			
Pollutant	**Project PE2 (lb/year)**	**Threshold (lb/year)**	**SB 288 Major Modification Calculation Required?**
NO_x	3,291	50,000	No
SO_x	460	80,000	No
PM_{10}	951	30,000	No
VOC	5,731	50,000	No

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

8. Federal Major Modification

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

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

Step 1

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

The project's combined total emission increases are calculated and compared to the Federal Major Modification 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*	3,291	0	Yes
VOC*	5,731	0	Yes
PM_{10}	951	30,000	No
$PM_{2.5}$	951	20,000	No
SO_x	460	80,000	No

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

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-8282-203-0	0	1,497	1,497
S-8282-204-0	0	1,795	1,795
		Net Emission Change (lb/year):	3,291
		Federal Offset Quantity: (NEC * 1.5)	4,937

VOC **Federal Offset Ratio 1.5**

Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
S-8282-203-0	0	2,628	2,628
S-8282-204-0	0	3,103	3,103
		Net Emission Change (lb/year):	5,731
		Federal Offset Quantity: (NEC * 1.5)	8,596

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

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

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

I.Project Location Relative to Class 1 Area

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

II. Project Emission Increase – Significance Determination

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

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

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO_2	SO_2	CO	PM	PM_{10}
Total PE from New and Modified Units	6.4	0.9	43.0	1.8	1.8
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 F**.

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 two engines with a PE greater than 2 lb/day for NO_x, CO, and VOC. Therefor, BACT is triggered for NOX, CO, and VOC only since the PEs are greater than 2 lb/day and the SSPE2 for CO is greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above.

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

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

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

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

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 and/or Federal Major Modification for any pollutant. Therefore BACT is not triggered for any pollutant.

2. BACT Guideline

BACT Guideline 3.3.12 applies to natural-fired IC engines greater than 50 bhp. [Non-Agricultural Fossil Fuel-Fired IC Engine >50 bhp]. (See **Appendix C**)

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 C**), BACT has been satisfied with the following:

NO_x: 5 ppmv @ 15% O2

CO: 56 ppmv @ 15% O2

VOC: 25 ppmv @ 15% O2

B. Offsets

1. Offset Applicability

The units are exempt from the offset per Section 4.6.7 of Rule 2201, which states that a transfer of location of an emissions unit from one Stationary Source to another within the District. under the same owner is exempt provided:

- The Potential to Emit of any affected pollutant will not be greater at the new location than at the previous location when all emissions units are operated at the same permitted conditions, and
- The offsets that would be otherwise required for the unit at the new location have been provided for the emissions unit previously.

Since, the units associated with this project satisfy these requirements. The mentioned units are exempt from emission offset requirments per section 4.6 of 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 will constitute a SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is required.

b. PE > 100 lb/day

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

c. Offset Threshold

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

Offset Thresholds				
Pollutant	**SSPE1 (lb/year)**	**SSPE2 (lb/year)**	**Offset Threshold**	**Public Notice Required?**
NO_X	547,244	550,535	20,000 lb/year	No
SO_X	70,265	70,725	54,750 lb/year	No
PM_{10}	80,552	81,503	29,200 lb/year	No
CO	5,474,200	5,496,637	200,000 lb/year	No
VOC	1,124,556	1,130,287	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	**SSPE2 (lb/year)**	**SSPE1 (lb/year)**	**SSIPE (lb/year)**	**SSIPE Public Notice Threshold**	**Public Notice Required?**
NO_x	550,535	547,244	3,291	20,000 lb/year	No
SO_x	70,725	70,265	460	20,000 lb/year	No
PM_{10}	81,503	80,552	951	20,000 lb/year	No
CO	5,496,637	5,474,200	22,437	20,000 lb/year	Yes
VOC	1,130,287	1,124,556	5,731	20,000 lb/year	No

As demonstrated above, the SSIPEs for Nox and VOC were greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is 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 emissions increases in excess of 20,000 lb/yr. 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:

S-8282-203-0:

- VOC fugitive emissions from the components in gas service associated with the compressor shall not exceed 0.7 lb/day. [District Rule 2201] Y
- Unit shall be fired only on natural gas with a sulfur content of less than or equal to 1.0 grains per 100 dry standard cubic feet of fuel gas. [District Rules 2201 and 4801] Y
- The fuel consumption for this engine shall not exceed 88.184 MMscf/year. Compliance with this limit may be shown by dividing the quantity of fuel used during a calendar month over the number of days operated during that month. [District Rule 2201] Y
- Emissions from this IC engine shall not exceed any of the following limits: 5 ppmv @ 15% O2, 0.0094 g-SOx/hp-hr, 0.02 g-PM10/hp-hr, 56 ppmv @ 15% O2, or 25 ppmv @ 15% O2 [District Rules 2201 and 4702] Y
- Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Y
- The engine shall be equipped with a positive crankcase ventilation (PCV) system or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201] Y

S-8282-204-0:

- Unit shall be fired only on natural gas with a sulfur content of less than or equal to 1.0 grains per 100 dry standard cubic feet of fuel gas. [District Rules 2201 and 4801] Y
- VOC fugitive emissions from the components in gas service associated with the compressor shall not exceed 0.7 lb/day. [District Rule 2201] Y
- Emissions from this IC engine shall not exceed any of the following limits: 5 ppmv @ 15% O2, 0.0094 g-SOx/hp-hr, 0.02 g-PM10/hp-hr, 56 ppmv @ 15% O2, or 25 ppmv @ 15% O2 [District Rules 2201 and 4702] Y
- Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Y
- 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] Y
- The engine shall be equipped with a positive crankcase ventilation (PCV) system or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201] Y

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition will be listed on this permit:

- 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 2201, 4701 and 4702] Y

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 D** 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 PM_{10} 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 PM_{10} 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 G**.

Rule 2410 Prevention of Significant Deterioration

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

Rule 2520 Federally Mandated Operating Permits

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

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

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

Rule 4001 New Source Performance Standards (NSPS)

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

Spark ignited engines, manufactured on or after July 1, 2007, greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP) are subject to the requirements of this subpart. Therefore, the subpart is applicable.

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

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

Compliance with the subpart is expected.

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

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to IC engines.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity).

As the IC engine is fired on either PUC quality natural gas, field gas, or LPG with a low sulfur content, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Also, based on past inspections of the facility continued compliance is expected.

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (**Appendix D**), 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 203-0 (1680 BHP NG ICE)	0.25	0.01	0.00	2.84E-07	No	Yes
Unit 204-0 (1680 BHP NG ICE)	0.25	0.01	0.00	2.84E-07	No	Yes
Project Totals	0.50	0.02	0.00	5.68E-07		
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 not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

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

Unit # 203-0 & 204-0

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. These engines will only be operated within Section 35, Township 31S, and Range 23E.

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.

$$0.02 \quad \frac{g-PM_{10}}{bhp-hr} \times \frac{1g-PM}{0.96g-PM_{10}} \times \frac{1\,bhp-hr}{2{,}542.5\,Btu} \times \frac{10^6\,Btu}{8{,}578\,dscf} \times \frac{0.35\,Btu_{out}}{1\,Btu_{in}} \times \frac{15.43\,grain}{g} = \quad 0.005 \quad \frac{grain-PM}{dscf}$$

Since 0.005 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 Engines

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

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

Rule 4702 Stationary Internal Combustion Engines – Phase 2

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

The new spark-ignited internal combustion engine is rich-burn and is rated 1,680 bhp. Therefore, this engine is 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 NOx, 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% O_2, dry)	CO Emission Limit (ppmv @ 15% O_2, dry)	VOC Emission Limit (ppmv @ 15% O_2, dry)
Rich-burn Engine, not listed above	11	2,000	250

The proposed emissions are 5 ppmv @3% NOx, 56 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 ATC includes emissions limits in lb/hr and ppmv @ 15% O_2; 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 engine 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 engine will be fired exclusively on PUC-quality natural gas; therefore, it meets the requirement of Section 5.7.1.

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 NOx, 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 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]*

- *{3786} If either the NOX or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District 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 engines are currently equipped with a non-resettable elapsed operating meter and the following condition will be listed on each permit to ensure compliance.

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

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 NOx and CO monitoring will satisfy both Section 5.8.7 (I&M Program) and Section 5.8.9 (quarterly NOx 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 NOx (as NO2), CO, and O2 at least once every calendar month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the engine is not in operation, i.e. the engine need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the engine unless monitoring has been performed within the last month. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 4701 and 4702] N*

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 NOx, 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, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% O_2. [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: NOx (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 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 NOx, 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 NOx, 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 engine 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 NOx analyzer to take NOx 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 ATC 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 SO_2) shall not exceed 0.2% by volume. The IC engines are currently operating in compliance with the rules and continued compliance is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

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. Issue ATC S-8282-203-0, and "-204-0 subject to the permit conditions on the attached draft ATC in **Appendix A.**

X. Billing Information

Annual Permit Fees			
Permit Number	**Fee Schedule**	**Fee Description**	**Annual Fee**
S-8282-203-0	3020-10-F	1680 BHP	$820
S-8282-204-0	3020-10-F	1680 BHP	$820

Appendixes

A: Draft ATC & Emission Profile(s)
B: Current PTO(s)
C: BACT Guideline & BACT Analysis
D: HRA Summary
E: SSPE1 Calculations
F: Quarterly Net Emissions Change
G: Compliance Certification
H: Fugitive Emissions Calculation

APPENDIX A:
Draft ATC & Emission Profile(s)

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-8282-203-0

ISSUANCE DATE: DRAFT

DRAFT

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

SECTION: 35 **TOWNSHIP:** 31S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
1,680 BHP WAUKESHA MODEL L7044 GSI NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION AND POSITIVE CRANKCASE VENTILATION POWERING A COMPRESSOR SKID AUTHORIZED FOR OPERATION

CONDITIONS

1. PTO S-2234-209 shall be cancelled upon implementation of this ATC [District Rule 2201]
2. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
3. This engine will only be operated at various locations within Section 35, Township 31S, and Range 23E. [District Rule 2201]
4. Unit shall be fired only on natural gas or field gas with a sulfur content of less than or equal to 1.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801]
5. The operator shall notify the District in writing at least two weeks prior to starting operations at a new location. [District Rule 1070]
6. Annual fuel consumption for this natural gas-fired engine shall not exceed 104.6 MMScf per year. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Permittee shall maintain annual records of fuel consumption, in MMScf, to show compliance with the annual fuel consumption limit of 104.6 MMScf. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

S-8282-203-0 : Jun 26 2018 5:05PM – JONESW Joint Inspection NOT Required

8. 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]

9. {3404} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]

10. The permittee shall install and operate a nonresettable fuel flow meter to determine annual fuel usage. [District Rule 2201] Federally Enforceable Through Title V Permit

11. {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]

12. Emissions from this IC engine shall not exceed any of the following limits: 5 ppmv @ 15% O2, 0.0094 g-SOx/hp-hr, 0.02 g-PM10/hp-hr, 56 ppmv @ 15% O2, or 25 ppmv @ 15% O2 . [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit

13. VOC fugitive emissions from the components in gas service associated with the compressor shall not exceed 0.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

14. Permittee shall maintain accurate component count for compressor according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit

15. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

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]

17. The engine shall be equipped with a positive crankcase ventilation (PCV) system or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201]

18. 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]

19. {3786} 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]

20. {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]

CONDITIONS CONTINUE ON NEXT PAGE

21. 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]

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

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

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

25. {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]

26. {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, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]

27. {3793} The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]

28. {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]

29. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

30. {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]

31. 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 Rule 2201, 4701 and 4702]

32. 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]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-8282-204-0

ISSUANCE DATE: DRAFT

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

SECTION: 35 **TOWNSHIP:** 31S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
1,680 BHP WAUKESHA MODEL L7044 GSI NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION AND POSITIVE CRANKCASE VENTILATION POWERING A COMPRESSOR SKID AUTHORIZED FOR OPERATION

CONDITIONS

1. PTO S-2234-184 shall be cancelled upon implementation of this ATC. [District Rule 2201]
2. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
3. This engine will only be operated at various locations within Section 35, Township 31S, and Range 23E. [District Rule 2201]
4. The operator shall notify the District in writing at least two weeks prior to starting operations at a new location. [District Rule 1070]
5. Unit shall be fired only on natural gas, or field gas with a sulfur content of less than or equal to 1.0 grains per 100 dry standard cubic feet of fuel gas. [District Rule 2201 and 4801]
6. 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]
7. {3404} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

S-8282-204-0 : Jun 26 2018 5:05PM – JONESW : Joint Inspection NOT Required

8. The permittee shall install and operate a nonresettable fuel flow meter to determine annual fuel usage. [District Rule 2201] Federally Enforceable Through Title V Permit

9. {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]

10. Emissions from this IC engine shall not exceed any of the following limits: 5 ppmv @ 15% O2, 0.0094 g-SOx/hp-hr, 0.02 g-PM10/hp-hr, 56 ppmv @ 15% O2, or 25 ppmv @ 15% O2. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit

11. VOC fugitive emissions from the components in gas service associated with the compressor shall not exceed 0.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Permittee shall maintain accurate component count for compressor according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The fuel consumption for this engine shall not exceed 88.184 MMscf/year. Compliance with this limit may be shown by dividing the quantity of fuel used during a calendar month over the number of days operated during that month. [District Rule 2201] Federally Enforceable Through Title V Permit

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

15. 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]

16. The engine shall be equipped with a positive crankcase ventilation (PCV) system or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201]

17. 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]

18. {3786} 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]

19. {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]

CONDITIONS CONTINUE ON NEXT PAGE

20. 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]

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

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

23. {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]

24. {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, NOx, and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702]

25. {3793} The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 18, 25A or 25B, or ARB Method 100. [District Rules 1081 and 4702]

26. {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]

27. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

28. {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]

29. 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 Rule 2201, 4701 and 4702]

30. 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]

Application Emissions

Permit #: S-8282-203-0	**Last Updated**
Facility: CALIFORNIA RESOURCES PRODUCTION	06/13/2018 · JONESW

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	1497.0	219.0	438.0	10257.0	2628.0
Daily Emis. Limit (lb/Day)	4.1	0.6	1.2	28.1	7.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	374.0	55.0	110.0	2564.0	657.0
Q2:	374.0	55.0	110.0	2564.0	657.0
Q3:	374.0	55.0	110.0	2564.0	657.0
Q4:	374.0	55.0	110.0	2564.0	657.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-8282-204-0 **Last Updated**
Facility: CALIFORNIA RESOURCES PRODUCTION 06/13/2018 JONESW

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	1795.0	241.0	513.0	12180.0	3103.0
Daily Emis. Limit (lb/Day)	6.2	0.8	1.8	42.2	10.8
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	568.0	76.0	162.0	3853.0	982.0
Q2:	568.0	76.0	162.0	3853.0	982.0
Q3:	568.0	76.0	162.0	3853.0	982.0
Q4:	568.0	76.0	162.0	3853.0	982.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

APPENDIX B:
Current PTO(s)

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-2234-184-5 **EXPIRATION DATE:** 10/31/2021

EQUIPMENT DESCRIPTION:
1,680 BHP WAUKESHA MODEL 7044 GSI NATURAL GAS-FIRED IC ENGINE WITH NSCR AND PCV POWERING A COMPRESSOR AND OPERATES AT VARIOUS UNSPECIFIED LOCATIONS WITHIN FACILITY S-2234 (R-38)

PERMIT UNIT REQUIREMENTS

1. Approved locations for this equipment: any site within facility S-2234. [District Rule 2201] Federally Enforceable Through Title V Permit
2. The operator shall notify the District in writing at least two weeks prior to starting operations at a new location. [District Rule 1070]
3. This IC engine shall only be fired on Public Utility Commission (PUC) quality natural gas. [District Rules 2201, 4702, 5.7.1, and 4801] Federally Enforceable Through Title V Permit
4. Annual fuel consumption for this natural gas-fired engine shall not exceed 104.6 MMScf per year. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Permittee shall maintain annual records of fuel consumption, in MMScf, to show compliance with the annual fuel consumption limit of 104.6 MMScf. [District Rule 2201] Federally Enforceable Through Title V Permit
6. 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]
7. This engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
8. The permittee shall install and operate a nonresettable fuel flow meter to determine annual fuel usage. [District Rule 2201] Federally Enforceable Through Title V Permit
9. 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] Federally Enforceable Through Title V Permit
10. Emissions from this IC engine shall not exceed any of the following limits: 0.07 g-NOx/hp-hr, 0.0094 g-SOx/hp-hr, 0.02 g-PM10/hp-hr, 0.475 g-CO/hp-hr, or 0.121 g-VOC/hp-hr. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
11. The permittee shall monitor and record the stack concentration of NOx, CO, and O2, using a portable emission monitor that meets District specifications, at least once every calendar quarter (in which a source test is not performed and the engine is operated) or, if the engine is operated less than 120 calendar days in a calendar year, at least once during that calendar year (in which a source test is not performed and the engine is operated). 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 calendar quarter. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. If either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit
13. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4702] Federally Enforceable Through Title V Permit
14. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702] Federally Enforceable Through Title V Permit
15. Source testing to measure gas combustion NOx and CO emissions from this unit shall be measured not less than once every 24 months. [District Rule 4702] Federally Enforceable Through Title V Permit
16. 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] Federally Enforceable Through Title V Permit
17. 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. NOx and CO concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702] Federally Enforceable Through Title V Permit
18. The following test methods shall be used: NOX (ppmv) - EPA Method 7E or ARB Method 100; CO (ppmv) - EPA Method 10 or ARB Method 100; stack gas oxygen - EPA Method 3 or 3A or ARB Method 100. EPA approved alternative test methods may also be used to satisfy the source testing requirements of this permit with prior written approval from the APCO. [District Rules 1081 and 4702] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
21. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type and quantity (cubic feet of gas or gallons of liquid) of fuel used, maintenance or modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
22. 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

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-2234-209-6 **EXPIRATION DATE:** 10/31/2021

SECTION: 27 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:
1,680 BHP WAUKESHA MODEL L7044GSI NATURAL GAS-FIRED IC ENGINE WITH NON-SELECTIVE CATALYTIC REDUCTION POWERING A GAS COMPRESSOR (R-3) OPERATING AT VARIOUS UNSPECIFIED LOCATIONS WITHIN FACILITY S-2234

PERMIT UNIT REQUIREMENTS

1. While dormant, the fuel line shall be physically disconnected from the unit. [District Rule 2080] Federally Enforceable Through Title V Permit
2. Permittee shall submit written notification to the District upon designating the unit as dormant or active. [District Rule 2080] Federally Enforceable Through Title V Permit
3. While dormant, normal source testing shall not be required. [District Rule 2080] Federally Enforceable Through Title V Permit
4. Upon recommencing operation of this unit, normal source testing shall resume. [District Rule 2080] Federally Enforceable Through Title V Permit
5. Any source testing required by this permit shall be performed within 60 days of recommencing operation of this unit, regardless of whether the unit remains active or is again designated as dormant. [District Rule 2080] Federally Enforceable Through Title V Permit
6. Records of all dates and times that this unit is designated as dormant or active, and copies of all corresponding notices to the District, shall be maintained, retained for a period of at least five years, and made available for District inspection upon request. [District Rule 1070]
7. Operator shall notify the District by letter or fax at least 48-hours in advance of the re-location of this unit. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Operator shall maintain records of compressor skid location and dates spent at each location and make such records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
9. This unit shall not operate within 1,000 feet of a kindergarten through 12 grade school. [CH&SC 42301.6]
10. 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] Federally Enforceable Through Title V Permit
11. The engine shall be equipped with a positive crankcase ventilation (PCV) system or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
12. This engine shall be equipped with an operational nonresettable elapsed time meter or other APCO approved alternative. [District Rule 4702] Federally Enforceable Through Title V Permit
13. The permittee shall install and operate a nonresettable fuel flow meter. The fuel meter shall be properly maintained in accordance with the manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

14. This IC engine shall only be fired on Public Utility Commission (PUC) quality natural gas. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
15. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
16. Emissions from this IC engine shall not exceed any of the following limits: NOx (as NO2) - 5 ppmv @ 15% O2, VOC - 25 ppmv @ 15% O2, CO - 56 ppmv @ 15% O2, PM10 - 0.02 g/hp-hr, or SOx (as SO2) - 0.012 g/hp-hr. [District Rules 2201 and 4702, 5.1] Federally Enforceable Through Title V Permit
17. VOC fugitive emissions from the components in gas service associated with the compressor shall not exceed 0.7 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Permittee shall maintain accurate component count for compressor according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The fuel consumption for this engine shall not exceed 241,600 scf/day. Compliance with this limit may be shown by dividing the quantity of fuel used during a calendar month over the number of days operated during that month. [District Rule 2201] Federally Enforceable Through Title V Permit
20. The engine shall only burn natural gas with fuel gas sulfur concentration (as H2S) not exceeding 1.0 grains/100 dscf. [District Rule 2201] Federally Enforceable Through Title V Permit
21. If the IC engine is fired on PUC-regulated natural gas, the permittee shall retain on file, copies of all natural gas bills. [District Rule 2201] Federally Enforceable Through Title V Permit
22. If the engine is fired on any fuel gas other than PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the IC engine shall be determined using ASTM methods D1072, D3246, D4084, Double GC for H2S and mercaptans, or alternative test method with prior written approval from the APCO. [District Rule 2201] Federally Enforceable Through Title V Permit
23. If the engine is fired on any fuel gas other than PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Source testing to measure natural gas-combustion NOx, CO, and VOC emissions from this engine shall be conducted not less than once every 12 months. [District Rules 2201 and 4702] Federally Enforceable Through Title V Permit
25. 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, 6.3.3] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 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
27. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, and VOC (ppmv) - EPA Method 25A or 25B, or ARB Method 100. Methane and ethane, which are exempt compounds, shall be excluded from the result of the VOC test. EPA approved alternative test methods may also be used to satisfy the source testing requirements of this permit with prior written approval from the APCO. [District Rule 4702, 6.4] Federally Enforceable Through Title V Permit
28. 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. NOx, CO and VOC concentrations shall be reported in ppmv, corrected to 15% oxygen. [District Rule 4702, 6.3.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

29. Source testing shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1080] Federally Enforceable Through Title V Permit

30. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1080] Federally Enforceable Through Title V Permit

31. This engine shall be operated and maintained in proper operating condition according to the manufacturer's specifications and the Rule 4702 Inspection and Monitoring (I&M) plan submitted to the District. [District Rule 4702, 6.5] Federally Enforceable Through Title V Permit

32. 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, 6.5.9] Federally Enforceable Through Title V Permit

33. The permittee shall monitor and record the stack concentration of NOx, CO, and O2, using a portable emission monitor that meets District specifications, at least once every calendar quarter (in which a source test is not performed and the engine is operated) or, if the engine is operated less than 120 calendar days in a calendar year, at least once during that calendar year (in which a source test is not performed and the engine is operated). 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 calendar quarter. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rule 4702] Federally Enforceable Through Title V Permit

34. If either the NOx or CO concentrations corrected to 15% O2, as measured by the portable analyzer, exceed the allowable emission concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 8 hours after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 8 hours, the permittee shall notify the District within the following 1 hour, and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4702] Federally Enforceable Through Title V Permit

35. 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, 5.6.1 and 5.6.9] Federally Enforceable Through Title V Permit

36. The permittee shall maintain records of: (1) the date and time of NOx CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOX and CO concentrations corrected to 15% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rule 4702, 6.2.1] Federally Enforceable Through Title V Permit

37. The results of the measurements taken with the District approved analyzer shall be retained on-site at all times. [District Rule 1070]

38. This operation shall comply with the requirements of District Rule 4409, as specified on facility wide permit S-2234-0. [District Rule 4409] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

39. The permittee shall maintain an engine operating log to demonstrate compliance. The engine operating log shall include, on a monthly basis, the following information: total hours of operation, type, quantity (cubic feet of gas) and sulfur content of fuel used, maintenance or modifications performed, monitoring data, compliance source test results, and any other information necessary to demonstrate compliance. [District Rules 2201 and 4702, 6.2.1] Federally Enforceable Through Title V Permit

40. 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. For units at unstaffed sites or operated remotely, records may be maintained and retained at a District-approved off-site location. [District Rules 1070, 2201 and 4702, 6.2.1 and 6.2.2] Federally Enforceable Through Title V Permit

APPENDIX C:
BACT Guideline & 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 categroies 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	1. For all compression-ignited engines: 50 percent reduction of latest Tier standard for VOC emissions using a catalytic oxidation	Electric Motor (except for engines that will be used to generate electricity)

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
	engines: 25 ppmvd @ 15% O2 or 0.15 g/bhp-hr	system. 2. For rich-burn spark-ignited engines: 12 ppmvd @ 15% O2 or 0.069 g/bhp-hr	

*** 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 hald 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 s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is requried 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% O_2 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

The use of a Natural Gas-Fired Turbine is not applicable to the scope of this project. The use of a electric motor, is not practical. The facility does not currently have the electrical infostructure to support the motors. Many of the locations where the unit will be utalized will not have acess to an electrical power source. Therefore, both alternate basic equipment option a will be eliminated from consideration for this project.

The remaining control technologies from Step 1 are technologically feasible.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

- 5 ppmv NOx @ 15% O_2 or 0.07 g/bhp-hr.

Step 4 – Cost Effectiveness Analysis

The applicant is proposing the most stringent 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% O_2 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 use of a electric motor, is not practical. The facility does not currently have the electrical infostructure to support the motors. Many of the locations where the unit will be utalized will not

have acess to an electrical power source. Therefore, the alternate basic equipment option a will be eliminated from consideration for this project.

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 most stringent 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% O_2 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 use of a electric motor, is not practical. The facility does not currently have the electrical infostructure to support the motors. Many of the locations where the unit will be utalized will not have acess to an electrical power source. Therefore, the alternate basic equipment option a will be eliminated from consideration for this project.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

a) 12 ppmv VOC @ 15% O_2
b) 25 ppmv VOC @ 15% O_2

Step 4 – Cost Effectiveness Analysis

The IC engine manufacturer has stated that to install the 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, CRC 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.

[(0.15 – 0.069) g/hp-hr x 1,380 hp x 8760 hr/yr] / (453.6 g/lb x 2000 lb/ton) = 1.1 ton/yr

Based on the capital and operational costs and a reduction of 1 ton/yr, as calculated above, the cost effectiveness of the Technologically Feasible BACT is $ 239,131 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 applicar	$1,315,744.06	(1)			Estimated			
Interest rate for financing (assume 10%)	0.10	(i)						
time period of financing (assume 10 years)	10	(n)						
annualization factor = $i(1+i)^n$	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)]	$239,131.29	(5)						
tons/year reduced by control technology being analy	1.00	(6)			Difference in VOC from 25 to 12 ppm			
cost effectiveness ($/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

5-Feb-17 Rev A

	Description	Qty	Unit	Equip /Mat [US$]	Labor [US$]	Total [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 Contruction	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 engine is an emission limit of 25 ppmv VOC @ 15% O_2 or 0.15 g/bhp-hr.

APPENDIX D:
HRA Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	William Jones – Permit Services
From:	Will Worthley – Technical Services
Date:	June 6, 2018
Facility Name:	California Resources Corporation
Location:	Various Locations within Section 35, Township 31S, Range 23E
Application #(s):	S-8282-203-0, 204-0
Project #:	S-1181300

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 203-0 (1680 BHP NG ICE)	0.25	0.01	0.00	2.84E-07	No	Yes
Unit 204-0 (1680 BHP NG ICE)	0.25	0.01	0.00	2.84E-07	No	Yes
Project Totals	0.50	0.02	0.00	5.68E-07		
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:

Unit # 203-0 & 204-0

3. 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.
4. These engines will only be operated within Section 35, Township 31S, and Range 23E.

B. RMR REPORT

I. Project Description

Technical Services received a request on June 05, 2018, to perform an Ambient Air Quality Analysis and a Risk Management Review for two 4 stroke rich burn portable 1,680 BHP NG IC engines with non-selective catalytic reduction powering a gas compressor.

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 2004-2008 from Fellows 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 203-0 & 204-0			
Source Type	Point	**Location Type**	Rural
Stack Height (m)	6.40	**Closest Receptor (m)**	1170
Stack Diameter. (m)	0.30	**Type of Receptor**	Residential
Stack Exit Velocity (m/s)	32.31	**Max Hours per Year**	8760
Stack Exit Temp. (°K)	755	**Fuel Type**	NG
Fuel Usage (mmscf/hr)	0.0151	**Fuel Usage (mmscf/yr)**	132

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.
203-0	0.26	2271	0.03	305	1.76	15411	0.07	649
204-0	0.26	2271	0.03	305	1.76	15411	0.07	649

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	Bakersfield - Muni (2016)	Pass	X	Pass	X	X
NO_x	Shafter (2016)	Pass[1]	X	X	X	Pass
SO_x	Fresno – Garland (2016)	Pass	Pass	X	Pass	Pass
PM_{10}	Mojave (2016)	X	X	X	Pass[2]	Pass[2]
$PM_{2.5}$	Mojave (2016)	X	X	X	Pass[3]	Pass[3]

*Results were taken from the attached PSD spreadsheet.
[1]The 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.
[2]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).
[3]The court has vacated EPA's $PM_{2.5}$ SILs. Until such time as new SIL values are approved, the District will use the corresponding PM_{10} SILs for both PM_{10} and $PM_{2.5}$ analyses.

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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

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

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

IV. Attachments

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

APPENDIX E:
SSPE1 Calculations

Detailed SSPE Report

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	382	0	4						0
S	382	7	10						0
S	382	29	5	0	0	0	0	2220	0
S	382	32	15	89615	3650	8497	386228	231790	0
S	382	62	15	89615	3650	8497	386228	231790	0
S	382	63	15	89615	3650	8497	386228	231790	0
S	382	68	10	0	0	0	0	6468	0
S	382	70	13	0	0	0	0	723	1
S	382	71	8						0
S	382	74	5	14299	579	1620	69318	11779	0
S	382	80	12	0	0	0	0	190	0
S	382	81	12	0	0	0	0	116	0
S	382	82	12	0	0	0	0	138	0
S	382	84	11	0	0	0	0		0
S	382	87	13	0	0	0	0	280	0
S	382	89	12	0	0	0	0	190	0
S	382	90	12	0	0	0	0	157	0
S	382	91	12	0	0	0	0	33	0
S	382	93	12	0	0	0	0	262	0
S	382	95	8	0	0	0	0	177	0
S	382	96	13	0	0	0	0	116	0
S	382	100	11	0	0	0	0	277	0
S	382	110	15	0	0	0	0	223	0
S	382	111	10	0	0	0	0	36	0
S	382	112	8	0	0	0	0	116	0
S	382	113	10	0	0	0	0	355	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	382	116	12	0	0	0	0	234	0
S	382	124	26	0	0	0	0	876	0
S	382	131	16	0	0	0	0	131	0
S	382	132	16	0	0	0	0	116	0
S	382	136	22	0	0	0	0	1022	1
S	382	138	8	0	0	0	0	277	0
S	382	139	12	0	0	0	0	628	0
S	382	140	12	0	0	0	0	365	0
S	382	156	12	0	0	0	0	2792	0
S	382	157	12	0	0	0	0	2792	0
S	382	158	18	0	0	0	0	4271	0
S	382	159	10	0	0	0	0	444	0
S	382	161	16	0	0	0	0	836	0
S	382	162	14	0	0	0	0	51	0
S	382	163	12	0	0	0	0	69	0
S	382	177	8	0	0	0	0	66	0
S	382	178	8	0	0	0	0	66	0
S	382	179	8	0	0	0	0	66	0
S	382	181	7						0
S	382	183	9	0	0	0	0	51	0
S	382	187	9	0	0	0	0	37	0
S	382	189	8	0	0	0	0	66	0
S	382	190	9	0	0	0	0	73	0
S	382	191	8	0	0	0	0	66	0
S	382	197	8	0	0	0	0	66	0
S	382	198	8	0	0	0	0	66	0
S	382	199	7	0	0	0	0	0	0
S	382	200	10	0	0	0	0	66	0
S	382	204	9	0	0	0	0	73	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	382	261	9	0	0	0	0	37	0
S	382	262	9	0	0	0	0	37	0
S	382	263	10	0	0	0	0	44	0
S	382	265	10	0	0	0	0	36	0
S	382	266	8	0	0	0	0	66	0
S	382	267	8	0	0	0	0	66	0
S	382	283	8	0	0	0	0	66	0
S	382	286	9	0	0	0	0	69	0
S	382	287	9	0	0	0	0	69	0
S	382	288	9	0	0	0	0	69	0
S	382	289	9	0	0	0	0	69	0
S	382	290	9	0	0	0	0	69	0
S	382	291	9	0	0	0	0	69	0
S	382	292	9	0	0	0	0	69	0
S	382	293	9	0	0	0	0	69	0
S	382	294	9	0	0	0	0	69	0
S	382	295	9	0	0	0	0	69	0
S	382	296	9	0	0	0	0	69	0
S	382	297	9	0	0	0	0	69	0
S	382	298	9	0	0	0	0	69	0
S	382	299	9	0	0	0	0	69	0
S	382	300	9	0	0	0	0	69	0
S	382	301	9	0	0	0	0	69	0
S	382	302	9	0	0	0	0	69	0
S	382	304	10	0	0	0	0	66	0
S	382	307	8	0	0	0	0	66	0
S	382	308	8	0	0	0	0	66	0
S	382	309	8	0	0	0	0	66	0
S	382	310	8	0	0	0	0	66	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	382	311	8	0	0	0	0	66	0
S	382	312	11	0	0	0	0	66	0
S	382	313	8	0	0	0	0	66	0
S	382	314	8	0	0	0	0	66	0
S	382	320	10	0	0	0	0	176	0
S	382	321	10	0	0	0	0	160	0
S	382	325	5						0
S	382	326	5	0	0	0	0	36	0
S	382	330	5						0
S	382	399	10	0	0	0	0	22	0
S	382	400	10	0	0	0	0	66	0
S	382	412	4						0
S	382	594	4						0
S	382	597	9	0	0	0	0	73	0
S	382	669	4						0
S	382	670	13	20236	18	1314	77263	29996	0
S	382	671	13	20236	18	1314	77263	29996	0
S	382	672	14	20236	18	1314	77263	29996	0
S	382	673	24	0	0	0	0	803	0
S	382	674	4						0
S	382	675	10	1080	64	228	1092	165	0
S	382	676	12	1080	64	228	2190	165	0
S	382	677	11	1080	86	228	2190	165	0
S	382	678	10	1080	86	228	1092	165	0
S	382	679	12	1080	86	228	1092	165	0
S	382	680	12	1080	86	228	1092	165	0
S	382	681	12	1080	86	228	1092	165	0
S	382	682	4						0
S	382	683	5						0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	382	684	4					5548	0
S	382	685	4					2883	0
S	382	701	9	0	0	0	0	183	0
S	382	702	9	0	0	0	0	183	0
S	382	703	4	0	0	0	0	0	0
S	382	705	3	0	0	0	0	0	0
S	382	706	3	0	0	0	0	0	0
S	382	707	3	0	0	0	0	0	0
S	382	708	3	0	0	0	0	0	0
S	382	711	4	0	0	0	0	0	0
S	382	712	4	0	0	0	0	0	0
S	382	713	4	0	0	0	0	0	0
S	382	724	4	0	0	0	0	164	0
S	382	725	4	0	0	0	0	47	0
S	382	726	10	0	0	0	0	352	0
S	382	727	6	0	0	0	0	74	0
S	382	736	4	0	0	0	0	0	0
S	382	737	7	0	0	0	0	344	0
S	382	738	4	0	0	0	0	73	0
S	382	741	7	0	0	0	0	365	0
S	382	742	7	0	0	0	0	365	0
S	382	743	7	0	0	0	0	365	0
S	382	744	7	0	0	0	0	365	0
S	382	745	7	0	0	0	0	365	0
S	382	746	7	0	0	0	0	365	0
S	382	751	5	0	0	0	0	672	0
S	382	757	6	1314	37	110	1095	1278	0
S	382	758	6	0	0	0	0	1314	0
S	382	759	6	0	0	0	0	99	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	382	760	5	0	0	0	0	99	0
S	382	806	6	0	0	40	0	0	0
S	382	808	6	0	0	0	0	73	0
S	382	809	3	0	0	0	0	73	0
S	382	810	3	36	0	1	7	1	0
S	382	811	2	0	0	0	0	73	0
S	382	814	2	0	0	0	0	37	0
S	382	815	3	96	0	3	24	41	0
S	382	830	2	0	0	0	0	110	0
S	382	831	2	0	0	0	0	110	0
S	382	840	2	0	0	0	0	73	0
S	382	841	2	0	0	0	0	73	0
S	382	842	2	0	0	0	0	73	0
S	382	843	2	0	0	0	0	146	0
S	382	844	2	0	0	0	0	146	0
S	382	845	2	0	0	0	0	146	0
S	382	847	1	404	0	4	26	9	0
S	382	858	3	1784	202	476	12133	3203	0
S	382	859	3	1784	202	476	12133	3203	0
S	382	867	2	0	0	0	0	264	0
S	382	868	2	0	0	0	0	264	0
S	382	869	2	0	0	0	0	264	0
S	382	870	2	0	0	0	0	178	0
S	382	871	2	0	0	0	0	178	0
S	382	872	2	0	0	0	0	178	0
S	382	873	2	0	0	0	0	178	0
S	1216	0	2						0
S	1216	64	6	0	0	0	0	110	0
S	1216	66	2	0	0	0	0	33	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1216	71	4	1998	314	571	13700	3498	0
S	1216	72	2	0	0	0	0	37	0
S	1216	73	2	0	0	0	0	37	0
S	1216	75	2	0	0	0	0	37	0
S	1216	78	2	0	0	0	0	37	0
S	1216	158	2	0	0	0	0	77	0
S	1216	159	2	0	0	0	0	77	0
S	1216	172	1	0	0	0	0	320	0
S	1216	174	1	0	0	0	0	283	0
S	1216	175	1	0	0	0	0	150	0
S	1216	176	1	0	0	0	0	173	0
S	1216	177	1	0	0	0	0	151	0
S	1738	0	4						0
S	1738	2	13	0	0	0	0	62	0
S	1738	7	16						0
S	1738	9	6						0
S	1738	10	6						0
S	1738	12	6						0
S	1738	13	6						0
S	1738	16	6						0
S	1738	17	6						0
S	1738	22	9	0	0	0	0	100	0
S	1738	23	5						0
S	1738	24	5						0
S	1738	30	5						0
S	1738	31	5						0
S	1738	37	10	0	0	0	0	0	0
S	1738	38	7						0
S	1738	44	6						0

Notes:

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1738	45	7	0	0	0	0	0	0
S	1738	47	7						0
S	1738	48	5						0
S	1738	49	10	0	0	0	0	256	0
S	1738	50	6						0
S	1738	52	8						0
S	1738	53	6						0
S	1738	57	13	576	188	38	54812	2489	0
S	1738	58	14	635	221	635	59370	1366	0
S	1738	59	12	615	40	40	58446	1354	0
S	1738	60	13	603	217	293	68288	1567	0
S	1738	62	14	603	217	293	68288	1567	0
S	1738	77	8	0	0	0	0	0	0
S	1738	78	9	2249	0	0	14600	7300	0
S	1738	87	14	635	221	635	68288	1567	0
S	1738	88	11	565	203	275	64020	2900	0
S	1738	92	14	596	207	282	53186	2409	0
S	1738	93	11	596	37	256	64021	2884	0
S	1738	94	11	565	203	275	64020	2900	0
S	1738	97	15	495	9	197	53186	2409	0
S	1738	111	10	6498	229	438	119830	25550	0
S	1738	118	16	2628	183	256	64021	4526	0
S	1738	122	15	596	207	282	64020	2900	0
S	1738	124	11	565	203	275	64020	2900	0
S	1738	130	9	2671	0	0	649334	0	0
S	1738	131	12	596	125	237	64020	2900	0
S	1738	133	13	565	203	275	64020	2900	0
S	1738	134	14	565	203	275	64020	2900	0
S	1738	135	18	1971	146	183	48253	3395	1

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1738	136	15	565	203	275	64020	2900	0
S	1738	188	5						0
S	1738	190	4						0
S	1738	201	8	0	0	0	0	0	0
S	1738	211	5	0	0	0	0	666	0
S	1738	212	5	0	0	0	0	1560	0
S	1738	226	6						0
S	1738	239	5	0	0	0	0	666	0
S	1738	240	11	0	0	0	0	337	0
S	1738	241	6						0
S	1738	242	6						0
S	1738	243	6						0
S	1738	244	6						0
S	1738	245	6						0
S	1738	246	6						0
S	1738	279	5	2323	0	260	12642	957	0
S	1738	288	8						0
S	1738	289	7						0
S	1738	290	7						0
S	1738	297	4						0
S	1738	335	4	0	0	0	0	512	0
S	1738	338	4						0
S	1738	339	4						0
S	1738	340	3	0	0	0	0	0	0
S	1738	342	3	0	0	0	0	800	0
S	1738	345	7	1782	641	867	201909	1425	0
S	1738	346	6	460	32	111	1681	428	0
S	1738	347	1	956	7	113	5203	923	0
S	1738	349	2	7665	0	897	41180	7002	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1738	354	4	0	0	0	0	0	1
S	1738	355	2						0
S	1738	357	2						0
S	1738	358	2						0
S	1738	359	4	635	221	635	68288	1848	0
S	1738	360	4	635	221	635	68288	763	0
S	1738	361	5	635	221	635	68288	1848	0
S	1738	362	4	635	221	635	103745	1526	0
S	1738	363	6	965	67	458	103745	1526	0
S	1738	364	7	965	67	458	103745	1526	0
S	1738	365	6	635	221	635	103745	1526	0
S	1738	366	4	635	221	635	103745	1526	0
S	1738	367	4	469	169	228	53186	782	0
S	1738	368	4	635	221	635	58510	4198	0
S	1738	369	4	469	169	228	53186	782	0
S	1738	371	4	635	221	635	68288	1848	0
S	1738	372	4	419	3	31	3076	502	0
S	1738	373	4	903	3	31	3076	502	0
S	1738	374	5	495	3	31	3076	502	0
S	1738	375	6	495	3	31	3076	502	0
S	1738	376	4	497	3	31	3076	502	0
S	1738	377	6	903	3	31	3076	502	0
S	1738	378	4	497	0	37	3066	511	0
S	1738	379	5	497	3	31	3076	502	0
S	1738	380	6	903	3	31	3076	502	0
S	1738	381	4	495	3	31	3076	502	0
S	1738	382	4	497	3	31	3076	502	0
S	1738	383	4	495	3	31	3188	519	0
S	1738	384	4	497	3	31	3076	502	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1738	385	4	497	3	31	3723	594	0
S	1738	386	4	495	3	31	3076	502	0
S	1738	387	4	494	3	31	3222	522	0
S	1738	388	4	903	3	31	3076	502	0
S	1738	389	4	479	31	31	3188	519	0
S	1738	390	4	495	3	31	3076	502	0
S	1738	391	4	479	31	31	3188	519	0
S	1738	392	4	903	3	31	3076	502	1
S	1738	393	5	479	31	31	3188	519	0
S	1738	394	6	479	31	31	3188	519	0
S	1738	395	4	479	31	31	3188	519	0
S	1738	396	6	479	31	31	3188	519	0
S	1738	397	4	479	31	31	3188	519	0
S	1738	398	4	479	31	31	3188	519	0
S	1738	399	4	479	31	31	3188	519	0
S	1738	400	4	479	31	31	3188	519	0
S	1738	401	6	495	3	31	3076	502	0
S	1738	402	6	479	31	31	3188	519	0
S	1738	403	6	495	3	31	3076	502	0
S	1738	404	6	495	3	31	3723	594	0
S	1738	405	6	495	3	31	3076	502	0
S	1738	406	4	479	31	31	3188	519	0
S	1738	407	6	479	31	31	3188	519	0
S	1738	408	2	825	0	13	101	31	0
S	1738	409	2	2149	57	50	354	93	0
S	1738	410	5	495	3	31	3076	502	0
S	1738	431	1	0	0	0	0	122	0
S	1738	443	7	0	0	0	0	6680	0
S	1738	444	2						0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1738	445	2						0
S	1738	446	2						0
S	1738	447	2						0
S	1738	448	6	532	35	556	50596	1995	0
S	1738	449	3	17870	426	2102	97236	16556	0
S	1738	450	6	281	18	294	26703	1908	0
S	1738	455	2	5549	700	653	30192	5141	0
S	1738	456	1	0	0	0	0	683	0
S	1738	457	1	0	0	0	0	661	0
S	1738	458	1	0	0	0	0	661	0
S	1738	459	1	0	0	0	0	661	0
S	1738	460	1	0	0	0	0	45	0
S	1738	462	1	7	0	0	35	3	0
S	1738	470	0	274	197	45	1660	477	0
S	1738	471	0	274	197	45	1660	477	0
S	1738	472	0	274	197	45	1660	477	0
S	1738	473	0	274	197	45	1660	477	0
S	1738	474	0	274	197	45	1660	477	0
S	1738	475	0	274	197	45	1660	477	0
S	1738	476	0	274	197	45	1660	477	0
S	1738	477	0	274	197	45	1660	477	0
S	1738	478	2	274	197	45	1660	477	0
S	1738	479	0	274	197	45	1660	477	0
S	1738	480	0	274	197	45	1660	477	0
S	1738	481	2	274	197	45	1660	477	0
S	1738	482	0	274	197	45	1660	477	0
S	1738	483	0	274	197	45	1660	477	0
S	1738	485	1	0	0	0	0	63	0
S	1738	492	1	0	0	0	0	162	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	1738	496	0	7097	432	2468	2468	1234	0
S	1738	497	0	7097	432	2468	2468	1234	0
S	1738	509	1	0	0	0	0	90	0
S	1738	510	0	0	0	0		255	0
S	1738	511	0	0	0	0	0	73	0
S	1738	512	0	0	0	0	0	73	0
S	1738	513	0	0	0	0	0	73	0
S	1738	514	0	2920	110	329	15917	2701	0
S	1738	515	1	0	0	0	0	37	0
S	8282	0	1						0
S	8282	7	1	0	0	0	0	0	0
S	8282	8	1	0	0	0	0	0	0
S	8282	9	4	0	0	0	0	88	0
S	8282	10	2	0	0	0	0	567	1
S	8282	11	1	0	0	0	0	88	0
S	8282	12	1	0	0	0	0	584	1
S	8282	17	4	0	0	0	0	17934	1
S	8282	18	1						0
S	8282	19	2	0	0	0	0	1466	1
S	8282	23	3	0	0	0	0	376	0
S	8282	24	3	0	0	0	0	37	0
S	8282	25	3	0	0	0	0	37	0
S	8282	28	1	0	0	0	0	73	1
S	8282	30	6	0	0	0	0	153	0
S	8282	31	3	0	0	0	0	29	0
S	8282	33	3	0	0	0	0	22	0
S	8282	42	3	0	0	0	0	37	0
S	8282	43	1	0	0	0	0	37	0
S	8282	44	1	0	0	0	0	29	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	8282	47	5	0	0	0	0	637	0
S	8282	50	1	0	0	0	0		0
S	8282	53	1						0
S	8282	54	3	0	0	0	0	88	0
S	8282	55	4	0	0	0	0	47	0
S	8282	57	3	0	0	0	0	18	0
S	8282	58	3	0	0	0	0	33	0
S	8282	60	3	0	0	0	0	22	0
S	8282	61	1	2253	172	228	54750	3911	0
S	8282	62	1	1825	110	183	44311	3139	0
S	8282	63	1	2628	183	256	64021	4526	0
S	8282	66	2	0	0	0	0	125	0
S	8282	68	1						0
S	8282	69	1	1971	146	183	48253	3395	0
S	8282	70	1	1971	146	183	48253	3395	0
S	8282	71	1	1971	146	183	48253	3395	0
S	8282	72	1	1825	123	164	44321	3139	0
S	8282	73	2	0	0	0	0	125	0
S	8282	74	2	0	0	0	0	125	0
S	8282	75	2	0	0	0	0	73	0
S	8282	76	1	0	0	0	0	37	0
S	8282	77	2	0	0	0	0	60	0
S	8282	78	2	0	0	0	0	37	0
S	8282	79	2	0	0	0	0	4	0
S	8282	80	2	0	0	0	0	219	0
S	8282	81	2	0	0	0	0	146	0
S	8282	83	2	0	0	0	0	219	0
S	8282	84	2	0	0	0	0	146	0
S	8282	85	2	0	0	0	0	219	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	8282	86	2	0	0	0	0	95	0
S	8282	87	3	0	0	0	0	146	0
S	8282	88	3	0	0	0	0	146	0
S	8282	89	2	0	0	0	0	37	0
S	8282	100	2	0	0	0	0	147	0
S	8282	101	2	0	0	0	0	0	0
S	8282	102	2	0	0	0	0	73	0
S	8282	103	2	0	0	0	0	0	0
S	8282	104	2	0	0	0	0	0	0
S	8282	105	2	0	0	0	0	0	0
S	8282	106	2	0	0	0	0	0	0
S	8282	107	2	0	0	0	0	73	0
S	8282	108	2	0	0	0	0	37	0
S	8282	109	2	0	0	0	0	168	0
S	8282	113	9	0	0	0	0	161	2
S	8282	114	2	0	0	0	0	44	0
S	8282	115	2	0	0	0	0	44	0
S	8282	116	2	0	0	0	0	44	0
S	8282	117	2	0	0	0	0	44	0
S	8282	118	2	0	0	0	0	44	0
S	8282	122	8	0	0	0	0	161	0
S	8282	124	2	569	43	132	727	104	0
S	8282	125	2	569	43	132	727	104	0
S	8282	126	1	0	0	0	0	1521	1
S	8282	135	1	8059	491	2083	2803	1439	0
S	8282	136	1	8059	491	2083	2083	1439	0
S	8282	137	2	0	0	0	0	54	0
S	8282	138	2	0	0	0	0	31	0
S	8282	139	2	0	0	0	0	45	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	8282	140	2	0	0	0	0	37	0
S	8282	141	2	8059	491	2803	2803	1402	0
S	8282	142	2	8059	491	2803	2803	1402	0
S	8282	143	0	8059	491	2803	2803	1402	0
S	8282	144	0	8059	491	2803	2803	1402	0
S	8282	157	2	0	0	0	0	73	0
S	8282	158	2	0	0	0	0	73	0
S	8282	159	2	0	0	0	0	73	0
S	8282	160	2	0	0	0	0	73	0
S	8282	161	2	0	0	0	0	73	0
S	8282	165	2	0	0	0	0	110	0
S	8282	166	1	0	0	0	0	0	0
S	8282	167	1	0	0	0	0	0	0
S	8282	168	1	0	0	0	0	0	0
S	8282	169	1	0	0	0	0	0	0
S	8282	170	1	0	0	0	0	0	0
S	8282	171	1	0	0	0	0	0	0
S	8282	172	1	0	0	0	0	0	0
S	8282	173	1	0	0	0	0	0	0
S	8282	174	1	0	0	0	0	0	0
S	8282	175	1	0	0	0	0	0	0
S	8282	176	1	0	0	0	0	0	0
S	8282	177	1	0	0	0	0	0	0
S	8282	178	1	0	0	0	0	73	0
S	8282	179	1	0	0	0	0	37	0
S	8282	180	1	0	0	0	0	37	0
S	8282	181	1	0	0	0	0	98	0
S	8282	182	1	0	0	0	0	98	0
S	8282	183	1	0	0	0	0	125	0

Notes:

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

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

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

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

Region	Facility	Unit	Mod	NOx	SOx	PM10	CO	VOC	Number of Outstanding ATCs
S	8282	184	1	0	0	0	0	125	0
S	8282	185	1	0	0	0	0	125	0
S	8282	186	1	0	0	0	0	125	0
S	8282	187	1	0	0	0	0	125	0
S	8282	188	1	0	0	0	0	12	0
S	8282	189	1	0	0	0	0	0	0
S	8282	190	0	1599	248	1706	10874	2772	0
S	8282	191	0	1599	248	1706	10874	2772	0
S	8454	0	2						0
S	8454	1	2	0	0	0	0	7191	0
S	8454	2	2	0	0	0	0	3686	0
S	8454	3	2						0
S	8454	4	2						0
S	8454	5	2						0
S	8454	6	2	5950	40990	657	32412	292	0
S	8454	12	2	0	0	0	0	1342	0
S	8454	13	2	0	0	0	0	1342	0
	SSPE (lbs)			547244	70265	80552	5474200	1124556	

Notes:

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

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

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

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

APPENDIX F:
Quarterly Net Emissions Change

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

Using the values in Sections VII.C.2 and VII.C.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

For all pollutants:
$PE2_{quarterly} = PE2_{annual} \div 4$ quarters/year
$PE1_{quarterly} = PE1_{annual} \div 4$ quarters/year

S-8282-203-0:

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NO_X	374.13	0	374.13
SO_X	54.75	0	54.75
PM_{10}	109.50	0	109.50
CO	2,564.13	0	2,564.13
VOC	657.00	0	657.00

S-8282-204-0:

Quarterly NEC [QNEC]			
Pollutant	**PE2 (lb/qtr)**	**PE1 (lb/qtr)**	**QNEC (lb/qtr)**
NO_X	567.8	0	567.8
SO_X	76.3	0	76.3
PM_{10}	162.3	0	162.3
CO	3,852.8	0	3,852.8
VOC	981.5	0	981.5

APPENDIX G:
Compliance Certification

San Joaquin Valley Air Pollution Control District

HEALTHY AIR LIVING

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

☐ ADMINISTRATIVE AMENDMENT ☐ MINOR MODIFICATION ☒ SIGNIFICANT MODIFICATION

COMPANY NAME: California Resources Production Corporation	FACILITY ID: S-8282
1. Type of Organization: ☒ Corporation ☐ Sole Ownership ☐ Government ☐ Partnership ☐ Utility	
2. Owner's Name: California Resources Productions Corporation	
3. Agent to the Owner:	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **applicable** circles for confirmation):

(JM) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

(N) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

(A) Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

(N) Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true, accurate, and complete.

(N) For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Signature of Responsible Official

3/12/18
Date

Jim Robinson
Name of Responsible Official (please print)

VP, HSE
Title of Responsible Official (please print)

APPENDIX H
Fugitive Emissions Calculation

California Resources Production Corp.

S-8282 , S-1181300

Fugitive Emissions Using Screening Emission Factors

California Implementation Guidelines for Estimating Mass Emissions
of Fugitive Hydrocarbon Leaks at Petroleum Facilities
Table IV-2c. Oil and Gas Production
Screening Value Ranges Emission Factors

Percentage of components with ≥ 10,000 ppmv leaks allowed?	0 %
Weight percentage of VOC in the total organic compounds in gas (neglect non-organics)?	100 %
Weight percentage of VOC in the total organic compounds in oil (neglect non-organics)?	100 %

Equipment Type	Service	Component Count	Total allowable leaking components	Screening Value EF - TOC < 10,000 ppmv (lb/day/source)	Screening Value EF - TOC ≥ 10,000 ppmv (lb/day/source)	VOC emissions (lb/day)
Valves	Gas/Light Liquid	57	0	1.852E-03	7.333E+00	0.11
	Light Crude Oil	0	0	1.005E-03	3.741E+00	0.00
	Heavy Crude Oil	0	0	7.408E-04	N/A*	0.00
Pump Seals	Gas/Light Liquid	0	0	5.270E-02	4.709E+00	0.00
	Light Crude Oil	0	0	1.402E-02	4.709E+00	0.00
	Heavy Crude Oil	0	0	N/A	N/A	N/A
Others	Gas/Light Liquid	3	0	7.778E-03	7.281E+00	0.02
	Light Crude Oil	0	0	6.931E-03	3.757E-01	0.00
	Heavy Crude Oil	0	0	3.016E-03	N/A*	0.00
Connectors	Gas/Light Liquid	425	0	6.349E-04	1.370E+00	0.27
	Light Crude Oil	0	0	5.291E-04	1.238E+00	0.00
	Heavy Crude Oil	0	0	4.233E-04	4.233E-04	0.00
Flanges	Gas/Light Liquid	220	0	1.482E-03	3.228E+00	0.33
	Light Crude Oil	0	0	1.270E-03	1.376E+01	0.00
	Heavy Crude Oil	0	0	1.217E-03	N/A*	0.00
Open-ended Lines	Gas/Light Liquid	0	0	1.270E-03	2.905E+00	0.00
	Light Crude Oil	0	0	9.524E-04	1.175E+00	0.00
	Heavy Crude Oil	0	0	7.937E-04	3.762E+00	0.00

* Emission factor not available. All components from equipment type and service will be assessed as < 10,000 ppmv

Total VOC Emissions = 0.7 lb/day