

OCT 31 2017

Zachary Dransoff
California Resources Production Corp.
11109 River Run Blvd
Bakersfield, CA 93311

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: C-273
Project Number: C-1172045

Dear Mr. Dransoff:

Enclosed for your review and comment is the District's analysis of your application for Authorities to Construct (ATCs) permits for the installation of fifteen (15) 2.28 MMBtu/hr- each natural gas/field gas-fired micro turbines (ATCs C-273-32-0 thru '46-0) each powering a 200 kW electrical generator operated at various unspecified locations within the same stationary source (C-273) and installation of a gas processing plant (ATC C-273-47-0) including amine sweetening and glycol dehydration operations at your natural gas production facility 'Kettleman North Dome Unit' located in Kings County, CA.

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 period, the District intends to issue the ATCs. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Sajjad Ahmad of Permit Services at (559) 230-5903.

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:sa

Enclosures

cc: Tung Le, CARB (w/ enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Natural Gas-Fired Micro Turbines and Gas Processing Plant

Facility Name: California Resources Production Corp. Date: October 18, 2017
Mailing Address: 11109 River Run Blvd Engineer: Sajjad Ahmad
 Bakersfield, CA 93311 Lead Engineer: Joven Refuerzo
Contact Person: Zachary Dransoff (HSE Advisor)
Telephone: (661) 529-4368
E-Mail: Zachary.Dransoff@crc.com
Application #s: C-273-32-0 thru '-47-0
Project #: C-1172045
Deemed Complete: July 18, 2017

I. Proposal

California Resources Production Corp. (herein after called 'the facility') has requested Authorities to Construct (ATCs) permits to install new equipment at their gas processing plant as summarized below (see Appendix A for draft ATCs):

- ATCs C-273-32-0 thru '-46-0: Install fifteen (15) natural gas and field gas¹ fired Capstone Model C200 micro turbines each with a maximum heat input of 2.28 MMBtu/hr and powering a 200 kW electrical generator. The micro turbines will be installed in "multi-pack" configuration with five turbines in one pack, so a total of three packs containing fifteen micro turbines will be installed. Each turbine in a pack can be operated in parallel or independent of others. The compact and relatively lightweight multi-pack configuration makes these turbines portable. The turbines will be installed and operated at the facility's '11P' compressor station (see Appendix B for location map); however, the facility has requested to be allowed to operate them at various unspecified locations within the same Stationary Source (C-273).
- ATC C-273-47-0: Install a new gas processing plant consisting of amine sweetening and glycol dehydration systems to remove CO₂, sulfur, and water from the produced gas prior to sale. All equipment under this permit unit is stationary. Amine and glycol reboilers are equipped with electric heaters (see gas plant equipment list in Appendix C).

The micro turbines will be used to generate electricity to power facility operations using the waste gas that would otherwise be flared or vented into the atmosphere.

¹ The facility has proposed to use the produced gas and/or PUC quality natural gas as fuel.

Permit Requirements of Micro Turbines:

Pursuant to District Rule 2020 section 6.1.3, gas turbine engines with a maximum heat input rating of 3 MMBtu/hr or less are exempt from District permits. However, California Code of Regulations (CCR) Title 17 sections 94200 – 94214 require that units used in distributed generation either be certified by California Air Resources Board (CARB) or be subject to the District's permit requirements regardless of their rating (§94201).

Executive order DG-035² (see Appendix D) was issued for these micro turbines on September 21, 2011 and expired on September 4, 2016 and has not been renewed. Therefore, these micro turbines are currently not certified by CARB and will be subject to District permits. In addition, the executive order was issued for these micro turbines with certified emissions while firing on "natural gas", which CCR Title 17 § 94202(u) defines as: California Public Utility Commission quality natural gas. Since the facility is proposing to fire these micro turbines on non PUC quality natural gas, in addition to PUC gas, the executive order would no longer be valid. Therefore, the micro turbines will be subject to District permits.

Title V Permit Requirements:

As determined in Section VII.C.5 of this document, the post-project potential emissions for NO_x and VOC will exceed major source thresholds of District Rule 2201. Therefore, pursuant to District Rule 2520, the facility will have up to 12 months after commencing operation to either submit a Title V Application or comply with District Rule 2530 *Federally Enforceable Potential to Emit*. Therefore, the following condition will be listed on ATCs to ensure compliance:

- {modified 3487} This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (2/18/16 ³)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 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 4301	Fuel Burning Equipment (12/17/92)
Rule 4408	Glycol Dehydration Systems (12/19/02)

² See copy of the expired Executive Order DG-035 at CARB's website at link:
<https://www.arb.ca.gov/energy/dg/eo/eo-expired.htm>

³ District Rule was last amended on 2/18/16; however, this version of the rule is not SIP approved yet. Therefore, the reference of the current SIP approved version of the rule (amended on 4/21/11) will be included on conditions requiring offsets.

Rule 4409 Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities (4/20/05)
Rule 4703 Stationary Gas Turbines (9/20/07)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The facility's 'Kettleman North Dome Oil Field' is located in Kings County, within Section 11P, Township 22S, Range 17E. The micro turbines (ATCs C-273-33-0 thru '-46-0) will be initially operated at the facility's '11P' compressor station (see Appendix B for facility location); however, the facility has requested the ability to operate the micro turbines at various unspecified locations within the same stationary source (C-273). In addition, the gas processing plant (ATC C-273-47-0) will be stationary. The District has verified that the entire stationary source is not located within 1,000 feet of the outer boundaries 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

Micro Turbines (C-273-32-0 thru '-46-0):

The micro turbines will be used to generate electricity to power facility operations using the waste gas that would otherwise be flared or vented into the atmosphere. In addition to produced gas, the facility has requested to use PUC quality natural gas as fuel. The micro turbines will be installed in "multi-pack" configuration with five turbines in one pack, so a total of three packs will be installed. Each turbine in a pack can be operated in parallel or independent of others.

The facility operates various equipment throughout the stationary source in remote areas where it is not feasible to connect to the power grid. The compact and relatively lightweight multi-pack configuration makes these turbines portable and will be allowed to be operated at various unspecified locations within the same Stationary Source (C-273). Initially, these turbines will be operated at facility's '11P' compressor station, but could be moved around as needed.

Gas Processing Plant (C-273-47-0):

The gas processing plant will receive natural gas produced from oil and gas field operations. The plant will receive up to 5 MMscf of natural gas per day. The facility will utilize an amine sweetening process to remove CO₂ and sulfur from the produced gas. Treated gas from the amine system will then enter the electrically heated glycol dehydration system for the removal of water (dehydration). Residue gas, amine unit exhaust gas, and glycol reboiler exhaust gas will all be routed to the fifteen micro turbines proposed with this project for combustion.

See process flow diagram and equipment listing in Appendix C.

Amine Sweetening System:

Amine sweetening system will be used to hydrogen sulfide (H₂S) and carbon dioxide (CO₂) from gases. The amine gas treating process will include an absorber unit and a regenerator unit as well as accessory equipment. In the absorber, the down flowing amine solution will absorb H₂S and CO₂ from the up flowing sour gas to produce a sweetened gas stream as a product and an amine solution rich in the absorbed acid gases. The resultant "rich" amine solution will then be routed into the regenerator (a stripper with a reboiler with electric heater) to produce regenerated or "lean" amine that will be recycled for reuse in the absorber.

Glycol Dehydration System:

The glycol dehydration system will remove water from the gas production stream. The system will consist of a glycol absorber, separator, glycol heat exchanger, reboiler equipped with an electric heater, glycol surge tank, and associated pumps and filters.

The glycol dehydration system will utilize ethylene glycol to remove water from the produced gas stream. The glycol will enter at the top of the absorber and will absorb water as it flows down the column. The dry gas will exit at the top and will be sent to the sales pipeline while the water-rich glycol will exit at the bottom. The water-rich glycol will be pumped through a heat exchanger and glycol flash tank to the electrically heated glycol reboiler where water will be removed by application of heat. The vapors venting from the glycol reboiler will be sent to a liquid knock-out system to remove liquids which will be sent to a closed drain system that will be connected to oil/gas separator and vapor-controlled tanks.

V. Equipment Listing

- C-273-32-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #1)
- C-273-33-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #2)
- C-273-34-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #3)

- C-273-35-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #4)
- C-273-36-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #5)
- C-273-37-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #6)
- C-273-38-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #7)
- C-273-39-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #8)
- C-273-40-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #9)
- C-273-41-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #10)
- C-273-42-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #11)
- C-273-43-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #12)

- C-273-44-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #13)
- C-273-45-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #14)
- C-273-46-0: 2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #15)
- C-273-47-0: GAS PROCESSING PLANT CONSISTING OF AMINE SWEETENING AND GLYCOL DEHYDRATION OPERATIONS WITH ELECTRICALLY HEATED GLYCOL AND AMINE REBOILERS, HEAT EXCHANGERS, GLYCOL AND AMINE PUMPS, LIQUID KNOCKOUT SYSTEMS, AND ASSOCIATED EQUIPMENT

VI. Emission Control Technology Evaluation

Micro Turbines (C-273-32-0 thru '-46-0):

Emissions from gas-fired micro turbines include NO_x, SO_x, PM₁₀, CO, and VOC.

NO_x is the major pollutant of concern when burning natural gas. NO_x formation is either due to thermal fixation of atmospheric nitrogen in the combustion air (thermal NO_x) or due to conversion of chemically bound nitrogen in the fuel (fuel NO_x). Due to the low fuel nitrogen content of natural gas, nearly all NO_x emissions are thermal NO_x.

These micro turbines will use lean pre-mix combustion system and are expected to generate NO_x at 9 ppmvd @ 15% O₂. This meets BACT Guideline 3.4.9 and District Rule 4703 Tier 3 NO_x emissions limit for units less than 3 MW fired on gaseous fuel, though these turbines are exempt from this rule as discussed in the Rule 4703 compliance section.

Lean-burn technology increases the volume of air in the combustion process and therefore increases the heat capacity of the mixture. This technology also incorporates improved swirl patterns to promote thorough air/fuel mixing. This in turn lowers the combustion temperature and reduces NO_x formation.

Gas Processing Plant (C-273-47-0):

The gas processing plant will result in fugitive VOC emissions only. Fugitive VOC emissions will be minimized by implementation of leak detection and repair requirements of District Rule 4409. Amine and glycol reboilers are equipped with electric heaters (see Gas Plant Equipment List in Appendix C); therefore, no on-site emissions are expected.

VII. General Calculations

A. Assumptions

To streamline emission calculations, PM_{2.5} emissions are assumed to be equal to PM₁₀ emissions. Only if needed to determine if a project is a Federal major modification for PM_{2.5} will specific PM_{2.5} emission calculations be performed.

All ATCs:

- Operating schedule is 24 hours per day and 365 days per year (worst case)

Micro Turbines (C-273-32-0 thru '-46-0):

- Maximum heat input of each micro turbine is 2.28 MMBtu/hr and each micro turbines powers a 200 kW electric generator (per manufacturer)
- Natural gas F-factor is 8,578 dscf/MMBtu (corrected to 60°F based on F-factor of 8,710 dscf/MMBtu @ 68°F per EPA 40 CFR 60 Appendix B, Method 19)
- Higher heating value of natural gas is 1,000 Btu/scf (District Practice)
- Molar Specific Volume of a gas @ 60 °F is 379.5 ft³/lb-mol
- Molecular weight for NO_x: 46 lb/lb-mole (as NO₂)
- Molecular weight for CO: 28 lb/lb-mole
- Molecular weight for VOC: 16 lb/lb-mole (as CH₄)
- Molecular weight for S: 64 lb/lb-mole (as SO₂)
- Sulfur content of natural gas: 10.0 grain-S/100 scf (per applicant)

Gas Processing Plant (C-273-47-0):

- The gas processing plant involves with VOC emissions only
- VOC emissions from the gas processing plant are considered fugitive
- The VOC content of fugitive emissions is 100% by weight (worst case)
- Fugitive emissions from the components of the gas processing plant are calculated using "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."

B. Emission Factors

Micro Turbines (C-273-32-0 thru '-46-0):

Emission Factors			
Pollutants	Proposed	lb/MMBtu	Source
NO _x	9 ppmvd @ 15% O ₂	0.033 ⁽¹⁾	Proposed by the applicant (Also BACT limit)
SO _x	10 grain-S/100 dscf	0.0285 ⁽²⁾	Mass Balance below
PM ₁₀	7.6 lb/10 ⁶ scf	0.0076 ⁽³⁾	AP-42 (7/98) Table 1.4-2 (see Appendix E)
CO	40 ppmvd @ 15% O ₂	0.09 ⁽¹⁾	Proposed by the applicant
VOC	7 ppmvd @ 15% O ₂	0.009 ⁽¹⁾	Proposed by the applicant

(1) Emission factors converted from ppmvd to lb/MMBtu using the following equations:

$$\frac{9 \text{ parts} \cdot \text{NO}_x}{10^6 \text{ parts}} \left(\frac{8,578 \text{ dscf}}{\text{MMBtu}} \right) \frac{46 \text{ lb}}{\text{lb} \cdot \text{mol}} \left(\frac{20.9}{20.9 - 15} \right) \frac{1 \text{ lb} \cdot \text{mol}}{379.5 \text{ dscf}} = 0.033 \left(\frac{\text{lb} \cdot \text{NO}_x}{\text{MMBtu}} \right)$$

$$\frac{40 \text{ parts} \cdot \text{CO}}{10^6 \text{ parts}} \left(\frac{8,578 \text{ dscf}}{\text{MMBtu}} \right) \frac{28 \text{ lb}}{\text{lb} \cdot \text{mol}} \left(\frac{20.9}{20.9 - 15} \right) \frac{1 \text{ lb} \cdot \text{mol}}{379.5 \text{ dscf}} = 0.09 \left(\frac{\text{lb} \cdot \text{CO}}{\text{MMBtu}} \right)$$

$$\frac{7 \text{ parts} \cdot \text{VOC}}{10^6 \text{ parts}} \left(\frac{8,578 \text{ dscf}}{\text{MMBtu}} \right) \frac{16 \text{ lb}}{\text{lb} \cdot \text{mol}} \left(\frac{20.9}{20.9 - 15} \right) \frac{1 \text{ lb} \cdot \text{mol}}{379.5 \text{ dscf}} = 0.009 \left(\frac{\text{lb} \cdot \text{VOC}}{\text{MMBtu}} \right)$$

(2) SO_x emission factor is calculated as follows based on the proposed 10 grain of Sulfur/100 dscf:

$$\frac{10 \text{ gr} \cdot \text{S}}{100 \text{ dscf}} \left(\frac{\text{dscf}}{1,000 \text{ Btu}} \right) \frac{10^6 \text{ Btu}}{\text{MMBtu}} \left(\frac{1 \text{ lb}}{7,000 \text{ gr}} \right) \frac{64 \text{ lb} \cdot \text{SO}_2}{32 \text{ lb} \cdot \text{S}} = 0.0285 \frac{\text{lb} \cdot \text{SO}_2}{\text{MMBtu}}$$

(3) PM₁₀ emission factor converted to units of lb/MMBtu as follows:

$$\frac{7.6 \text{ lb} - \text{PM}_{10}}{10^6 \text{ dscf}} \left(\frac{\text{dscf}}{1,000 \text{ Btu}} \right) \frac{10^6 \text{ Btu}}{\text{MMBtu}} = 0.0076 \frac{\text{lb} \cdot \text{PM}_{10}}{\text{MMBtu}}$$

Gas Processing Plant (C-273-47-0):

Fugitive emissions from the components of the gas processing plant are calculated using "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" (see Appendix F for gas plant fugitive emission calculations).

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since these are new emissions units, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

Micro Turbines (C-273-32-0 thru -46-0):

The daily and annual PE2 for each turbine is calculated using the following equations and summarized in the tables below:

$$\text{Daily PE2} = \text{EF (lb/MMBtu)} \times 2.28 \text{ (MMBtu/hr)} \times 24 \text{ (hr/day)}$$

$$\begin{aligned} \text{Annual PE2} &= \text{EF (lb/MMBtu)} \times 2.28 \text{ (MMBtu/hr)} \times 24 \text{ (hr/day)} \times 365 \text{ (days/year)} \\ &= \text{EF (lb/MMBtu)} \times 2.28 \text{ (MMBtu/hr)} \times 8,760 \text{ (hr/year)} \end{aligned}$$

Daily PE2				
Pollutant	Emission Factor (lb/MMBtu)	Burner Rating (MMBtu/hr)	Operating Hours (hr/day)	Daily PE2 (lb/day)
NO _x	0.033	2.28	24	1.8
SO _x	0.0285	2.28	24	1.6
PM ₁₀	0.0076	2.28	24	0.4
CO	0.09	2.28	24	4.9
VOC	0.009	2.28	24	0.5

Annual PE2				
Pollutant	Emission Factor (lb/MMBtu)	Burner Rating (MMBtu/hr)	Operating Hours (hr/year)	Annual PE2 (lb/year)
NO _x	0.033	2.28	8,760	659
SO _x	0.0285	2.28	8,760	569
PM ₁₀	0.0076	2.28	8,760	152
CO	0.09	2.28	8,760	1,798
VOC	0.009	2.28	8,760	180

Total PE2 for all fifteen micro turbines:

PE2		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	27.0	9,885
SO _x	24.0	8,535
PM ₁₀	6.0	2,280
CO	73.5	26,970
VOC	7.5	2,700

Gas Processing Plant (C-273-47-0):

Based on the number of fugitive component counts provided by the applicant, the daily PE2 is calculated using the screening emissions factors spreadsheet (see Appendix F). The annual emissions is calculated in the spreadsheet based on a worst case operation of 365 day/year as follows:

Daily PE2 = 4.1 lb-VOC/day

Annual PE2 = 1,514 lb-VOC/year

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

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

SSPE1 is calculated in Appendix G and summarized in the table below:

SSPE1 (lb/year)					
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC
C-273-18-3	5,622	69	230	24,321	6,478
C-273-19-3	5,622	69	230	24,321	6,478
C-273-20-3	5,622	69	230	24,321	6,478
C-273-21-1	0	0	0	0	56,575*
C-273-22-1	0	0	0	0	11,315*
C-273-23-1	0	0	0	0	11,315*
C-273-24-1	669	1	35	612	35
SSPE1	17,535	208	725	73,575	98,674
SSPE1 for Major Source (excluding fugitive emissions*)	17,535	208	725	73,575	19,469

*Fugitive emissions only. Pursuant to Section 3.19 of Rule 2201, fugitive emissions shall be included in all calculations, except as provided for in Section 3.24 (Major Source calculations) and as allowed in the applicable 40 CFR Part 51.165.

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.

Based on the annual PE2 for units C-273-32-0 thru '-47-0 calculated in Section VII.C.2 of this documents, SSPE2 is summarized in the table below:

SSPE2 (lb/year)					
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC
C-273-18-3	5,622	69	230	24,321	6,478
C-273-19-3	5,622	69	230	24,321	6,478
C-273-20-3	5,622	69	230	24,321	6,478
C-273-21-1	0	0	0	0	56,575*
C-273-22-1	0	0	0	0	11,315*
C-273-23-1	0	0	0	0	11,315*
C-273-24-1	669	1	35	612	35
ATC C-273-32-0	659	569	152	1,798	180
ATC C-273-33-0	659	569	152	1,798	180
ATC C-273-34-0	659	569	152	1,798	180
ATC C-273-35-0	659	569	152	1,798	180
ATC C-273-36-0	659	569	152	1,798	180
ATC C-273-37-0	659	569	152	1,798	180
ATC C-273-38-0	659	569	152	1,798	180
ATC C-273-39-0	659	569	152	1,798	180
ATC C-273-40-0	659	569	152	1,798	180
ATC C-273-41-0	659	569	152	1,798	180
ATC C-273-42-0	659	569	152	1,798	180
ATC C-273-43-0	659	569	152	1,798	180
ATC C-273-44-0	659	569	152	1,798	180
ATC C-273-45-0	659	569	152	1,798	180
ATC C-273-46-0	659	569	152	1,798	180
ATC C-273-47-0	0	0	0	0	1,514*
SSPE2	27,420	8,743	3,005	100,545	102,888
SSPE2 for Major Source (excluding fugitive emissions)*	27,420	8,743	3,005	100,545	22,169

*Fugitive emissions only. Pursuant to Section 3.19 of Rule 2201, fugitive emissions shall be included in all calculations, except as provided for in Section 3.24 (Major Source calculations) and as allowed in the applicable 40 CFR Part 51.165.

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1	17,535	208	725	725	73,575	19,469
SSPE2	27,420	8,743	3,005	3,005	100,545	22,169
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	No	Yes

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

As seen in the table above, the facility is not an existing Major Source for any pollutant; however, it is becoming a Major Source for NO_x and VOC emissions as a result of this project.

Rule 2410 Major Source Determination:

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

PSD Major Source Determination (tons/year)						
	NO ₂	SO ₂	PM	PM ₁₀	CO	VOC
Estimated Facility PE before Project Increase (lb/year)	17,535	208	725	725	73,575	19,469*
Estimated Facility PE before Project Increase (ton/year)	8.8	0.1	0.4	0.4	36.8	9.7
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	N	N	N	N	N	N

*Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the fugitive emissions are not included in the Rule 2410 Major Source Determination.

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

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 these are new emissions units, BE = PE1 = 0 for all pollutants.

7. SB 288 Major Modification

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

This facility is not an existing Major Source for any pollutant; therefore, this project cannot trigger an SB-288 major modification and no further discussion is required under this section.

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.

This facility is not an existing Major Source for any pollutant; therefore, this project cannot trigger Federal Major Modification and no further discussion is required under this section.

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 Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

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)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO ₂	SO ₂	PM	PM ₁₀	CO	VOC
Total PE from New and Modified Units (lb/year)*	9,885	8,535	2,280	2,280	26,970	2,700**
Total PE from New and Modified Units (ton/year)***	4.9	4.3	1.1	1.1	13.5	1.4
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N	N

*As calculated in Section VII.C.2, total combined PE2 for 15 micro turbines (C-273-32-0 thru '-47-0).

**Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, the fugitive VOC emissions from gas processing plant (C-273-47-0) are not included.

***Calculated by dividing by 2,000 lb/ton.

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis 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 H.

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

Micro Turbines (C-273-32-0 thru '-46-0):

As seen in Section VII.C.2 above, the applicant is proposing to install 15 new micro turbines each with a PE2 greater than 2 lb/day for CO emissions only. However BACT is not triggered for CO emissions since SSPE2 for CO emissions is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above. Therefore, BACT is not triggered for any pollutants for any micro turbines.

Gas Processing Plant (C-273-47-0):

As seen in Section VII.C.2 above, the applicant is proposing to install a new gas processing plant with a PE2 greater than 2 lb/day for VOC emissions. Therefore, BACT is triggered for VOC emissions for this emissions unit.

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 or Federal Major Modification for any pollutant. Therefore BACT is not triggered for any pollutant.

2. BACT Guideline

Gas Processing Plant (C-273-47-0):

BACT Guideline 7.2.7, applies to valves, connectors, compressor seals, and pump seals at natural gas processing plants (Appendix I).

3. Top-Down BACT Analysis

Gas Processing Plant (C-273-47-0):

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 I), BACT has been satisfied with the following:

VOC: Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for Valves and Connectors) and 500 ppmv (for Compressor and Pump Seals) when measured per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- Any leak of dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for valves and connectors) and 500 ppmv (for compressor and pump seals) when measured with a portable hydrocarbon detection instrument calibrated with methane in accordance with EPA Method 21, shall be repaired in a manner consistent with the procedures specified in Rule 4409. This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the Operator Management Plan required by Rule 4409. [District Rules 2201, 4102, and 4409]

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	27,420	8,743	3005	100,545	102,888
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	No	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_x and VOC emissions; therefore offset calculations will be required for this project. As calculated in Section VII.C.3 of this document, SSPE1 for NO_x emissions is less than offset threshold of 20,000 lb-NO_x/year, whereas SSPE1 for VOC emissions is greater than offset threshold of 20,000 lb-VOC/year. Therefore, quantities of NO_x and VOC offset required will be calculated as allowed by District Rule 2201 as follows:

NO_x:

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

$$\text{Offsets Required (lb/year)} = [(\text{SSPE2} - \text{ROT} + \text{ICCE}) \times \text{DOR}]$$

Where,

SSPE2 = Post Project Stationary Source Potential to Emit

ROT = Respective Offset Threshold, for the respective pollutant

ICCE = Increase in Cargo Carrier Emissions

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

Emergency equipment that is used exclusively as emergency standby equipment for electrical power generation or any other emergency equipment as approved by the APCO that does not operate more than 200 hours per year of non-emergency purposes and is not used pursuant to voluntary arrangements with a power supplier to curtail power, is exempt from providing emission offsets. There is no current permit listed as emergency

equipment at this facility. In addition, there are no increase in cargo carrier emissions; therefore, offsets can be calculated as follows:

$$\text{Offsets Required (lb/year)} = [(\text{SSPE2} - \text{Emergency Equipment} - \text{ROT} + \text{ICCE}) \times \text{DOR}]$$

$$\begin{aligned}\text{SSPE2} &= 27,420 \text{ lb-NOx/year} \\ \text{Emergency Equipment} &= 0 \text{ lb-NOx/year} \\ \text{Offset threshold)} &= 20,000 \text{ lb-NOx/year} \\ \text{ICCE} &= 0 \text{ lb-NOx/year}\end{aligned}$$

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

$$\begin{aligned}\text{Offsets Required (lb/year)} &= [(27,420 - 0 - 20,000 + 0) \times 1.5] \\ &= 7,420 \times 1.5 \\ &= 11,130 \text{ lb-NOx/year}\end{aligned}$$

This is the amount of overall NOx offset required for the project. However, the facility has requested that the amount of offsets required for this project to be split evenly among the fifteen new micro turbines. Since all of the new micro turbines are the same nominal rating and have the same emission rates, the amount of offsets required for each micro turbine can be determined as follows:

$$\begin{aligned}\text{Offsets Required per Micro Turbine} &= \text{Total Offsets for Project} / 15 \text{ Micro Turbines} \\ &= 11,130 \text{ lb-NOx/year} \div 15 \\ &= 742 \text{ lb-NOx/year}\end{aligned}$$

Calculating the appropriate quarterly emissions to be offset for each micro turbine is as follows:

$$\begin{aligned}\text{Quarterly Offsets Required (lb/qtr)} &= \text{Offsets Required per Micro Turbine (lb NOx/year)} \\ &\quad \div (4 \text{ quarters/year}) \\ &= (742 \text{ lb NOx/year}) \div (4 \text{ quarters/year}) \\ &= 185.5 \text{ lb-NOx/qtr}\end{aligned}$$

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

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

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

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

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
185	185	186	186	742

The applicant has stated that the facility plans to use ERC certificate S-4142-2 to offset the increases in NOx emissions associated with this project. The above certificate has available quarterly NOx credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #S-4142-2	17,881	18,426	18,973	18,974

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

Proposed Rule 2201 (offset) Conditions:

The following conditions will be listed on ATCs C-273-32-0 thru '-46-0 for micro turbines to ensure compliance:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11⁴) for the ERC specified below. [District Rule 2201]
- ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

⁴ District Rule was last amended on 2/18/16; however, this version of the rule is not SIP approved yet. Therefore, the reference of the current SIP approved version of the rule will be included that was last amended on 4/21/11.

VOC:

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

The facility is proposing to install new emissions units with this project; therefore, BE = 0 for all emissions units. Pursuant to District Policy APR 1130, *Increases in Maximum Daily Permitted Emissions of Less than 0.5 lb/day (4/28/2009)*, increase in emissions of 0.5 lb/day or less per permit unit are rounded to zero for New Source Review purposes. As calculated in Section VII.C.2 above, each of the 15 micro turbines permit units has a daily VOC emission of 0.5 lb/day; therefore, VOC emissions are rounded to zero and the increase in VOC emissions from micro turbines will not be quantified for offset determination. Therefore, VOC emissions from the gas processing plant will be included and the amount of VOC ERCs that needs to be withdrawn is calculated below:

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

PE2 (VOC) = 1,514 lb/year

BE (VOC) = 0 lb/year

ICCE = 0 lb/year

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

Offsets Required (lb/year) = $([PE2 - BE] + ICCE) \times DOR$
= $([PE2 - 0] + 0) \times 1.5$
= $(1,514 \text{ lb-VOC/year}) \times 1.5$
= 2,271 lb-VOC/year

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

$$\begin{aligned}\text{Quarterly offsets required (lb/qtr)} &= (2,271 \text{ lb-VOC/year}) \div (4 \text{ quarters/year}) \\ &= 567.75 \text{ lb-VOC/qtr}\end{aligned}$$

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

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

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

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

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
567	568	568	568	2,271

The applicant has stated that the facility plans to use ERC certificate S-4908-1 to offset the increases in VOC emissions associated with this project. The above certificate has available quarterly VOC credits as follows:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
ERC #S-4908-1	1,049	1,084	1,118	1,118

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

Proposed Rule 2201 (offset) Conditions:

The following conditions will be listed on ATC C-273-47-0 for gas processing plant to ensure compliance:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 567 lb, 2nd quarter - 568 lb, 3rd quarter - 568 lb, and fourth quarter - 568 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11⁵) for the ERC specified below. [District Rule 2201]
- ERC Certificate Number S-4908-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

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 does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. 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.

⁵ District Rule was last amended on 2/18/16; however, this version of the rule is not SIP approved yet. Therefore, the reference of the current SIP approved version of the rule will be included that was last amended on 4/21/11.

c. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	17,535	27,420	20,000 lb/year	Yes
SO _x	208	8,743	54,750 lb/year	No
PM ₁₀	725	3,005	29,200 lb/year	No
CO	73,575	100,545	200,000 lb/year	No
VOC	98,674	102,888	20,000 lb/year	No

As detailed above, offset threshold is surpassed for NO_x emissions with this project; therefore public noticing is required for offset purposes.

d. SSPE > 20,000 lb/year

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

SSPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSPE (lb/year)	SSPE Public Notice Threshold	Public Notice Required?
NO _x	27,420	17,535	9,885	20,000 lb/year	No
SO _x	8,743	208	8,535	20,000 lb/year	No
PM ₁₀	3,005	725	2,280	20,000 lb/year	No
CO	100,545	73,575	26,970	20,000 lb/year	Yes
VOC	102,888	98,674	4,214	20,000 lb/year	No

As demonstrated above, the SSPE for CO emissions is greater than 20,000 lb/year; therefore public noticing for SSPE purposes is required.

e. Title V Significant Permit Modification

Since this facility does not have a Title V operating permit, this change is not a Title V significant Modification, and therefore public noticing is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for the following two reasons:

1. Offset threshold for NO_x emissions is surpassed and
2. SSIPE for CO emissions is greater than 20,000 lb/year.

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 ATCs 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:

Micro Turbines (C-273-32-0 thru '-46-0):

- Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
- The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]

Gas Processing Plant (C-273-47-0):

- VOC fugitive emissions from the components in gas service associated with this unit shall not exceed 4.1 lb/day. [District Rule 2201]
- Permittee shall maintain accurate component count for this operation 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]

E. Compliance Assurance

1. Source Testing

Micro Turbines (C-273-32-0 thru '-46-0):

Pursuant to District Policy APR 1705, *Source Testing Frequency (10/9/97)*, source testing for NO_x, SO_x, PM₁₀, CO, and VOC emissions is not required for emission units with uncontrolled emissions less than 30 pound per day for each of these pollutants. Although the manufacturer has guaranteed low NO_x emissions based on the design of the micro turbines, since there is no add-on control emissions can be considered uncontrolled for the purpose of this section. Therefore, as calculated in Section VII.C.2, since emissions are less than 30 pounds per day for each pollutant, initial and annual source testing will not be required. However, in lieu of source testing, initial and annual monitoring of NO_x, CO, and O₂ concentrations using a portable emission monitor will be required as discussed in monitoring section below.

Gas Processing Plant (C-273-47-0):

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

2. Monitoring

Micro Turbines (C-273-32-0 thru '-46-0):

As discussed under source testing above, since the margin of compliance for the micro turbines is low (manufacturer guarantee for NO_x is the same as what BACT Guideline 3.4.9 would require if these units were subject to BACT), initial and annual monitoring of NO_x, CO, and O₂ concentrations using a portable emission monitor will be required. Therefore, the following conditions will be listed on each ATC to ensure compliance:

- Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
- If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]

- All emission monitoring 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 2201]

Additionally, non-PUC fuel source will be tested to maintain compliance with the fuel sulfur limit:

- Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
- Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]

Gas Processing Plant (C-273-47-0):

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 conditions are listed on the ATCs to ensure compliance:

Micro Turbines (C-273-32-0 thru '-46-0):

- Permittee shall maintain the following records: 1) the date and time of O₂ and NO_x measurements; 2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
- Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]

- {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

Gas Processing Plant (C-273-47-0):

- Permittee shall maintain accurate component count for this operation 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]

This permit unit is also subject to recordkeeping requirements of District Rules 4408 and 4409, which will be discussed in Section VIII of this evaluation, under District Rules 4408 and 4409 discussions.

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 J of this document for the AAQA summary sheet.

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

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

Rule 2410 Prevention of Significant Deterioration

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

Rule 2520 Federally Mandated Operating Permits

As discussed above, this facility is becoming a major source for NO_x and VOC emissions as a result of this project. Pursuant to Rule 2520 and as required by permit condition, the facility will have up to 12 months after commencing operation to either submit a Title V Application or comply with District Rule 2530 *Federally Enforceable Potential to Emit*. Therefore, the following condition will be listed on ATCs to ensure compliance:

- {modified 3487} This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]

Rule 4001 New Source Performance Standards (NSPS)

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

Micro Turbines (C-273-32-0 thru -46-0):

40 CFR Part 60, Subpart GG applies to stationary gas turbines with a heat input at peak load equal to or greater than 10 MMBtu/hr (§ 60.330(a)). Each of these micro turbines has a maximum heat input of 2.28 MMBtu/hr; therefore, the requirements of Subpart GG are not applicable to these turbines.

40 CFR Part 60, Subpart KKKK applies to stationary gas turbines with a heat input at peak load equal to or greater than 10 MMBtu/hr (§ 60.4305(a)). Each of these micro turbines has a maximum heat input of 2.28 MMBtu/hr; therefore, the requirements of Subpart KKKK are not applicable to these turbines.

Gas Processing Plant (C-273-47-0):

40 CFR Part 60, Subpart OOOOa applies to fugitive emissions at gas processing plants constructed after September 18, 2015. The gas plant in this project is a new construction; therefore, the requirements of Subpart OOOOa are applicable to this permit unit.

§60.5365a states that this Subpart is applicable to the owners or operators of one or more of the onshore affected facilities listed in paragraphs (a) through (j) of this section for which construction, modification, or reconstruction commenced after September 18, 2015.

Paragraph (g) of section 60.5365a applies to sweetening units located at onshore natural gas processing plants that process natural gas produced from either onshore or offshore wells.

However, paragraph (g)(4) of section 60.5365a states that for facilities that have a design capacity less than 2 long tons per day (LT/D) of hydrogen sulfide (H₂S) in the acid gas (expressed as sulfur) are required to comply with recordkeeping and reporting requirements specified in §60.5423a(c) but are not required to comply with §§60.5405a through 60.5407a and §§60.5410a(g) and 60.5415a(g).

In order to see if the facility qualifies for this exemption, the sulfur content in the produced natural gas is calculated as follows:

Assumptions:

- Max production capacity = 5 MMscf/day of natural gas (per applicant)
- Max sulfur content = 10 grains/100 scf (per applicant)
- H₂S percentage of sulfur = 100% (worst case assumption)
- 1 Long Ton (LT) = 2,240 pounds

Calculations:

Sulfur content (as H₂S) is calculated as follows:

$$\text{Sulfur content} = \frac{10 \text{ gr} \cdot S}{100 \text{ scf}} \left(\frac{1 \text{ lb}}{7,000 \text{ gr}} \right) \frac{1 \text{ LT}}{2,240 \text{ lb}} \left(\frac{5,000,000 \text{ scf}}{\text{day}} \right) = 0.032 \frac{\text{LT } S}{\text{day}}$$

Conclusion:

As calculated above, since the facility has a sulfur design capacity of less than 2 long tons per day of hydrogen sulfide, the facility qualifies for the exemption listed in paragraph (g)(4) of section 60.5365a of this Subpart. Therefore, the only applicable requirements are the recordkeeping and reported requirements of §60.5423a(c) as discussed below:

§60.5423a(c) states that to certify that a facility is exempt from the control requirements of these standards, for each facility with a design capacity less than 2 LT/D of H₂S in the acid gas (expressed as sulfur) the operator must keep, for the life of the facility, an analysis demonstrating that the facility's design capacity is less than 2 LT/D of H₂S expressed as sulfur.

Therefore, the following condition will be listed on the ATC to ensure exemption from these requirements:

- Permittee shall keep records, for the life of the operation, of all analysis demonstrating that the facility's design capacity is less than 2 Long Tons per day (LT/D) of H₂S expressed as sulfur (Long Ton will be equal to 2,240 pounds). Such records must be updated annually for a continued exemption. [40 CFR Subpart OOOOa §60.5423a(c)]

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.

Micro Turbines (C-273-32-0 thru '-46-0):

40 CFR Part 63, Subpart HH applies to oil and natural gas production facilities that are major sources for HAP emissions. Since this facility is not a major source for HAP emissions, the requirements of Subpart HH do not apply.

40 CFR Part 63, Subpart YYYY applies to stationary gas turbines at major HAP sources with a rated peak power greater than 1.0 MW (§ 63.6090(b)(3)). Each of these micro turbines has a maximum peak power rating of 0.2 MW; therefore, the requirements of Subpart YYYY are not applicable to these turbines.

Gas Processing Plant (C-273-47-0):

No subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to this operation.

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 micro turbines will be fired solely on natural gas, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Similarly, visible emissions are not expected from the operation of the gas processing plant. Therefore, the following condition will be listed on all ATCs to ensure compliance:

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

Rule 4102 Nuisance

Rule 4102 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 and the following condition will be listed on all ATCs to ensure compliance:

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

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

RMR Summary						
Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required?	Special Permit Requirements?
Unit 32-0 thru 46-0 (Turbines)	0.13	0.00	0.00	3.81E-07	No	No
Unit 47 (Glycol Reboiler)	1.10	0.18	0.01	3.53E-06	Yes	No
Project Totals	1.23	0.18	0.01	3.92E-06		
Facility Totals	>1	0.18	0.01	5.09E-06		

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million.

Micro Turbines (C-273-32-0 thru '-46-0):

As demonstrated above, T-BACT is not required for the micro turbines under 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.

The following conditions will be included on each ATC to ensure compliance with the HRA parameters:

- This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]
- {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

Gas Processing Plant (C-273-47-0):

As demonstrated above, T-BACT is required for the gas processing plant under this project because the HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements.

For the gas processing plant T-BACT is triggered because of emissions of Benzene which is a VOC. T-BACT is satisfied with BACT for VOC emissions (see Appendix I) with the following requirements:

VOC: Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for Valves and Connectors) and 500 ppmv (for Compressor and Pump Seals) when measured per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409.

Therefore, the following condition will be listed on the ATC to ensure compliance with the District's Risk Management Policy:

- Any leak of dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for valves and connectors) and 500 ppmv (for compressor and pump seals) when measured with a portable hydrocarbon detection instrument calibrated with methane in accordance with EPA Method 21, shall be repaired in a manner consistent with the procedures specified in Rule 4409. This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the Operator Management Plan required by Rule 4409. [District Rules 2201, 4102, and 4409]

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 J of this report, the emissions increases for this project was determined to be less than significant.

Rule 4201 Particulate Matter Concentration

Micro Turbines (C-273-32-0 thru '-46-0):

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.

The emission factor of 0.0076 lb-PM₁₀/MMBtu is converted into units of grain/dscf as follows:

$$0.0076 \frac{\text{lb}}{10^6 \text{ Btu}} \times \frac{453.6 \text{ g}}{1 \text{ lb}} \times \frac{10^6 \text{ Btu}}{9,051 \text{ dscf}} \times \frac{0.35 \text{ Btu}_{\text{out}}}{1 \text{ Btu}_{\text{in}}} \times \frac{15.43 \text{ grain}}{\text{g}} = 0.002 \frac{\text{grain}}{\text{dscf}}$$

Since 0.002 grain/dscf is less than 0.1 grain/dscf, compliance with this rule is expected. Therefore, the following condition will be listed on each turbine ATC to ensure compliance:

- Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]

Rule 4301 Fuel Burning Equipment

Micro Turbines (C-273-32-0 thru -46-0):

Rule 4301 limits air contaminant emissions from fuel burning equipment as defined in the rule. Section 3.1 defines fuel burning equipment as “any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer”.

Gas turbines primarily produce power mechanically, i.e. the products of combustion pass directly across the turbine blades which causes the turbine shaft to rotate. The turbine shaft is coupled to an electrical generator shaft, which rotates and produces electricity. Because gas turbines primarily produce power by mechanical means, it does not meet the definition of fuel burning equipment (stated above). Therefore, Rule 4301 does not apply to the affected equipment and no further discussion is required.

Rule 4408 Glycol Dehydration System

Gas Processing Plant (C-273-47-0):

This rule applies to any glycol dehydration system with a glycol dehydration vent that is subject to the District's permitting requirements.

Per Section 5.1, no person shall operate a glycol dehydration system unless the VOC emissions from the glycol dehydration vents are controlled using one of the following:

- A system that directs all vapors to a vapor recovery system, a fuel gas system or a sales gas system, or
- A system in which VOC emissions are combusted by a flare, incinerator, reboiler, or thermal oxidizer. This system shall have all of the following features, as a minimum:
 - Operate continually in a smokeless mode,
 - Electronically controlled ignition system with a malfunction alarm system if the pilot flame fails,
 - Liquid knock-out system to condense any condensable vapors, and
 - Sight glass ports, if the flame is not visible.
- Any other emission control system that controls glycol dehydration vent VOC emissions by at least 95 percent, averaged over 1 hour, or that controls glycol dehydration vent VOC emissions to a level no higher than 1.7 pounds of VOC per million dry standard cubic feet of gas dehydrated, averaged over 24 hours.
 - The control efficiency shall be determined by comparing the measurements of VOC emissions from the uncontrolled glycol dehydration vent with measurements of VOC emissions from the emission control system. For both measurements, the glycol dehydration system shall operate under similar conditions for the following parameters: glycol flowrate, reboiler temperature, gas flowrate, and gas moisture removal efficiency.

- Systems subject to this requirement shall test, according to the methods listed in 6.2, 6.3.1, and 6.4, for compliance upon installation and not less than once every 24 months thereafter.

The facility is proposing to condense the VOC out of the air stream and return the condensed VOC to the oil production line. The following condition will be listed on the ATC to ensure compliance:

- Glycol dehydration vent VOC emissions shall be condensed and returned to the natural gas production line. [District Rule 4408]

Section 5.2 requires that any liquid stream from the glycol dehydration vent be stored and handled in a manner that will not cause or allow evaporation of VOCs to the atmosphere. The following condition will be added to the ATC to ensure compliance:

- Condensate handling shall be conducted in closed systems resulting in fugitive component emissions only and no evaporation of VOCs. [District Rule 4408]

Section 5.3 requires that all control systems be maintained in a leak-free condition. A leak-free condition shall be determined by utilizing the test method in Section 6.3.2 which is EPA Method 21. The following condition will be listed on the ATC to ensure compliance:

- All piping, valves, and other fittings shall be constructed and maintained in a leak-free condition. "Leak-free" shall be defined as emitting no more than 20,000 ppm of methane measured from the potential source with an instrument calibrated with methane in accordance with EPA Method 21. A reading in excess of 20,000 ppmv above background is a violation of this permit, unless it is repaired as otherwise provided in this permit. [District Rule 4408]

Section 6.1.1 requires the operator of any glycol dehydration system subject to this rule to maintain monthly records of the amount of gas dehydrated.

Section 6.1.2 requires the operator of any glycol dehydration system subject to this rule to retain the following information to assist with rule compliance:

- 1) Facility name, APCD permit number,
- 2) Location, size of glycol dehydrator reboiler, and type of glycol used,
- 3) Description of any installed VOC control systems,
- 4) Flow diagram of dehydrator and any VOC controls,
- 5) Maintenance records of the VOC control system,
- 6) Reports of source tests as required by Sections 5.1.3, and
- 7) All records necessary to document the inputs and outputs of GRI-GLYCalc™ software, if used.

The following condition will be listed on the ATC to ensure compliance with Sections 6.1.1 and 6.1.2:

- Permittee shall maintain monthly records of the amount of gas dehydrated, type of glycol used, description of any installed VOC control systems, flow diagram of dehydrator and any VOC controls, and maintenance records of the VOC control system. [District Rule 4408]

Section 6.1.4 requires all records shall be retained on the premises for a period of not less than five years and made available to any District representative upon request. The following condition will be listed on the ATC to ensure compliance with this section:

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 4408, and 4409]

Rule 4409 Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities and Natural Gas Processing Facilities

Gas Processing Plant (C-273-47-0):

The purpose of this rule is to limit VOC emissions from leaking components at light crude oil production facilities, natural gas production facilities, and natural gas processing facilities.

This rule shall apply to components containing or contacting VOC streams at light crude oil production facilities, natural gas production facilities, and natural gas processing facilities.

Section 3.20 specifies the following emissions levels as a leak:

Table 1 – Rule 4409 Gas Leak Standards			
Type of Component	Major Gas Leak (ppmv methane)	Minor Gas Leak	
		Components in Liquid Service (ppmv as methane)	Components in Gas/Vapor Service (ppmv as methane)
Valves	> 10,000	1,000 to 10,000	2,000 to 10,000
Threaded Connections	> 10,000	1,000 to 10,000	2,000 to 10,000
Flanges	> 10,000	1,000 to 10,000	2,000 to 10,000
Pipes	> 10,000	1,000 to 10,000	2,000 to 10,000
Pumps	> 10,000	1,000 to 10,000	2,000 to 10,000
Compressors	> 10,000	1,000 to 10,000	2,000 to 10,000
Pressure Relief Devices (PRDs)	> 10,000	200 to 10,000	400 to 10,000
Polished Rod Stuffing Boxes	> 10,000	1,000 to 10,000	1,000 to 10,000
Other Components not listed above	> 10,000	1,000 to 10,000	2,000 to 10,000

Section 5.1.1 requires that an operator shall not use any component that leaks in excess of the applicable leak standards of this rule, or that is found to be in violation of the provisions specified in Section 5.1.3. Components that have been found leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this rule.

Therefore, the following conditions will be listed on the ATC to ensure compliance:

- Permittee shall not use any components that leak in excess of the applicable leak standards as specified in this permit. Components that have been found leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this permit. [District Rule 4409]
- Any leak of dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for valves and connectors) and 500 ppmv (for compressor and pump seals) when measured with a portable hydrocarbon detection instrument calibrated with methane in accordance with EPA Method 21, shall be repaired in a manner consistent with the procedures specified in Rule 4409. This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the Operator Management Plan required by Rule 4409. [District Rules 2201, 4102, and 4409]
- For valves, threaded connections, flanges, pipes, pumps, compressors, and other components not specified in this permit; a major gas leak is a detection of > 10,000 ppmv as methane; a minor gas leak is a detection of 1,000 to 10,000 ppmv as methane when the component is in liquid service; a minor gas leak is a detection of 2,000 to 10,000 ppmv as methane when the component is in gas/vapor service. [District Rule 4409]
- For pressure relief devices; a major gas leak is a detection of > 10,000 ppmv as methane; a minor gas leak is a detection of 200 to 10,000 ppmv as methane when the component is in liquid service; a minor gas leak is a detection of 400 to 10,000 ppmv as methane when the component is in gas/vapor service. [District Rule 4409]

Section 5.1.2 requires that each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4409]

Section 5.1.3.2.1 specifies that except for annual operator inspections described in Section 5.1.3.2.3, any operator inspection that demonstrates one or more of the conditions in Section 5.1.4 exist at the facility shall not constitute a violation of this rule if the leaking components are repaired as soon as practicable but not later than the time frame specified in this rule. Such components shall not be counted towards determination of compliance with the provisions of Section 5.1.4.

Section 5.1.3.2.2 specifies that leaking components detected during operator inspection pursuant Section 5.1.3.2.1 that are not repaired, replaced, or removed from operation as soon as practicable but not later than the time frame specified in this rule shall be counted toward determination of compliance with the provisions of Section 5.1.4.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- Leaks detected during quarterly operator inspections shall not be counted towards determination of compliance with the provisions of Rule 4409 provided the leaking components are repaired as soon as practicable but not later than the time frame specified in this permit. Leaks detected during quarterly operator inspections that are not repaired, replaced, or removed from operation as soon as practicable but not later than the time frame specified in this rule shall be counted toward determination of compliance with the provisions of Rule 4409. [District Rule 4409]

Section 5.1.3.2.3 specifies that any operator inspection conducted annually for a component type (including operator annual inspections pursuant to Section 5.2.6, 5.2.7, 5.2.8, or 5.2.9) that demonstrates one or more of the conditions in Section 5.1.4 exist at the facility shall constitute a violation of this rule regardless of whether or not the leaking components are repaired, replaced, or removed from operation within the allowable repair time frame specified in this rule.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- Leaking components at this facility detected during annual operator inspections, as required by Rule 4409 for a specific component type, that exceed the leak standards specified in this permit, shall constitute a violation of this rule. This violation is regardless of whether or not the leaking components are repaired, replaced, or removed from operation within the allowable repair time frame specified in this permit. [District Rule 4409]

Section 5.1.4 specifies that for the purpose of this rule, a component shall be considered leaking if one or more of the conditions specified in Sections 5.1.4.1 through 5.1.4.4 exist at the facility.

Section 5.1.4.1 specifies that a component shall be considered leaking if an open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- An open-ended line, or a valve located at the end of the line, that is not sealed with either a blind flange, a plug, a cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended line is a leak. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. This type of leak is a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]

Section 5.1.4.2 specifies that a component shall be considered leaking with a major liquid leak (as defined in Section 3.20.1 as a visible mist or a continuous flow of liquid that is not seal lubricant).

Therefore, the following condition will be listed on the ATC to ensure compliance:

- A major liquid leak from the component is considered a leak for Rule 4409 purposes. A major liquid leak from a component is when a visible mist or a continuous flow of liquid, that is not seal lubricant, leaks from the component. This type of leak shall be a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]

Section 5.1.4.3 specifies that a component shall be considered to have a gas leak if emissions are greater than 50,000 ppmv as methane.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- Gas leaks greater than 50,000 ppmv, as methane are violations of this permit during annual operator inspection or District inspection. [District Rule 4409]

Section 5.1.4.4 specifies that a component shall be considered leaking if a component has a leak described in Sections 5.1.4.4.1 through 5.1.4.4.3 and numbering in excess of the maximum allowable number or percent specified in Table 2 as below:

Table 2 – Rule 4409 Maximum Number or Percent of Leaking Components Per Inspection Period		
Component	Maximum Number of Leaks for 200 or Fewer Components Inspected	Maximum Percent or Number of Leaks for more than 200 Components Inspected
Valves	1	0.5 % of number inspected
Threaded Connections	1	0.5 % of number inspected
Flanges	1	0.5 % of number inspected
Pumps	2	1.0 % of number inspected
Compressors	1	1 leak
PRDs	1	1 leak
Polished Rod Stuffing Boxes	4	2 % of number inspected
Other Components not listed above	1	1 leak
Pipes at Light Crude Oil or Gas Production Facilities	Maximum Number of Leaks for 200 or fewer production wells inspected	Maximum Number of Leaks for more than 200 production wells inspected
	2	1 % of number inspected
Pipes at Natural Gas Processing Facilities	Maximum Number of Leaks	
	2	

Therefore, the following conditions will be listed on the ATC to ensure compliance:

- A minor liquid leak exists when more than three drops of liquid per minute, that is not seal lubricant and is not a major liquid leak, leaks from the component. [District Rule 4409]
- When compressors, pressure relief devices, or other components not listed in this permit are inspected, a leak from these components is when more than one component has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409]
- When 200 or fewer pumps are inspected, a leak from a pump is when more than two pumps have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 pumps are inspected, a leak from a pump is when more than 1.0 % (rounded up to the nearest whole number) of the pumps have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. This type of leak shall be a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]

- When 200 or fewer flanges are inspected, a leak from a flange is when more than one flange has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 flanges are inspected, a leak from a flange is when more than 0.5 % (rounded up to the nearest whole number) of the flanges have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. This type of leak shall be a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]
- When 200 or fewer threaded connections are inspected, a leak from a threaded connection is when more than one threaded connection has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 threaded connections are inspected, a leak from a threaded connection is when more than 0.5 % (rounded up to the nearest whole number) of the threaded connections have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. This type of leak shall be a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]
- When 200 or fewer valves are inspected, a leak from a valve is when more than one valve has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 valves are inspected, a leak from a valve is when more than 0.5 % (rounded up to the nearest whole number) of the valves have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. This type of leak shall be a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]

Section 5.2.1 requires that for manned light oil production facilities, gas production facilities, and gas processing facilities, an operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, pressure relief valves (should say PRDs instead of PRVs) in service at least once every 24 hours except when operators do not report to the facility for that given 24 hours. Therefore, the following condition will be listed on the ATC to ensure compliance:

- For manned facilities, all accessible operating pumps, compressors, and pressure relief devices, in service, shall be audio-visually inspected for leaks at least once every 24 hours except when operators do not report to the facility during a 24 hour period. [District Rule 4409]

Section 5.2.2 requires that for unmanned light oil production facilities, gas production facilities, or gas processing facilities, the operator shall audio-visually inspect for leaks all accessible operating pumps, compressors, PRDs in service at least once per calendar week. Therefore, the following condition will be listed on the ATC to ensure compliance:

- For unmanned facilities all accessible operating pumps, compressors, and pressure relief devices, in service, shall be audio-visually inspected for leaks at least once per calendar week. [District Rule 4409]

Section 5.2.3 requires that any audio-visual inspection of all accessible operating pumps, compressors, and PRDs performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected using the test method specified in Section 6.3.1 not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of this rule. Therefore, the following condition will be listed on the ATC to ensure compliance:

- All accessible operating pumps, compressors, and pressure relief devices, in service, that are found to be leaking by audio-visual inspection shall be attempted to be repaired immediately. The leaking component shall then be tested within 24 hours and, if found leaking again, shall be repaired as soon as practicable but not later than the timeframe specified in this permit. [District Rule 4409]

Section 5.2.4 requires that notwithstanding the requirements of Sections 5.2.1, 5.2.2, and 5.2.3, the operator shall inspect all components using the test method specified in Section 6.3.1 at least once every calendar quarter, except for inaccessible components, unsafe-to-monitor components, or pipes. Inaccessible components and unsafe-to-monitor components shall be inspected in accordance with the provisions of Sections 5.2.6 and 5.2.7, respectively. Pipes shall be inspected in accordance with the provisions of Section 5.2.8. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Except for inaccessible components, unsafe-to-monitor components, or pipes, all components, in service, shall be tested for leaks at least once every calendar quarter. [District Rule 4409]

Section 5.2.5 requires that the operator shall inspect, immediately after placing into service, all new, replaced, or repaired fittings, flanges, and threaded connections using the test method specified in Section 6.3.1. Therefore, the following condition will be listed on the ATC to ensure compliance:

- All new, replaced, or repaired fittings, flanges, and threaded connections shall be tested for leaks immediately after being placed into service. [District Rule 4409]

Section 5.2.6 requires that the operator shall inspect all inaccessible components at least once every 12 months using the test method specified in Section 6.3.1. Therefore, the following condition will be listed on the ATC to ensure compliance:

- All inaccessible components shall be tested for leaks at least once every 12 months. [District Rule 4409]

Section 5.2.7 requires that the operator shall inspect all unsafe-to-monitor components during each turnaround using the test method specified in Section 6.3.1. Therefore, the following condition will be listed on the ATC to ensure compliance:

- All unsafe-to-monitor components shall be tested for leaks during each turnaround. [District Rule 4409]

Section 5.2.8 requires that the operator shall visually inspect all pipes for leaks at least once every 12 months. Therefore, the following conditions will be listed on the ATC to ensure compliance:

- All pipes shall be visually inspected for leaks at least once every 12 months. [District Rule 4409]

Section 5.2.8.1 requires that any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected using the test method specified in Section 6.3.1 within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of this rule. Therefore, the following condition will be listed on the ATC to ensure compliance:

- All pipes, in service, that are found to be leaking by visual inspection shall be attempted to be repaired immediately. The leaking pipe shall then be tested within 24 hours and, if found leaking again, shall be repaired as soon as practicable but not later than the timeframe specified in this permit. [District Rule 4409]

Section 5.2.8.2 requires that the operator may conduct the annual pipe inspection required by Section 5.2.8 in conjunction with the annual pipe inspection required by the Department of Oil, Gas, and Geothermal Resources (DOGGR) pursuant to California Code of Regulation Title 14, Division 2, Subchapter 2, Section 1774 (Oilfield Facilities and Equipment Maintenance), or by the Spill Prevention Control and Countermeasure Plan (SPCC) pursuant to 40 Code of Federal Regulation Part 112 (Oil Prevention and Response: Non- Transportation-Related Onshore and Offshore Facilities). Records of annual pipe inspection required by DOGGR or SPCC may be used to document the inspection required by Section 5.2.8. The operator shall maintain the records of such inspections at the facilities. The records shall be made available to the APCO, ARB, and US EPA upon request. Therefore, the following condition will be listed on the ATC to ensure compliance:

- The annual pipe inspection required by either the Department of Oil, Gas, and Geothermal Resources (DOGGR) pursuant to California Code of Regulation Title 14, Division 2, Subchapter 2, Section 1774 (Oilfield Facilities and Equipment Maintenance), or by the Spill Prevention Control and Countermeasure Plan (SPCC) pursuant to 40 Code of Federal Regulation Part 112 (Oil Prevention and Response: Non- Transportation-Related Onshore and Offshore Facilities) can be used as the annual pipe inspection required by District Rule 4409. [District Rule 4409]

Section 5.2.9 requires that notwithstanding the requirement of Section 5.2.4, the operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually for a component type, or an operator who is already on an annual inspection frequency on or before (rule adoption date) may apply for a written approval from the APCO to continue conducting annual inspections for a component type, provided the operator meets all the criteria specified in Sections 5.2.9.1 through 5.2.9.3. This approval shall apply to accessible component types specifically designated by the APCO, except pumps, compressors, and PRDs which shall continue to be inspected on a quarterly basis. Sections 5.2.9.1 through 5.2.9.3 specify the following requirements:

- The operator was not in violation of any provision of Sections 5.1 during five consecutive quarterly inspections for that component type.
- The operator did not receive a Notice of Violation from the APCO during the previous 12 months violating any provisions of this rule for that component type.
- The written request shall include pertinent documentation to demonstrate that the operator has successfully met the requirements of Sections 5.2.9.1 and 5.2.9.2.

Section 5.2.10 requires that the annual inspection frequency approved by the APCO pursuant to Section 5.2.9 shall revert to quarterly inspection frequency for a component type if either one of the following occurs:

- 1) The operator inspection or District inspection demonstrates that a violation of the provisions of Sections 5.1, 5.2, or 5.3 exists for that component type; or
- 2) The APCO issued a Notice of Violation for violating any of the provisions of this rule during the annual inspection period for that component type.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- Except for pumps, compressors, and pressure relief devices, the permittee may apply for written approval from the District to change the inspection frequency of accessible components from quarterly to annually for a specific component type provided the following two qualifying requirements are met. During the previous five consecutive quarterly inspections, for the specific component type, there shall be no more leaks than as allowed by this permit. The permittee also shall not have received a Notice of Violation (NOV) from the District during the previous 12 months for violating any provisions of District Rule 4409 for the specific component type. If these two qualifying requirements have not been met, then the inspection frequency shall revert back to quarterly. The written request shall include pertinent documentation to demonstrate that the operator has successfully met the two qualifying requirements. [District Rule 4409]

Section 5.2.11 requires that when the inspection frequency changes from annual to quarterly inspections pursuant to Section 5.2.10, the operator shall notify the APCO in writing within five (5) calendar days after changing the inspection frequency. The written notification shall include the reason(s) and date of change to quarterly inspection frequency. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Permittee shall notify the District in writing within five calendar days after changing the inspection frequency for a specific component type. The written notification shall include the reason(s) and date of change to a quarterly inspection frequency. [District Rule 4409]

Section 5.2.12 requires that the operator shall initially inspect a PRD that releases to the atmosphere using the test method specified in Section 6.3.1 as soon as practicable but not later than 24 hours after the time of the release. The operator shall reinspect the PRD using the test method specified in Section 6.3.1 not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the date of the release and is leak-free (is leak free should not be in this statement). If the PRD is found to be leaking at either inspection, the PRD leak shall be treated as if the leak was found during quarterly operator inspections.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- A pressure release device that releases to the atmosphere shall be inspected by the permittee for leaks as soon as practicable but not later than 24 hours after the time of the release. The permittee shall reinspect the pressure relief device for leaks not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the date of the initial release. If the pressure relief device is found by the permittee to be leaking during either inspection, the pressure relief device leak shall be treated as if the leak was found during the required quarterly operator inspections. [District Rule 4409]

Section 5.2.13 requires that except for PRDs subject to the requirements of Section 5.2.12, a component shall be inspected not later than 15 calendar days after repairing the leak or replacing the component using the test method specified in Section 6.3.1. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Except for pressure relief devices, a component shall be inspected for leaks not later than 15 calendar days after repairing the leak or replacing the component. [District Rule 4409]

Section 5.2.14 requires that a District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. Any attempt by an operator to count such District inspections as part of the mandatory operator's inspections is considered a willful circumvention of the rule and is a violation of this rule. Therefore, the following condition will be listed on the ATC to ensure compliance:

- District inspections shall not be counted as an operator inspection required by District Rule 4409. Any attempt by an operator to count such District inspections as part of the operator's mandatory inspections is considered a willful circumvention of the rule and is a violation of this rule. [District Rule 4409]

Section 5.3.1 requires that upon detection of a leaking component, the operator shall affix to that component a weatherproof readily visible tag. The tag shall meet the following requirements:

- The tag shall remain affixed to the component until all the conditions specified in Sections 5.3.2.1 through 5.3.2.3 have been met.
- The leaking component has been repaired or replaced; and
- The component has been re-inspected using the test method in Section 6.3.1; and
- The component is found to be in compliance with the requirements of this rule.

The tag shall include the following information:

- 1) Date and time of leak detection.
- 2) Date and time of leak measurement.
- 3) For gaseous leaks, indicate the leak concentration in ppmv.
- 4) For liquid leaks, indicate whether it is a major liquid leak or a minor liquid leak.
- 5) For essential components, unsafe-to-monitor components, or critical components, so indicate on the tag.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- Permittee, upon detection of a leaking component, shall affix to that component a weatherproof, readily visible tag, bearing the date and time when the leak was detected and the date and time of the leak measurement. For gaseous leaks, the tag shall indicate the leak concentration in ppmv. For liquid leaks, the tag shall indicate whether it is a major liquid leak or a minor liquid leak. The tag shall indicate, when applicable, whether the component is an essential component, an unsafe-to-monitor component, or a critical component. The tag shall remain in place until the leaking component is repaired or replaced and reinspected and found to be in compliance with the requirements of this rule. [District Rule 4409]

Section 5.3.4 requires that an operator shall minimize all component leaks immediately to the extent possible, but not later than one (1) hour after detection of leaks in order to stop or reduce leakage to the atmosphere.

Section 5.3.5 requires that if the leak has been minimized but the leak still exceeds the applicable leak standards of this rule, an operator shall comply with at least one of the requirement of Sections 5.3.5.3, 5.3.5.4 or 5.3.5.5 as soon as practicable but not later than the time period specified in Table 3.

- 1) The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the repair period specified in Table 3.
- 2) The start of the repair period shall be the time of the initial leak detection.
- 3) Repair or replace the leaking component; or
- 4) Vent the leaking component to a closed vent system as defined in Section 3.0.
- 5) Remove the leaking component from operation.

Table 3 – Rule 4409 Repair Period		
Type of Leak	Repair Period in Calendar Days	Extended Repair Period in Calendar Days
Minor Gas Leak	7	7
Major Gas Leak greater than 10,000 ppmv but equal to or less than 50,000 ppmv	3	2
Major Gas Leak greater than 50,000 ppmv	2	0
Minor Liquid Leak	3	0
Major Liquid Leak	2	0

Therefore, the following conditions will be listed on the ATC to ensure compliance:

- Permittee shall minimize all component leaks immediately, to the extent possible, but not later than one hour after detection of the leak in order to stop or reduce leakage to the atmosphere. If the leak has been minimized but the leak still exceeds the applicable leak standards specified in this permit, the operator shall do one of the following within the timeframes specified within this permit: 1) repair or replace the leaking component; 2) vent the leaking component to a closed vent system; 3) or remove the leaking component

from operation. A closed vent system is a District approved system that is not open to the atmosphere. It is composed of hard-piping, ductwork connections and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a District approved control device that has a overall VOC collection and destruction or removal efficiency of at least 95%, or that transports gases or vapors back to a process system. [District Rule 4409]

- Except for essential and critical components, the operator shall repair minor gas leaks within seven days. The operator shall repair major gas leaks, which are > 10,000 ppmv but < or equal to 50,000 ppmv, within three days. The operator shall repair major gas leaks, which are > 50,000 ppmv, within two days. The operator shall repair minor liquid leaks within three days. The operator shall repair major liquid leaks within two days. The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period. The start of the repair period shall be the time of the initial leak detection. [District Rule 4409]

Section 5.3.5 further states that for each calendar quarter, the operator may be allowed to extend the repair period as specified in Table 3, for a total number of leaking components, not to exceed 0.05 % of the number of components inspected, by type, rounded upward to the nearest integer where required. Therefore, the following condition will be listed on the ATC to ensure compliance:

- For each calendar quarter, the operator may extend the repair period for a total number of leaking components, not to exceed 0.05 % of the number of components inspected, by type, rounded upward to the nearest whole number. The repair period for minor gas leaks can be extended by seven additional days. The repair period for major gas leaks, which are > 10,000 ppmv but < or equal to 50,000 ppmv, can be extended by two additional days. [District Rule 4409]

Section 5.3.6 requires that if the leaking component is an essential component or a critical component and which cannot be immediately shut down for repairs, the operator shall:

- 1) Minimize the leak within one hour after detection of leaks; and
- 2) If the leak has been minimized, but the leak still exceeds the applicable leak standards of this rule, the essential component or critical component shall be repaired or replaced to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- If a leaking component is an essential component or a critical component and which cannot be shut down immediately for repairs, the operator shall do the following: 1) minimize the leak within one hour after detection of the leak; 2) and if the leak has been minimized, but the leak still exceeds the applicable leak standards of Rule 4409 as specified in this permit, the essential component or critical component shall be repaired or replaced to eliminate the leak during the next process unit turnaround. The repair shall

occur no later than one year from the date of the original leak detection. [District Rule 4409]

Section 5.3.7 requires that for any component that has incurred five repair actions for major gas leaks or major liquid leaks, or combination of major gas leaks and major liquid leaks within a continuous 12-month period, the operator shall comply with at least one of the requirements specified in Sections 5.3.7.1, 5.3.7.2, 5.3.7.3, or 5.3.7.4 by the applicable deadlines specified in Sections 5.3.7.5 and 5.3.7.6. If the original leaking component is replaced with a new like-in-kind component before incurring five repair actions for major leaks within 12-consecutive months, the repair count shall start over for the new component. An entire compressor or pump need not be replaced provided the compressor part(s) or pump part(s) that have incurred five repair actions as described in Section 5.3.7 are brought into compliance with at least one of the requirements of Sections 5.3.7.1 through 5.3.7.6.

- 1) Replace or retrofit the component with the control technology specified in Table 4. Notify the APCO in writing prior to replacing or retrofitting the component; or
- 2) Replace the component with Achieved-in-Practice Best Available Control Technology (BACT) equipment, as determined in accordance with Rule 2201 (New and Modified Stationary Source Review Rule), and as approved by the APCO in writing; or
- 3) Vent the component to an APCO-approved closed-vent system as defined in Section 3.0; or
- 4) Remove the component from operation.
- 5) For any component that is accessible, is not unsafe-to-monitor, is not an essential component, is not a critical component, the operator shall comply with the requirement of Section 5.3.7.1, Section 5.3.7.2, Section 5.3.7.3, or Section 5.3.7.4 as soon as practicable but not later than twelve (12) months after the date of detection of the fifth major leak within a continuous 12- month period as indicated in Section 5.3.7.
- 6) For any inaccessible component, unsafe-to-monitor component, essential component, or critical component the operator shall comply with the requirement of Section 5.3.7.1, Section 5.3.7.2, Section 5.3.7.3 or Section 5.3.7.4 as soon as practicable but not later than the next turnaround or not later than two (2) years after the date of detection of the fifth major leak within a continuous 12-month period as indicated in Section 5.3.7, whichever comes earlier.

Table 4 – Rule 4409 Component Control Technology Replacement/Retrofit	
Component Type	Control Technology
Compressors	Replace existing seal with dual mechanical seal, oil film seal, gas seal, or face-type seal
Pumps	Replace with seal-less pump or replace with dual mechanical seal
PRDs	Replace the PRD and install a rupture disc in the line which precedes the PRD such that the PRD is in series with and follows the rupture disc
Valves	Replace with sealed bellows valve, or graphite or teflon chevron seal rings in a live-loaded packing gland
Threaded Connections	Weld connections or replace threaded connections with flanges
Sampling Connections	Replace with closed-loop sampling system

Therefore, the following condition will be listed on the ATC to ensure compliance:

- For any component that has incurred five repair actions for major gas leaks or major liquid leaks, or a combination of major gas leaks and major liquid leaks within a continuous 12-month period, the operator shall do one of the following four options. Options 1a through 1f require written notification to the District, option 2 requires written notification to the District and written District approval, options 3 and 4 do not require written notification to the District: 1a) For compressors replace the existing seal with either a dual mechanical seal, an oil film seal, a gas seal, or a face-type seal; 1b) for pumps replace the pump with a seal-less pump or replace the seal with a dual mechanical seal; 1c) for pressure relief devices replace the pressure relief device and install a rupture disc in the line which precedes the pressure relief device such that the pressure relief device is in series with and follows the rupture disc; 1d) for valves replace the valve with a sealed bellows valve, or for seal rings install graphite or Teflon chevron seal rings in a live-loaded packing gland; 1e) for threaded connections weld the connections or replace threaded connections with flanges; 1f) for sampling connections replace the sampling connection with a closed-loop sampling system; 2) Replace the component with Achieved-in-Practice Best Available Control Technology (BACT) equipment; 3) Vent the component to a District approved closed-vent system; 4) Remove the component from operation. For any component that is accessible, is not unsafe-to-monitor, is not an essential component, or is not a critical component, the operator shall comply with these requirements as soon as practicable but not later than twelve months after the date of detection of the fifth major leak within a continuous 12-month period. For any component that is inaccessible, is unsafe-to-monitor, is essential, or is a critical component, the operator shall comply with these requirements as soon as practicable but not later than the next turnaround or not later than two years after the date of detection of the fifth major leak within a continuous 12-month period, whichever comes first. [District Rule 4409]

Section 5.4.1 requires that all major components and critical components shall be physically identified clearly and visibly for inspection, repair, and recordkeeping purposes. The physical identification shall consist of labels, tags, manufacturer's nameplate identifier, serial number, or model number, or other system approved by the APCO that enables an operator or the APCO to locate each individual component. The operator shall replace tags or labels that become missing or unreadable as soon as practicable but not later than 24 hours after discovery. Therefore, the following condition will be listed on the ATC to ensure compliance:

- All major components and critical components shall be physically identified clearly and visibly for inspection, repair, and recordkeeping purposes. The physical identification shall consist of labels, tags, manufacturer's nameplate identifier, serial number, or model number, or other system approved by the District that enables an operator or the District to locate each individual component. The operator shall replace physical identifications that become missing or unreadable as soon as practicable but not later than 24 hours after discovery. [District Rule 4409]

Section 6.1.1 requires that by October 20, 2005, an operator whose existing components are either subject to this rule or whose existing components are exempt pursuant to Section 4.2 of this rule on or before April 20, 2005 shall submit an Operator Management Plan (OMP) for approval by the APCO. The facility has already complied with this requirement of the Rule by submitting an OMP. Therefore, no condition will need to be listed on the ATC to ensure compliance.

Section 6.1.2 requires that the operator shall keep a copy of the APCO-approved Operator Management Plan at the facility and make it available to the APCO, ARB, and US EPA upon request. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Permittee shall keep a copy of the District approved Operator Management Plan (OMP) at the facility and make it available to the District, ARB, and EPA upon request. [District Rule 4409]

Section 6.1.3 requires that the operator shall describe in the Operator Management Plan all components subject to this rule and all components that are exempt pursuant to Section 4.2 of this rule. The Plan shall contain a description of the procedures that the operator will use to comply with the requirements of this rule. The facility has already complied with this requirement of the Rule by submitting an OMP. Therefore, no condition will need to be listed on the ATC to ensure compliance.

Section 6.1.4 requires that by January 30 of each year, the operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan. Therefore, the following condition will be listed on the ATC to ensure compliance:

- By January 30th of each year the permittee shall submit to the District for approval, in writing, an annual report indicating any changes to the existing OMP on file at the District. [District Rule 4409]

Section 6.2.1 requires that the operator shall maintain an inspection log containing, at a minimum, all of the following information:

- 1) Total number of components inspected, and total number and percentage of leaking components found by component types.
- 2) Location, type, name or description of each leaking component and description of any unit where the leaking component is found.
- 3) Date of leak detection and method of leak detection.
- 4) For gaseous leaks, record the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak.
- 5) Date of repair, replacement, or removal from operation of leaking components.
- 6) Identification and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier.

- 7) Methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier.
- 8) After the component is repaired or is replaced, the date of re-inspection and the leak concentration in ppmv.
- 9) Inspector's name, business mailing address, and business telephone number.
- 10) The facility operator responsible for the inspection and repair program shall sign and date the inspection log certifying the accuracy of the information recorded in the log.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- Permittee shall maintain an inspection log that has been signed and dated by the facility operator responsible for the inspection, certifying the accuracy of the information recorded in the log. The inspection log shall contain, at a minimum, all of the following information:
 - 1) The total number of components inspected, and the total number and percentage of leaking components found by component types;
 - 2) The location, type, name or description of each leaking component and the description of any unit where the leaking component is found;
 - 3) Date of the leak detection and method of the leak detection;
 - 4) For gaseous leaks, record the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak;
 - 5) The date of repair, replacement, or removal from operation of the leaking component(s);
 - 6) The identification and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes first;
 - 7) The method(s) used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier;
 - 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced;
 - 9) The inspector's name, business mailing address, and business telephone number. [District Rule 4409]

Section 6.2.3 requires that records of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4409]

Section 6.2.4 requires that copies of all records required by Section 6.2 of this rule shall be retained for a minimum of five (5) years after the date of an entry, and the records shall be made available to the APCO, ARB, and US EPA upon request. Therefore, the following condition will be listed on the ATC to ensure compliance:

- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 4408, and 4409]

Section 6.3 states that equivalent test methods other than specified in Sections 6.3.1 through 6.3.8 may be used provided such test methods have received prior approval from the EPA, ARB, and APCO.

Section 6.3.1 requires that measurements of gaseous leak concentrations shall be conducted according to US EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in US EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Therefore, the following condition will be listed on the ATC to ensure compliance:

- All measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instructions not more than 30 days prior to its use. [District Rule 4409]

Section 6.3.2 requires that the VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids. Therefore, the following condition will be listed on the ATC to ensure compliance:

- The VOC content by weight percent shall be determined using ASTM D-1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids. [District Rule 4409]

Section 6.3.3 requires that the percent by volume liquid evaporated at 150 °C shall be determined using ASTM Method D 86-82. Therefore, the following condition will be listed on the ATC to ensure compliance:

- The percent by volume liquid evaporated at 302 °F (150 °C) shall be determined using ASTM D-86. [District Rule 4409]

Section 6.3.4 requires that the TVP of any organic liquid shall be determined by measuring the Reid Vapor Pressure (RVP) using ASTM D 323-94 (Test Method for Vapor Pressure for Petroleum Products), and converting the RVP to TVP at the maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance with the procedures in Appendix A of Rule 4409. Appendix A is an excerpt from the oil and gas section of "California

Air Resources Boards (ARB) Technical Guidance Document to the Criteria and Guidelines Regulation for AB 2588”, dated August 1989. Therefore, the following condition will be listed on the ATC to ensure compliance:

- The TVP of any organic liquid shall be determined by measuring the Reid Vapor Pressure (RVP) using ASTM D-323, and converting the RVP to TVP at the maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance with the procedures specified in Appendix A of District Rule 4409. [District Rule 4409]

Section 6.3.5 requires that the API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287-92 (2000) e1 “Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method) or ASTM 1298-85 (Standard Practice for Density, Relative Density, or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057-95 “Standard Practices for Manual Sampling of Petroleum and Petroleum Products”. Therefore, the following condition will be listed on the ATC to ensure compliance:

- The API gravity of crude oil or petroleum distillate shall be determined by using ASTM D-287 or ASTM 1298. Sampling for API gravity shall be performed in accordance with ASTM D-4057. [District Rule 4409]

Section 6.3.6 requires that the control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by US EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case US EPA Method 25a may be used. US EPA Method 18 may be used in lieu of US EPA Method 25 or US EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. Therefore, the following condition will be listed on the ATC to ensure compliance:

- The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4409]

Section 6.3.7 requires that halogenated exempt compounds shall be analyzed by US EPA Method 18 or ARB Method 422 “Determination of Volatile Organic Compounds in Emission from Stationary Sources”. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Halogenated exempt compounds shall be analyzed by EPA Method 18 or ARB Method 422. [District Rule 4409]

Rule 4703 Stationary Gas Turbines

Micro Turbines (C-273-32-0 thru '-46-0):

This rule applies to all stationary gas turbine systems, which are subject to District permitting requirements, and with ratings equal to or greater than 0.3 megawatt (MW) and/or a maximum heat input rating of more than 3,000,000 Btu per hour, except as provided in Section 4.0.

Each of the micro turbine in this project is rated at 0.2 MW and has a maximum heat input rating of 2,228,000 Btu/hr; therefore, this rule does not apply.

Rule 4801 Sulfur Compounds

Micro Turbines (C-273-32-0 thru '-46-0):

This rule contains a limit on sulfur compounds. The limit at the point of discharge is 0.2 percent by volume, 2000 ppmv, calculated as sulfur dioxide (SO₂), on a dry basis averaged over 15 consecutive minutes.

$$\text{Volume SO}_2 = nRT/P$$

Where,

n = moles SO₂

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

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

$$0.0285 \frac{\text{lb} \cdot \text{SO}_2}{\text{MMBtu}} \times \frac{1 \text{ MMBtu}}{8,710 \text{ scf}_{\text{exhaust}}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb} \cdot \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times 1,000,000 \text{ ppm} = 19.4 \text{ ppmv}$$

Since 19.4 ppmv is ≤ 2000 ppmv, the turbines are expected to comply with Rule 4801; therefore, the following condition will be listed on each ATC to ensure compliance:

- The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 gr/100 dscf. [District Rules 2201 and 4801]

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

District is a Lead Agency and Project not Covered Under Cap-and-Trade

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

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

Per District Policy, project specific greenhouse gas emissions less than or equal to 230 metric tons-CO₂e/year are considered to be zero for District permitting purposes and are exempt from further environmental review.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. Therefore, the District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

Indemnification Agreement/Letter of Credit Determination

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

The District is the Lead Agency for this project. In addition, this type of operation is of public concern and the project requires Toxic Best Available Control Technology (T-BACT). Therefore, an indemnification agreement is required for this project.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs C-273-32-0 thru '-47-0 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
C-273-32-0 thru '-46-0	3020-08A-A	200 kW electric generation	\$284
C-273-47-0	3020-06	Miscellaneous	\$116

Appendixes

- A: Draft ATCs
- B: Location Map
- C: Process Flow Diagram and Gas Plant Equipment List
- D: ARB Executive Order DG-035
- E: AP-42 Emission Factors
- F: Gas Plant Fugitive Emission Calculations
- G: SSPE1 Calculations
- H: Quarterly Net Emissions Change (QNEC)
- I: BACT Guideline 7.2.7 and BACT Analysis for Gas Processing Plant (C-273-47-0)
- J: HRA/AAQA Summary

APPENDIX A

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-32-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #1)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-32-0 Oct 26 2017 9:24AM - AHMADS - Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-273-33-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #2)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-33-0 Oct 26 2017 9:24AM -- AHMADS Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-34-0

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

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #3)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-34-0 Oct 26 2017 9:24AM -- AHMADS : Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

DRAFT

San Joaquin Valley Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-35-0

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

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #4)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-35-0, Oct 26 2017 9:24AM -- AHMADS Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-36-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #5)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

C-273-36-0 Oct 26 2017 9:24AM -- AHMADS : Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-37-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #6)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-37-0 : Oct 26 2017 9:24AM - AHMADS : Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-38-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #7)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-38-0 Oct 26 2017 9:24AM -- AHMADS : Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
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15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-39-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #8)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-39-0 Oct 26 2017 9:24AM -- AHMADS - Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

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San Joaquin Valley Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-40-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #9)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-40-0 Oct 26 2017 9:24AM -- AHMADS : Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-41-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #10)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-41-0 Oct 26 2017 9:24AM - AHMADS - Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-42-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #11)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-42-0 Oct 26 2017 9:24AM - AHMADS Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-43-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #12)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

C-273-43-0 Oct 26 2017 9:24AM - AHMADS - Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-44-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #13)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-44-0 Oct 26 2017 9:24AM -- AHMADS : Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: C-273-45-0

ISSUANCE DATE: DRAFT

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

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #14)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjolle, Director of Permit Services
C-273-45-0 Oct 26 2017 9:25AM - AHMADS Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

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San Joaquin Valley Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-46-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES PRODUCTION CORP.

MAILING ADDRESS: 11109 RIVER RUN BLVD
BAKERSFIELD, CA 93311

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

2.28 MMBTU/HR NATURAL GAS/FIELD GAS-FIRED CAPSTONE MODEL C200 MICRO TURBINE POWERING A 200 KW ELECTRICAL GENERATOR OPERATED AT VARIOUS UNSPECIFIED LOCATIONS WITHIN THE SAME STATIONARY SOURCE C-273 (CAPSTONE #15)

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 185 lb, 2nd quarter - 185 lb, 3rd quarter - 186 lb, and fourth quarter - 186 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4142-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. This micro turbine shall not operate closer than 804 meters from the property boundary. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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.

Sayed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-46-0 Oct 26 2017 9:25AM -- AHMADS Joint Inspection NOT Required

7. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
8. Emissions from the natural gas-fired unit shall not exceed any of the following limits: 9 ppmvd NO_x @ 15% O₂ (equivalent to 0.033 lb-NO_x/MMBtu); 0.0285 lb-SO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 40 ppmvd CO @ 15% O₂ (equivalent to 0.09 lb-CO/MMBtu); or 7 ppmvd VOC @ 15% O₂ (equivalent to 0.009 lb-VOC/MMBtu). [District Rules 2201 and 4201]
9. The turbine shall only burn produced gas and/or PUC quality gas with a fuel sulfur concentration not exceeding 10 grain/100 dscf. [District Rules 2201 and 4801]
10. Permittee shall measure and record fuel gas sulfur content (as H₂S) within 60 days of initial start-up, upon any change in the gas fuel source, and at least once every 12 months thereafter. [District Rule 2201]
11. Permittee shall determine sulfur content of gas consumed by the turbine using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201]
12. Permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ within 60 days of initial start-up at each location and at least once every 12 months thereafter, using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. [District Rule 2201]
13. If either the NO_x or CO concentrations corrected to 15% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, 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 2201]
14. All emission monitoring 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 2201]
15. Permittee shall maintain the following records: (1) the date and time of O₂ and NO_x measurements, (2) the O₂ concentration in percent and the measured NO_x concentration 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 2201]
16. Permittee shall maintain an accurate record of each location where this turbine is operated and the sulfur content (as H₂S) of the gas from each fuel source. [District Rule 2201]
17. {3465} Records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-273-47-0

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

LOCATION: KETTLEMAN NORTH DOME UNIT
KINGS COUNTY, CA

EQUIPMENT DESCRIPTION:

GAS PROCESSING PLANT CONSISTING OF AMINE SWEETENING AND GLYCOL DEHYDRATION OPERATIONS WITH ELECTRICALLY HEATED GLYCOL AND AMINE REBOILERS, HEAT EXCHANGERS, GLYCOL AND AMINE PUMPS, LIQUID KNOCKOUT SYSTEMS, AND ASSOCIATED EQUIPMENT

CONDITIONS

1. This facility will have up to 12 months after commencing operation authorized by this Authority to Construct (ATC) to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]
2. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 567 lb, 2nd quarter - 568 lb, 3rd quarter - 568 lb, and fourth quarter - 568 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
3. ERC Certificate Number S-4908-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
6. VOC fugitive emissions from the components in gas service associated with this unit shall not exceed 4.1 lb/day. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
C-273-47-0, Oct 28 2017 2:39PM -- AHMADS Joint Inspection NOT Required

7. Permittee shall maintain accurate component count for this operation 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]
8. Glycol dehydration vent VOC emissions shall be condensed and returned to the natural gas or crude oil production line. [District Rule 4408]
9. Condensate handling shall be conducted in closed systems resulting in fugitive component emissions only and no evaporation of VOCs. [District Rule 4408]
10. All piping, valves, and other fittings shall be constructed and maintained in a leak-free condition. "Leak-free" shall be defined as emitting no more than 20,000 ppm of methane measured from the potential source with an instrument calibrated with methane in accordance with EPA Method 21. A reading in excess of 20,000 ppmv above background is a violation of this permit, unless it is repaired as otherwise provided in this permit. [District Rules 2201 and 4408]
11. Any leak of dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for valves and connectors) and 500 ppmv (for compressor and pump seals) when measured with a portable hydrocarbon detection instrument calibrated with methane in accordance with EPA Method 21, shall be repaired in a manner consistent with the procedures specified in Rule 4409. This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the Operator Management Plan required by Rule 4409. [District Rules 2201, 4102, and 4409]
12. Permittee shall not use any components that leak in excess of the applicable leak standards as specified in this permit. Components that have been found leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this permit. [District Rule 4409]
13. For valves, threaded connections, flanges, pipes, pumps, compressors, and other components not specified in this permit; a major gas leak is a detection of > 10,000 ppmv as methane; a minor gas leak is a detection of 1,000 to 10,000 ppmv as methane when the component is in liquid service; a minor gas leak is a detection of 2,000 to 10,000 ppmv as methane when the component is in gas/vapor service. [District Rule 4409]
14. For pressure relief devices; a major gas leak is a detection of > 10,000 ppmv as methane; a minor gas leak is a detection of 200 to 10,000 ppmv as methane when the component is in liquid service; a minor gas leak is a detection of 400 to 10,000 ppmv as methane when the component is in gas/vapor service. [District Rule 4409]
15. Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4409]
16. Leaks detected during quarterly operator inspections shall not be counted towards determination of compliance with the provisions of Rule 4409 provided the leaking components are repaired as soon as practicable but not later than the time frame specified in this permit. Leaks detected during quarterly operator inspections that are not repaired, replaced, or removed from operation as soon as practicable but not later than the time frame specified in this rule shall be counted toward determination of compliance with the provisions of Rule 4409. [District Rule 4409]
17. Leaking components at this facility detected during annual operator inspections, as required by Rule 4409 for a specific component type, that exceed the leak standards specified in this permit, shall constitute a violation of this rule. This violation is regardless of whether or not the leaking components are repaired, replaced, or removed from operation within the allowable repair time frame specified in this permit. [District Rule 4409]
18. An open-ended line, or a valve located at the end of the line, that is not sealed with either a blind flange, a plug, a cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended line is a leak. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. This type of leak is a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]

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CONDITIONS CONTINUE ON NEXT PAGE

19. A minor liquid leak exists when more than three drops of liquid per minute, that is not seal lubricant and is not a major liquid leak, leaks from the component. [District Rule 4409]
20. A major liquid leak from the component is considered a leak for Rule 4409 purposes. A major liquid leak from a component is when a visible mist or a continuous flow of liquid, that is not seal lubricant, leaks from the component. This type of leak shall be a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]
21. Gas leaks greater than 50,000 ppmv, as methane are violations of this permit during annual operator inspection or District inspection. [District Rule 4409]
22. When compressors, pressure relief devices, or other components not listed in this permit are inspected, a leak from these components is when more than one component has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409]
23. When 200 or fewer pumps are inspected, a leak from a pump is when more than two pumps have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 pumps are inspected, a leak from a pump is when more than 1.0 % (rounded up to the nearest whole number) of the pumps have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. This type of leak shall be a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]
24. When 200 or fewer flanges are inspected, a leak from a flange is when more than one flange has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 flanges are inspected, a leak from a flange is when more than 0.5 % (rounded up to the nearest whole number) of the flanges have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. This type of leak shall be a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]
25. When 200 or fewer threaded connections are inspected, a leak from a threaded connection is when more than one threaded connection has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 threaded connections are inspected, a leak from a threaded connection is when more than 0.5 % (rounded up to the nearest whole number) of the threaded connections have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. This type of leak shall be a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]
26. When 200 or fewer valves are inspected, a leak from a valve is when more than one valve has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 valves are inspected, a leak from a valve is when more than 0.5 % (rounded up to the nearest whole number) of the valves have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. This type of leak shall be a violation of this permit during annual operator inspection or District inspection. [District Rule 4409]
27. For manned facilities, all accessible operating pumps, compressors, and pressure relief devices, in service, shall be audio-visually inspected for leaks at least once every 24 hours except when operators do not report to the facility during a 24 hour period. [District Rule 4409]
28. For unmanned facilities all accessible operating pumps, compressors, and pressure relief devices, in service, shall be audio-visually inspected for leaks at least once per calendar week. [District Rule 4409]
29. All accessible operating pumps, compressors, and pressure relief devices, in service, that are found to be leaking by audio-visual inspection shall be attempted to be repaired immediately. The leaking component shall then be tested within 24 hours and, if found leaking again, shall be repaired as soon as practicable but not later than the timeframe specified in this permit. [District Rule 4409]
30. Except for inaccessible components, unsafe-to-monitor components, or pipes, all components, in service, shall be tested for leaks at least once every calendar quarter. [District Rule 4409]
31. All new, replaced, or repaired fittings, flanges, and threaded connections shall be tested for leaks immediately after being placed into service. [District Rule 4409]
32. All inaccessible components shall be tested for leaks at least once every 12 months. [District Rule 4409]
33. All unsafe-to-monitor components shall be tested for leaks during each turnaround. [District Rule 4409]
34. All pipes shall be visually inspected for leaks at least once every 12 months. [District Rule 4409]

CONDITIONS CONTINUE ON NEXT PAGE

35. All pipes, in service, that are found to be leaking by visual inspection shall be attempted to be repaired immediately. The leaking pipe shall then be tested within 24 hours and, if found leaking again, shall be repaired as soon as practicable but not later than the timeframe specified in this permit. [District Rule 4409]
36. The annual pipe inspection required by either the Department of Oil, Gas, and Geothermal Resources (DOGGR) pursuant to California Code of Regulation Title 14, Division 2, Subchapter 2, Section 1774 (Oilfield Facilities and Equipment Maintenance), or by the Spill Prevention Control and Countermeasure Plan (SPCC) pursuant to 40 Code of Federal Regulation Part 112 (Oil Prevention and Response: Non- Transportation-Related Onshore and Offshore Facilities) can be used as the annual pipe inspection required by District Rule 4409. [District Rule 4409]
37. Except for pumps, compressors, and pressure relief devices, the permittee may apply for written approval from the District to change the inspection frequency of accessible components from quarterly to annually for a specific component type provided the following two qualifying requirements are met. During the previous five consecutive quarterly inspections, for the specific component type, there shall be no more leaks than as allowed by this permit. The permittee also shall not have received a Notice of Violation (NOV) from the District during the previous 12 months for violating any provisions of District Rule 4409 for the specific component type. If these two qualifying requirements have not been met, then the inspection frequency shall revert back to quarterly. The written request shall include pertinent documentation to demonstrate that the operator has successfully met the two qualifying requirements. [District Rule 4409]
38. Permittee shall notify the District in writing within five calendar days after changing the inspection frequency for a specific component type. The written notification shall include the reason(s) and date of change to a quarterly inspection frequency. [District Rule 4409]
39. A pressure relief device that releases to the atmosphere shall be inspected by the permittee for leaks as soon as practicable but not later than 24 hours after the time of the release. The permittee shall reinspect the pressure relief device for leaks not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the date of the initial release. If the pressure relief device is found by the permittee to be leaking during either inspection, the pressure relief device leak shall be treated as if the leak was found during the required quarterly operator inspections. [District Rule 4409]
40. District inspections shall not be counted as an operator inspection required by District Rule 4409. Any attempt by an operator to count such District inspections as part of the operator's mandatory inspections is considered a willful circumvention of the rule and is a violation of this rule. [District Rule 4409]
41. Except for pressure relief devices, a component shall be inspected for leaks not later than 15 calendar days after repairing the leak or replacing the component. [District Rule 4409]
42. Permittee, upon detection of a leaking component, shall affix to that component a weatherproof, readily visible tag, bearing the date and time when the leak was detected and the date and time of the leak measurement. For gaseous leaks, the tag shall indicate the leak concentration in ppmv. For liquid leaks, the tag shall indicate whether it is a major liquid leak or a minor liquid leak. The tag shall indicate, when applicable, whether the component is an essential component, an unsafe-to-monitor component, or a critical component. The tag shall remain in place until the leaking component is repaired or replaced and reinspected and found to be in compliance with the requirements of this rule. [District Rule 4409]
43. Permittee shall minimize all component leaks immediately, to the extent possible, but not later than one hour after detection of the leak in order to stop or reduce leakage to the atmosphere. If the leak has been minimized but the leak still exceeds the applicable leak standards specified in this permit, the operator shall do one of the following within the timeframes specified within this permit: 1) repair or replace the leaking component; 2) vent the leaking component to a closed vent system; 3) or remove the leaking component from operation. A closed vent system is a District approved system that is not open to the atmosphere. It is composed of hard-piping, ductwork connections and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a District approved control device that has a overall VOC collection and destruction or removal efficiency of at least 95%, or that transports gases or vapors back to a process system. [District Rule 4409]

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CONDITIONS CONTINUE ON NEXT PAGE

44. Except for essential and critical components, the operator shall repair minor gas leaks within seven days. The operator shall repair major gas leaks, which are $> 10,000$ ppmv but $\leq 50,000$ ppmv, within three days. The operator shall repair major gas leaks, which are $> 50,000$ ppmv, within two days. The operator shall repair minor liquid leaks within three days. The operator shall repair major liquid leaks within two days. The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period. The start of the repair period shall be the time of the initial leak detection. [District Rule 4409]
45. For each calendar quarter, the operator may extend the repair period for a total number of leaking components, not to exceed 0.05 % of the number of components inspected, by type, rounded upward to the nearest whole number. The repair period for minor gas leaks can be extended by seven additional days. The repair period for major gas leaks, which are $> 10,000$ ppmv but $\leq 50,000$ ppmv, can be extended by two additional days. [District Rule 4409]
46. If a leaking component is an essential component or a critical component and which cannot be shut down immediately for repairs, the operator shall do the following: 1) minimize the leak within one hour after detection of the leak; 2) and if the leak has been minimized, but the leak still exceeds the applicable leak standards of Rule 4409 as specified in this permit, the essential component or critical component shall be repaired or replaced to eliminate the leak during the next process unit turnaround. The repair shall occur no later than one year from the date of the original leak detection. [District Rule 4409]
47. For any component that has incurred five repair actions for major gas leaks or major liquid leaks, or a combination of major gas leaks and major liquid leaks within a continuous 12-month period, the operator shall do one of the following four options. Options 1a through 1f require written notification to the District, option 2 requires written notification to the District and written District approval, options 3 and 4 do not require written notification to the District: 1a) For compressors replace the existing seal with either a dual mechanical seal, an oil film seal, a gas seal, or a face-type seal; 1b) for pumps replace the pump with a seal-less pump or replace the seal with a dual mechanical seal; 1c) for pressure relief devices replace the pressure relief device and install a rupture disc in the line which precedes the pressure relief device such that the pressure relief device is in series with and follows the rupture disc; 1d) for valves replace the valve with a sealed bellows valve, or for seal rings install graphite or Teflon chevron seal rings in a live-loaded packing gland; 1e) for threaded connections weld the connections or replace threaded connections with flanges; 1f) for sampling connections replace the sampling connection with a closed-loop sampling system; 2) Replace the component with Achieved-in-Practice Best Available Control Technology (BACT) equipment; 3) Vent the component to a District approved closed-vent system; 4) Remove the component from operation. For any component that is accessible, is not unsafe-to-monitor, is not an essential component, or is not a critical component, the operator shall comply with these requirements as soon as practicable but not later than twelve months after the date of detection of the fifth major leak within a continuous 12-month period. For any component that is inaccessible, is unsafe-to-monitor, is essential, or is a critical component, the operator shall comply with these requirements as soon as practicable but not later than the next turnaround or not later than two years after the date of detection of the fifth major leak within a continuous 12-month period, whichever comes first. [District Rule 4409]
48. All major components and critical components shall be physically identified clearly and visibly for inspection, repair, and recordkeeping purposes. The physical identification shall consist of labels, tags, manufacturer's nameplate identifier, serial number, or model number, or other system approved by the District that enables an operator or the District to locate each individual component. The operator shall replace physical identifications that become missing or unreadable as soon as practicable but not later than 24 hours after discovery. [District Rule 4409]
49. Permittee shall keep a copy of the District approved Operator Management Plan (OMP) at the facility and make it available to the District, ARB, and EPA upon request. [District Rule 4409]
50. By January 30th of each year the permittee shall submit to the District for approval, in writing, an annual report indicating any changes to the existing OMP on file at the District. [District Rule 4409]

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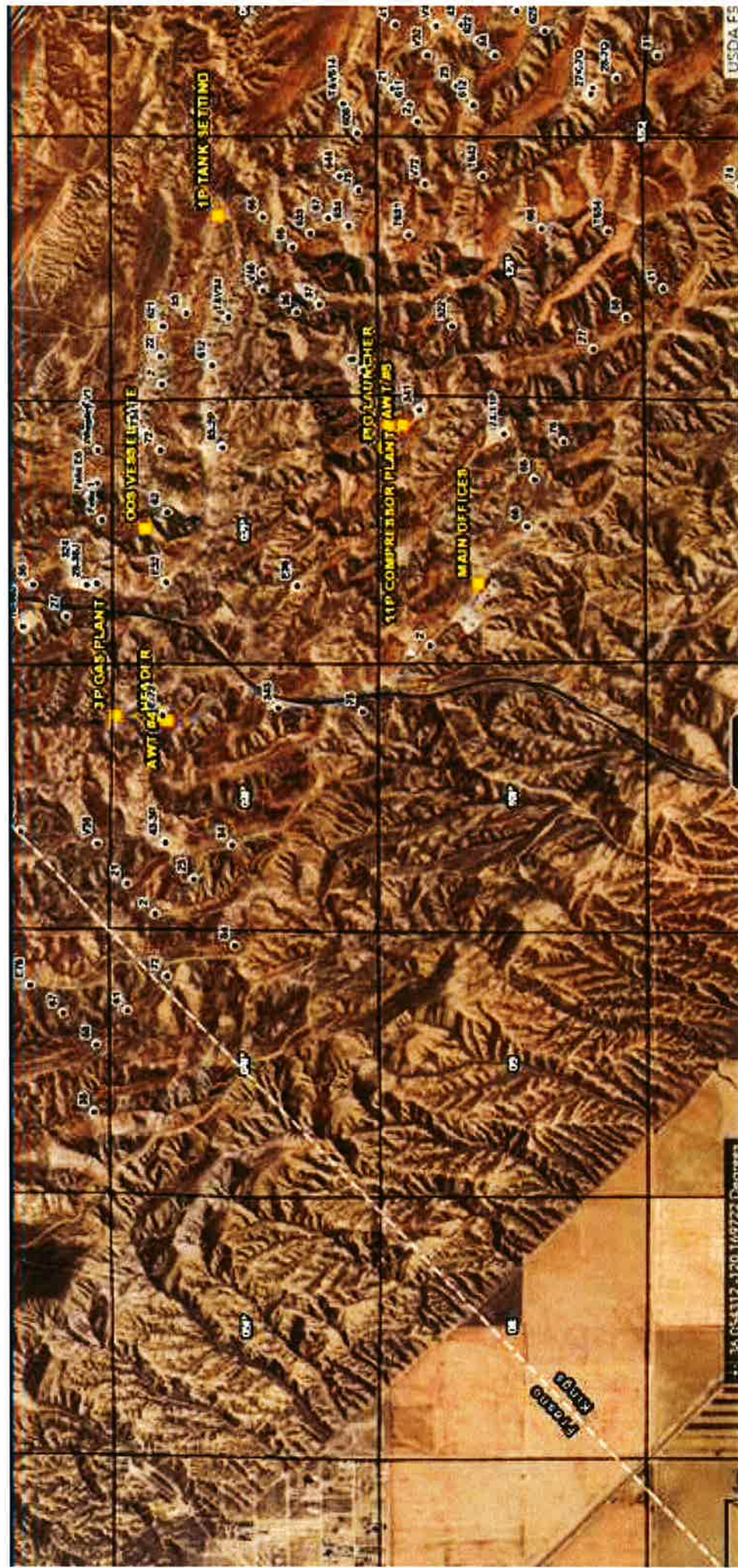
CONDITIONS CONTINUE ON NEXT PAGE

51. Permittee shall maintain an inspection log that has been signed and dated by the facility operator responsible for the inspection, certifying the accuracy of the information recorded in the log. The inspection log shall contain, at a minimum, all of the following information: 1) The total number of components inspected, and the total number and percentage of leaking components found by component types; 2) The location, type, name or description of each leaking component and the description of any unit where the leaking component is found; 3) Date of the leak detection and method of the leak detection; 4) For gaseous leaks, record the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak; 5) The date of repair, replacement, or removal from operation of the leaking component(s); 6) The identification and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes first; 7) The method(s) used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced; 9) The inspector's name, business mailing address, and business telephone number. [District Rule 4409]
52. Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4409]
53. All measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instructions not more than 30 days prior to its use. [District Rule 4409]
54. The VOC content by weight percent shall be determined using ASTM D-1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids. [District Rule 4409]
55. The percent by volume liquid evaporated at 302 °F (150 °C) shall be determined using ASTM D-86. [District Rule 4409]
56. The TVP of any organic liquid shall be determined by measuring the Reid Vapor Pressure (RVP) using ASTM D-323, and converting the RVP to TVP at the maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance with the procedures specified in Appendix A of District Rule 4409. [District Rule 4409]
57. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM D-287 or ASTM 1298. Sampling for API gravity shall be performed in accordance with ASTM D-4057. [District Rule 4409]
58. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4409]
59. Halogenated exempt compounds shall be analyzed by EPA Method 18 or ARB Method 422. [District Rule 4409]
60. Permittee shall maintain monthly records of the amount of gas dehydrated, type of glycol used, description of any installed VOC control systems, flow diagram of dehydrator and any VOC controls, and maintenance records of the VOC control system. [District Rule 4408]
61. The permittee shall keep records, for the life of the operation, of all analysis demonstrating that the facility's design capacity is less than 2 Long Tons per day (LT/D) of H₂S expressed as sulfur (Long Ton will be equal to 2,240 pounds). Such records must be updated annually for a continued exemption. [40 CFR Subpart OOOOa §60.5423a(c)]
62. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 1070, 4408, and 4409]

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APPENDIX B

Location Map



USDA FS

34 054312 -120 169722 Degrees

King's



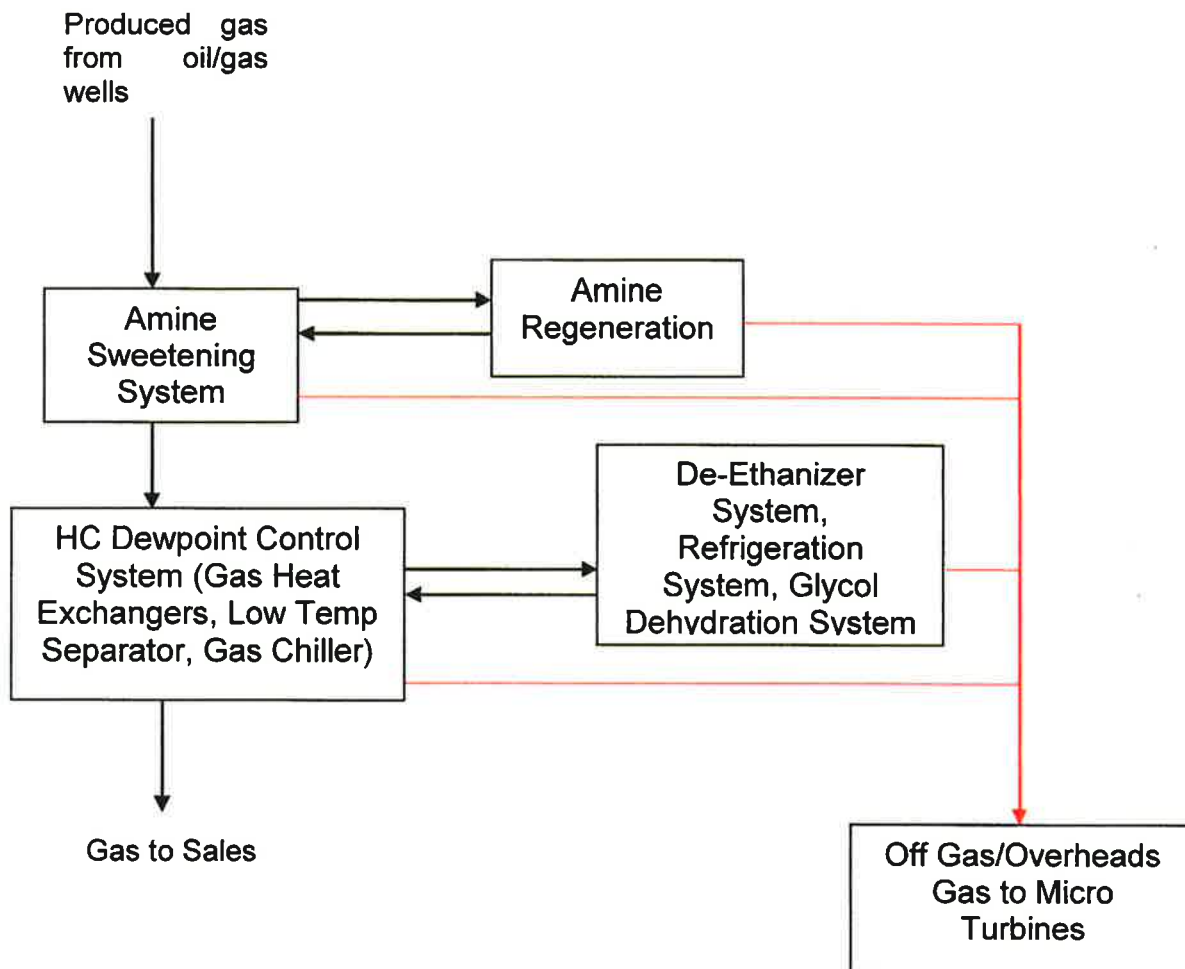
APPENDIX C

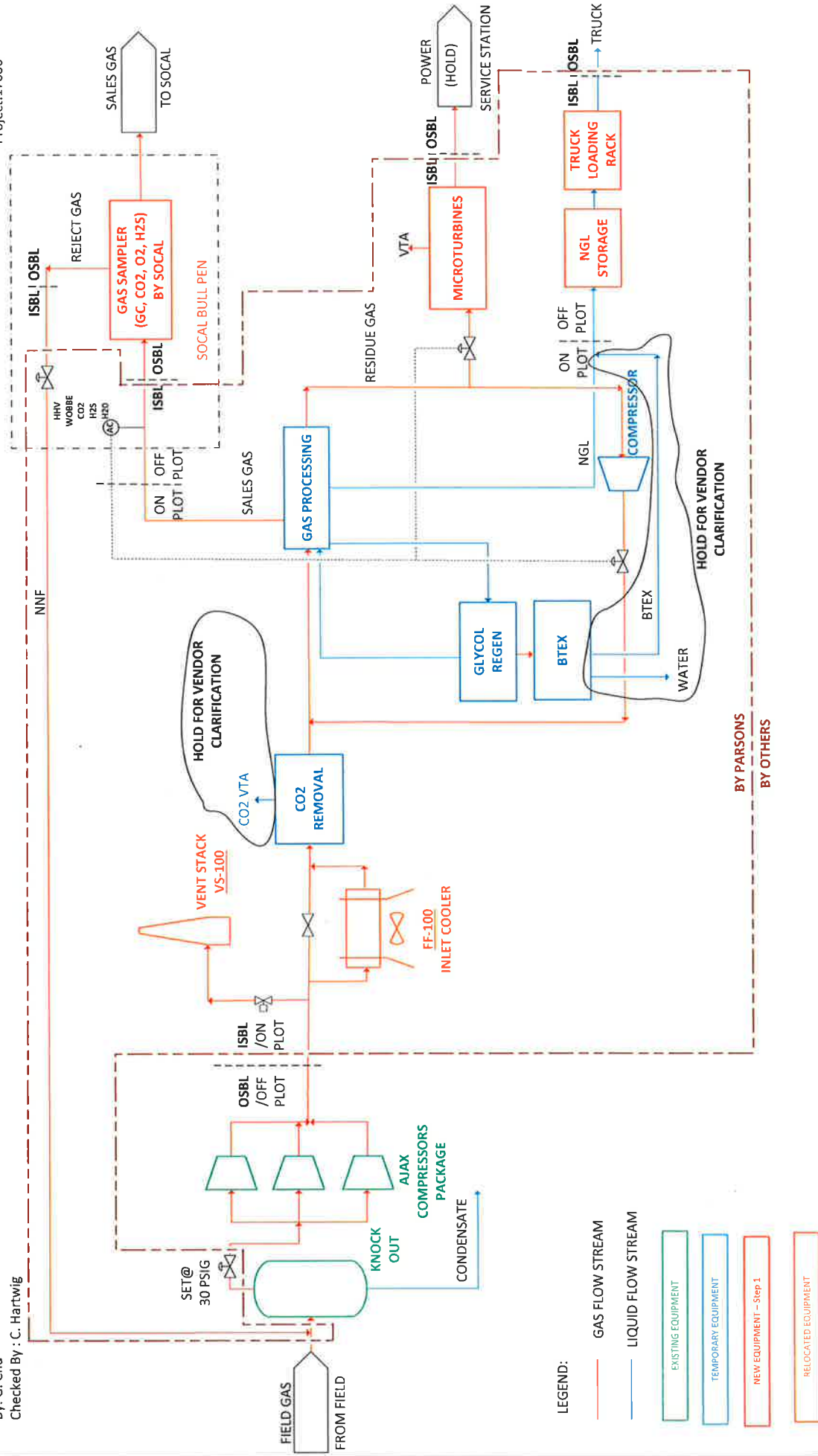
Process Flow Diagram and Gas Plant Equipment List

California Resources Production Corporation

FACILITY NAME: KNDU Gas Processing Plant
SCALE: NONE

Process Flow Diagram – Post-Project





KNDU Gas Plant Equipment List

Amine Sweetening System

Inlet Filter/Separator
Amine Contactor
Outlet Gas
Scrubber
Amine Flash Tank
Lean/Rich Amine Heat Exchanger
Amine Stripper
Amine Reboiler w/ Surge Drum (Electric Heat Element) ←
Reflux Condenser
Reflux
Accumulator
Reflux Pumps
Amine Pumps
Lean Amine Cooler
Amine Filters

Hydrocarbon Dewpoint Control System

Gas/Gas Heat Exchanger	De-Ethanizer Tower
Rich Gas/NGL Heat Exchanger	De-Ethanizer Overheads Condenser
Gas Chiller	De-Ethanizer Reflux Drum
Low Temperature Separator	De-Ethanizer Reflux Pumps
Lean Gas/NGL Heat Exchanger	De-Ethanizer Reboiler (<u>Electric Heat Element</u>) ←
Propane Subcooler	De-Ethanizer Reboiler Coil
Suction Scrubber	Glycol Flash Tank
Oil Flooded Screw Compressor	Glycol Reboiler (<u>Electric Heat Element</u>) ←
Compressor Discharge Separator	Glycol Surge Tank w/ Lean/Rich Heat Exchanger
Propane Condenser	
Propane Accumulator	Glycol Pumps
Lube Oil Cooler	Glycol Still Overheads Condenser
Lube Oil Pump	Glycol Still Overheads Trim Cooler
De-Ethanizer Feed/Bottoms Heat Exchanger	Glycol Overheads Drum
	Glycol Overheads Pumps

APPENDIX D

ARB Executive Order DG-035

State of California
AIR RESOURCES BOARD
Executive Order DG-035
Distributed Generation Certification of
Capstone Turbine Corporation
C200 ICHP Microturbine

WHEREAS, the Air Resources Board (ARB) was given the authority under California Health and Safety Code section 41514.9 to establish a statewide Distributed Generation (DG) Certification Program to certify electrical generation technologies that are exempt from the permit requirements of air pollution control or air quality management districts;

WHEREAS, this DG Certification does not constitute an air pollution permit or eliminate the responsibility of the end user to comply with all federal, state, and local laws, rules and regulations;

WHEREAS, on June 6, 2011, Capstone Energy Corporation applied for a DG Certification of its 200 kW C200 ICHP Microturbine and whose application was deemed complete on September 1, 2011;

WHEREAS, the C200 ICHP Microturbine is manufactured and sold with integrated combined heat and power technology;

WHEREAS, Capstone Turbine Corporation has demonstrated that the C200 ICHP Microturbine complies with the minimum efficiency requirement in title 17, California Code of Regulations (CCR), section 94203(b);

WHEREAS, title 17, CCR, section 94203(b) allows for an energy credit at the rate of one megawatt-hour for each 3.4 million British thermal units of heat recovered to be used when calculating emission rates;

WHEREAS, Capstone Turbine Corporation has demonstrated, according to test methods specified in title 17, CCR, section 94207, that its natural-gas-fueled C200 ICHP Microturbine has complied with the following emission standards:

1. Emissions of oxides of nitrogen no greater than 0.07 pounds per megawatt-hour;
2. Emissions of carbon monoxide no greater than 0.10 pounds per megawatt-hour; and
3. Emissions of volatile organic compounds no greater than 0.02 pounds per megawatt-hour.

WHEREAS, Capstone Turbine Corporation has demonstrated that its C200 ICHP Microturbine complies with the emission durability requirements in title 17, CCR, section 94203(d);

WHEREAS, I find that the Applicant, Capstone Turbine Corporation, has met the requirements specified in article 3, title 17, CCR, and has satisfactorily demonstrated that the C200 ICHP Microturbine meets the DG Certification Regulation 2007 Fossil Fuel Emission Standards;

NOW THEREFORE, IT IS HEREBY ORDERED, that a DG Certification, Executive Order DG-035 is granted.

This DG Certification:

- 1) is subject to all conditions and requirements of the ARB's DG Certification Program, article 3, title 17, CCR, including the provisions relating to inspection, denial, suspension, and revocation;
- 2) shall be void if any manufacturer's modification results in an increase in emissions or changes the efficiency or operating conditions of a model, such that the model no longer meets the DG Certification Regulation 2007 Fossil Fuel Emission Standards; and
- 3) shall expire on the 21st day of September, 2016.

Executed at Sacramento, California, this 21st day of September 2011.

James Goldstene
Executive Officer
by

/S/

Richard Corey, Chief
Stationary Source Division

APPENDIX E

AP-42 Emission Factors

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION^a

Pollutant	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
CO ₂ ^b	120,000	A
Lead	0.0005	D
N ₂ O (Uncontrolled)	2.2	E
N ₂ O (Controlled-low-NO _x burner)	0.64	E
→ PM (Total) ^c	7.6 ←	D
PM (Condensable) ^c	5.7	D
PM (Filterable) ^c	1.9	B
SO ₂ ^d	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

^a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from lb/10⁶ scf to kg/10⁶ m³, multiply by 16. To convert from lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds.

VOC = Volatile Organic Compounds.

^b Based on approximately 100% conversion of fuel carbon to CO₂. CO₂[lb/10⁶ scf] = (3.67) (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO₂, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2x10⁴ lb/10⁶ scf.

^c All PM (total, condensible, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM₁₀, PM_{2.5} or PM₁ emissions. Total PM is the sum of the filterable PM and condensible PM. Condensible PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

^d Based on 100% conversion of fuel sulfur to SO₂. Assumes sulfur content is natural gas of 2,000 grains/10⁶ scf. The SO₂ emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO₂ emission factor by the ratio of the site-specific sulfur content (grains/10⁶ scf) to 2,000 grains/10⁶ scf.

APPENDIX F

Gas Plant Fugitive Emission Calculations

California Resources Production Corporation
Project # C-1172045 , Permit Unit # C-273-47-0

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 $\geq 10,000$ 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 $\geq 10,000$ ppmv (lb/day/source)	VOC emissions (lb/day)
Valves	Gas/Light Liquid	596	0	1.852E-03	7.333E+00	1.10
	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	11	0	5.270E-02	4.709E+00	0.58
	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	125	0	7.778E-03	7.281E+00	0.97
	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	1,860	0	6.349E-04	1.370E+00	1.18
	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	210	0	1.482E-03	3.228E+00	0.31
	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 Daily VOC Emissions = 4.1 lb-VOC/day
Total Annual VOC Emissions = 1,514 lb-VOC/year

APPENDIX G

SSPE1 Calculations

SSPE1 Calculations:

1) C-273-18-3, '-19-3, and '-20-3:

These are three identical engines with identical equipment description as below and identical emission factors; therefore, the following calculations are identical for three engines:

326 BHP AJAX MODEL DPC-2802LE LEAN-BURN NATURAL GAS-FIRED IC ENGINE
POWERING A NATURAL GAS COMPRESSOR

A. Assumptions

- The engine operates 24 hr/day and 365 day/year (worst case)

B. Emission Factors (EF)

Emission Factors		
Pollutant	Emission Factor (g/bhp-hr)	Source
NO _x	0.893	Current PTOs
SO _x	0.011	
PM ₁₀	0.0365	
CO	3.863	
VOC	1.029	

C. Calculations

Annual emissions are calculated for each pollutant as follows and summarized in the table below:

$$\text{Annual PE (lb/year)} = \text{EF (g/bhp-hr)} \times 326 \text{ bhp} \times 8,760 \text{ hr/yr} \times \text{lb/453.6 g}$$

Annual Potential Emissions (PE)				
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Annual Hours of Operation (hrs/year)	Annual PE (lb/year)
NO _x	0.893	326	8,760	5,622
SO _x	0.011	326	8,760	69
PM ₁₀	0.0365	326	8,760	230
CO	3.863	326	8,760	24,321
VOC	1.029	326	8,760	6,478

2) C-273-21-1:

GLYCOL DEHYDRATION OPERATION WITH A PERMIT-EXEMPT REBOILER (LESS THAN 5 MMBTU/HR), HEAT EXCHANGER, GLYCOL PUMP, LIQUID KNOCKOUT SYSTEM (SHARED WITH UNITS C-273-22 AND -23), AND ASSOCIATED EQUIPMENT

A. Assumptions

- The operating schedule is 24 hr/day and 365 day/year (worst case)
- Emissions from the glycol dehydration operation shall not exceed 155.0 lb-VOC/day including equipment shared with permit units C-273-22 and C-273-23. (current PTO)

B. Calculations

Annual emissions are calculated for as follows and summarized in the table below:

Annual PE = Daily PE (lb-VOC/day) x 365 days/year

= 155.0 lb-VOC/day x 365 days/year

= 56,575 lb-VOC/year

3) C-273-22-1:

GLYCOL DEHYDRATION OPERATION WITH A PERMIT-EXEMPT REBOILER (LESS THAN 5 MMBTU/HR), HEAT EXCHANGER, GLYCOL PUMP, LIQUID KNOCKOUT SYSTEM (SHARED WITH UNITS C-273-21 AND -23), AND ASSOCIATED EQUIPMENT

A. Assumptions

- The operating schedule is 24 hr/day and 365 day/year (worst case)
- Emissions from the glycol dehydration operation shall not exceed 31.0 lb-VOC/day not including equipment shared with permit units C-273-21 and C-273-23. (current PTO)

B. Calculations

Annual emissions are calculated for as follows and summarized in the table below:

Annual PE = Daily PE (lb-VOC/day) x 365 days/year

= 31.0 lb-VOC/day x 365 days/year

= 11,315 lb-VOC/year

4) C-273-23-1:

GLYCOL DEHYDRATION OPERATION WITH A PERMIT-EXEMPT REBOILER (LESS THAN 5 MMBTU/HR), HEAT EXCHANGER, GLYCOL PUMP, LIQUID KNOCKOUT SYSTEM (SHARED WITH UNITS C-273-21 AND -22), AND ASSOCIATED EQUIPMENT

A. Assumptions

- The operating schedule is 24 hr/day and 365 day/year (worst case)
- Emissions from the glycol dehydration operation shall not exceed 31.0 lb-VOC/day not including equipment shared with permit units C-273-21 and C-273-22. (current PTO)

B. Calculations

Annual emissions are calculated for as follows and summarized in the table below:

Annual PE = Daily PE (lb-VOC/day) x 365 days/year

= 31.0 lb-VOC/day x 365 days/year

= 11,315 lb-VOC/year

5) C-273-24-1:

TRANSPORTABLE TIER 3 CERTIFIED DIESEL-FIRED IC ENGINE UP TO 532 BHP FOR MECHANICAL PUMPING, COMPRESSION, OR POWERING AN ELECTRICAL GENERATOR

A. Assumptions

- Operating schedule: 24 hr/day and 200 hr/yr (current PTO)
- Density of diesel fuel: 7.1 lb/gal
- EPA F-factor (adjusted to 60 °F): 9,051 dscf/MMBtu
- Fuel heating value: 137,000 Btu/gal
- BHP to Btu/hr conversion: 2,542.5 Btu/bhp-hr
- Thermal efficiency of engine: commonly $\approx 35\%$
- PM₁₀ fraction of diesel exhaust: 0.96 (CARB, 1988)

B. Emission Factors (EF)

Emission Factors		
Pollutant	Emission Factor (g/bhp-hr)	Source
NO _x	2.85	Current PTO
SO _x	0.0051	Mass balance equation below
PM ₁₀	0.15	Current PTO
CO	2.61	
VOC	0.15	

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

C. Calculations

Annual emissions are calculated for each pollutant as follows and summarized in the table below:

$$\text{Annual PE (lb/year)} = \text{EF (g/bhp-hr)} \times 532 \text{ bhp} \times 200 \text{ hr/yr} \times \text{lb/453.6 g}$$

Annual Emissions (PE)				
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Annual Hours of Operation (hrs/year)	Annual PE (lb/year)
NO _x	2.85	532	200	669
SO _x	0.0051	532	200	1
PM ₁₀	0.15	532	200	35
CO	2.61	532	200	612
VOC	0.15	532	200	35

APPENDIX H

Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

$QNEC = PE2 - PE1$, where:

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

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

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

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

Micro Turbines (C-273-32-0 thru '-46-0):

Quarterly PE2 (lb/qtr) = $PE2 \text{ (lb/yr)} \div 4 \text{ qtr/yr}$

Pollutant	Annual PE2 (lb/yr)	Quarterly PE2 (lb/qtr)
NO _x	659	164.75
SO _x	569	142.25
PM ₁₀	152	38
CO	1,798	449.5
VOC	180	45

Quarterly PE1 (lb/qtr) = $PE1 \text{ (lb/yr)} \div 4 \text{ qtr/yr} = 0$ since these are new emission units.

Thus: $QNEC \text{ (lb/qtr)} = \text{Quarterly PE2 (lb/qtr)} - \text{Quarterly PE1 (lb/qtr)}$

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	164.75	0	164.75
SO _x	142.25	0	142.25
PM ₁₀	38	0	38
CO	449.5	0	449.5
VOC	45	0	45

Since QNEC values are entered in PAS database as whole numbers, QNEC will be distributed in four quarters as summarized in the table below:

Pollutant	Quarterly NEC [QNEC]			
	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
NO _x	164	165	165	165
SO _x	142	142	142	143
PM ₁₀	38	38	38	38
CO	449	449	450	450
VOC	45	45	45	45

Gas Processing Plant (C-273-47-0):

$$\text{Quarterly PE2 (lb/qtr)} = \text{PE2 (lb/yr)} \div 4 \text{ qtr/yr}$$

Pollutant	Annual PE2 (lb/yr)	Quarterly PE2 (lb/qtr)
NO _x	0	0
SO _x	0	0
PM ₁₀	0	0
CO	0	0
VOC	1,514	378.5

$$\text{Quarterly PE1 (lb/qtr)} = \text{PE1 (lb/yr)} \div 4 \text{ qtr/yr} = 0 \text{ since this is a new emission unit.}$$

Thus:

$$\text{QNEC (lb/qtr)} = \text{Quarterly PE2 (lb/qtr)} - \text{Quarterly PE1 (lb/qtr)}$$

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	378.5	0	378.5

Since QNEC values are entered in PAS database as whole numbers, QNEC will be distributed in four quarters as summarized in the table below:

Pollutant	Quarterly NEC [QNEC]			
	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
NO _x	0	0	0	0
SO _x	0	0	0	0
PM ₁₀	0	0	0	0
CO	0	0	0	0
VOC	378	378	379	379

APPENDIX I

BACT Guideline 7.2.7 and BACT Analysis for Gas Processing Plant (C-273-47-0)

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.2.7*

Last Update 11/27/2006

**Natural Gas Processing Plant - Valves, Connectors, and Compressor and Pump
Seals (Subject to Rule 4403) < or = 100 Million SCF/Day**

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 10,000 ppmv above background when measured per EPA Method 21, for all components, and an Inspection and Maintenance Program pursuant to District Rule 4409.	1. Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of • 100 ppmv above background (for Valves and Connectors) and • 500 ppmv (for Compressor and Pump Seals) when measured per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409. 2. Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 5,000 ppmv above background when measured EPA Method 21, for all components, and an Inspection and Maintenance Program pursuant to District Rule 4409.	

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

***This is a Summary Page for this Class of Source**

Top-Down BACT Analysis for VOC Emissions:

Step 1 - Identify All Control Technologies

BACT Guideline 7.2.7 identifies the following control options for VOC emissions:

Achieved in Practice

- Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 10,000 ppmv above background when measured per EPA Method 21, for all components, and an Inspection and Maintenance Program pursuant to District Rule 4409.

Technologically Feasible

- Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for Valves and Connectors) and 500 ppmv (for Compressor and Pump Seals) when measured per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409.
- Drops per minute of liquid containing VOC or as a reading of methane, in excess of 5,000 ppmv above background when measured EPA Method 21, for all components, and an Inspection and Maintenance Program pursuant to District Rule 4409.

Step 2 - Eliminate Technologically Infeasible Options

There are no technologically infeasible to eliminate from Step 1.

Step 3 - Rank Remaining Control Options by Control Effectiveness

1. **Technologically Feasible:** Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for Valves and Connectors) and 500 ppmv (for Compressor and Pump Seals) when measured per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409.
2. **Technologically Feasible:** Drops per minute of liquid containing VOC or as a reading of methane, in excess of 5,000 ppmv above background when measured EPA Method 21, for all components, and an Inspection and Maintenance Program pursuant to District Rule 4409.
3. **Achieved in Practice:** Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 10,000 ppmv above background when measured per EPA Method 21, for all components, and an Inspection and Maintenance Program pursuant to District Rule 4409.

Step 4 - Cost Effectiveness Analysis

Since the applicant has proposed the most effective control technology listed in step 3 as a technologically feasible option, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT is satisfied with the following proposed option by the facility:

- **Technologically Feasible:** Leak defined as a dripping rate of more than three (3) drops per minute of liquid containing VOC or as a reading of methane, in excess of 100 ppmv above background (for Valves and Connectors) and 500 ppmv (for Compressor and Pump Seals) when measured per EPA Method 21 from the potential source, and an Inspection and Maintenance Program pursuant to District Rule 4409.

APPENDIX J

HRA/AAQA Summary

San Joaquin Valley Air Pollution Control District

Risk Management Review

To: Sajjad Ahmad – Permit Services
From: Seth Lane – Technical Services
Date: August 1, 2017
Facility Name: California Resources Production Corp.
Location: Kettlemen North Dome Unit, Kings County
Application #(s): C-273-32-0 thru 47-0
Project #: C-1172045

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 32-0 thru 46-0 (Turbines)	0.13	0.00	0.00	3.81E-07	No	No
Unit 47 (Glycol Reboiler)	1.10	0.18	0.01	3.53E-06	Yes	No
Project Totals	1.23	0.18	0.01	3.92E-06		
Facility Totals	>1	0.18	0.01	5.09E-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 # 32-0 thru 46-0

1. The turbines must stay at least 804 meters from the nearest receptor as well as the facility boundary.
2. 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.

Unit # 47-0

No special requirements are required.

T-BACT is required for this unit because of emissions of Benzene which is a VOC.

B. RMR REPORT

I. Project Description

Technical Services received a request on July 14, 2017, to perform a Risk Management Review for a proposed installation of fifteen (15) 2.28 MMBtu/hr-each natural gas/field gas-fired Capstone Model C200 Micro Turbines each powering a 200 kW electrical generator. The facility is also proposing to install a gas processing plant with amine sweetening and glycol dehydration.

II. Analysis

Toxic emissions for this proposed unit were calculated using Natural Gas Fired Turbine emission factors based on AP-42 Chapter 3.1 Stationary Gas Turbines (for turbines w/o catalyst). Toxic emissions for the glycol reboiler were calculated using ethylene Glycol Reboiler emission factors from CARB's 1999 Volume 1 Part 2, Development Of Toxics Emission Factors From Source Test Data Collected Under The Air Toxics Hot Spots Program. These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy 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 1990 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 2007-2011 from Kettleman 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 32-0 thru 46-0 (Turbines)			
Source Type	Point	Location Type	Rural
Stack Height (m)	4.06	Closest Receptor (m)	804
Stack Diameter. (m)	0.30	Type of Receptor	Residential
Stack Exit Velocity (m/s)	0.25	Max Hours per Year	8760
Stack Exit Temp. (°K)	552.50	Fuel Type	NG
Fuel Usage (mmscf/hr)	0.21	Fuel Usage (mmscf/yr)	1,825

The following parameters were used for the review:

Analysis Parameters Unit 47-0 Glycol Reboiler			
Source Type	Area	Location Type	Rural
X-Length (m)	12.19	Closest Receptor (m)	804
Y-Length (m)	6.10	Type of Receptor	Residential
Release Height (m)	1.22	Pollutant Type	VOC
Fugitive VOC Emissions (lb/hr)	0.17	Fugitive VOC Emissions (lb/yr)	1,514

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.)		PM₁₀ (Lbs.)	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.
32-0 thru 46-0 (EACH)	0.08	659	0.06	569	0.21	1,798	0.02	152

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	Tranquility (2016)	Pass	X	Pass	X	X
NO _x	Hanford (2016)	Pass ¹	X	X	X	Pass
SO _x	Fresno – Garland (2016)	Pass	Pass	X	Pass	Pass
PM ₁₀	Corcoran-Patterson (2016)	X	X	X	Pass ²	Pass ²
PM _{2.5}	Corcoran (2015)	X	X	X	Pass ³	Pass ³

*Results were taken from the attached PSD spreadsheet.

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

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

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

III. Conclusion

Unit # 32-0 thru 46-0

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.

Unit # 47-0

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

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.

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 Report