



JUL 12 2017

Mr. Tim Alburger  
Seneca Resources  
4800 Corporate Court  
Bakersfield, CA 93311

**Re: Notice of Preliminary Decision – ATC / Certificate of Conformity  
District Facility # S-1114  
Project # 1170463**

Dear Mr. Alburger:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The permit is to remove a steam generator's fuel use limit.

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

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

Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet  
Director of Permit Services

Enclosures

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

Seyed Sadredin  
Executive Director/Air Pollution Control Officer

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**San Joaquin Valley Air Pollution Control District**  
**Authority to Construct Application Review**  
**Steam Generators**

Facility Name: Seneca Resources  
Mailing Address: 4800 Corporate Court  
Bakersfield, CA 93311

Date: 7/10/17  
Engineer: David Torii  
Lead Engineer: Dan Klevann

Contact Person: Tim Alburger  
Telephone: 661-399-4270 x3544  
Application #(s): S-1114-10-31 and '74-16  
Project #: 1170463  
Deemed Complete: 3/21/17

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**I. Proposal**

Seneca Resources (Seneca) has requested Authority to Construct (ATC) permits to remove steam generator S-1114-10's fuel use limit. To mitigate S-1114-10's NOx IPE, tank heater S-3007-4 will be surrendered. To mitigate S-1114-10's PM10 IPE a PM10 specific limiting condition (SLC) will be created between S-1114-10 and S-1114-74.

Seneca states that removing S-1114-10's fuel use limit will standardize the unit with their other steam generators and make regulatory conformance less problematic and more straight forward.

Seneca also requests that the permits' following condition be revised to not require record keeping of the volumes of PUC quality natural gas and total gas (see below Rule 4320 discussion in section VIII).

*In months where PUC quality gas is burned, the permittee shall maintain records on a calendar month basis of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320] Y*

Seneca received their Title V Permit on 4/30/06. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Seneca must apply to administratively amend their Title V permit.

**II. Applicable Rules**

Rule 2201	New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
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 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (10/16/08)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
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

Steam generators S-1114-10 and '74 are operated in Section 15, T31S, R22E within Seneca's Heavy Oil Western Stationary Source. The equipment is not be located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### IV. Process Description

Seneca operates natural gas and TEOR gas-fired steam generators used to produce steam for thermally enhanced oil production. Waste gas containing hydrogen sulfide is produced with the crude oil and collected by the TEOR vapor control system. The waste gas is routed to DOGGR-approved disposal wells and to steam generators. The subject steam generators combust TEOR gas and are served by an exhaust scrubber to reduce SO<sub>x</sub> emissions.

### V. Equipment Listing

#### Pre-Project Equipment Description (see PTOs in Appendix B):

- S-1114-10-30: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STRUTHERS STEAM GENERATOR WITH LOW NOX BURNER AND O2 CONTROLLER SERVED BY AIRPOL DUAL VALVE TRAY SOX SCRUBBER WITH CHEVRON TYPE MIST ELIMINATOR AND WET ELECTROSTATIC PRECIPITATOR SHARED WITH S-1114-10, '-74
- S-1114-74-15: 62.5 MMBTU/HR NATURAL /TEOR GAS FIRED STEAM GENERATOR (CUSA ID # 50-1-15A, DIS# 43005-78) WITH O2 CONTROLLER AND SO2 SCRUBBER AND WET ELECTROSTATIC PRECIPITATOR SHARED WITH UNIT S-1114-10
- S-3007-4-1: 0.5 MMBTU/HR TANK HEATER FIRED ON LEASE GAS (RIPLEY-TATUM LEASE)

Proposed ATCs:

- S-1114-10-31: MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STRUTHERS STEAM GENERATOR WITH LOW NOX BURNER AND O2 CONTROLLER SERVED BY AIRPOL DUAL VALVE TRAY SOX SCRUBBER WITH CHEVRON TYPE MIST ELIMINATOR AND WET ELECTROSTATIC PRECIPITATOR SHARED WITH S-1114-10, '-74: **REMOVE ANNUAL FUEL USE LIMIT AND CREATE PM10 SLC WITH S-1114-74 AND REQUIRE THAT PUC-QUALITY GAS AND TEOR GAS BE COMBINED PRIOR TO BURNER**
- S-1114-74-16: MODIFICATION OF 62.5 MMBTU/HR NATURAL /TEOR GAS FIRED STEAM GENERATOR (CUSA ID # 50-1-15A, DIS# 43005-78) WITH O2 CONTROLLER AND SO2 SCRUBBER AND WET ELECTROSTATIC PRECIPITATOR SHARED WITH UNIT S-1114-10: **INCLUDE IN PM10 SLC WITH S-1114-10 AND REQUIRE THAT PUC-QUALITY GAS AND TEOR GAS BE COMBINED PRIOR TO BURNER**

Post Project Equipment Description:

- S-1114-10-31: 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STRUTHERS STEAM GENERATOR WITH LOW NOX BURNER AND O2 CONTROLLER SERVED BY AIRPOL DUAL VALVE TRAY SOX SCRUBBER WITH CHEVRON TYPE MIST ELIMINATOR AND WET ELECTROSTATIC PRECIPITATOR SHARED WITH S-1114-10, '-74
- S-1114-74-16: 62.5 MMBTU/HR NATURAL /TEOR GAS FIRED STEAM GENERATOR (CUSA ID # 50-1-15A, DIS# 43005-78) WITH O2 CONTROLLER AND SO2 SCRUBBER AND WET ELECTROSTATIC PRECIPITATOR SHARED WITH UNIT S-1114-10

## VI. Emission Control Technology Evaluation

Low-NO<sub>x</sub> burners reduce NO<sub>x</sub> formation by premixing the fuel and air prior to lean combustion in the reaction chamber. The flame exits the combustion chamber 80% combusted resulting in a more compact flame geometry. The secondary combustion occurs in the furnace. The secondary fuel flow provides a near stoichiometric overall ratio for the burner. The entrained oxygen deficient gases in the secondary stage help to reduce the flame temperature so that the reaction between the excess oxygen and nitrogen is minimized.

A SO<sub>x</sub> scrubber is used to reduce SO<sub>x</sub> emissions from the combustion of high sulfur TEOR gas. A wet electrostatic precipitator (WESP) serves the SO<sub>x</sub> scrubber to reduce PM<sub>10</sub> emissions.

## VII. General Calculations

As shown below in section VIII, ATC S-1114-74-16 is not subject to Rule 2201 in this project; therefore, calculations are only required for below sections VII.C.1 and VII.C.2 for ATC S-1114-74-16.

### A. Assumptions

- The maximum operating schedule is 24 hours per day

- S-1114-10 pre-project fuel use limit: 511,000 MMBtu/year
- S-1114-10 post-project fuel use limit: 547,500 MMBtu/year (= 62.5 x 8760)
- Post-project combined annual (SLC limit) PM10 emissions from steam generators '10 and '74 will be set at the sum of S-1114-10's and '74's PM10 PE1's, or 75,471 lb/year.
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B)
- S-3007-4 is being surrendered to mitigate S-1114-10's NOx increase; therefore, calculations are only required to calculate its NOx BE; its other emissions are conservatively assumed to equal zero.
- S-3007-4 does not have NOx control.
- S-1114 and S-3007 are both part of the same stationary source.

**B. Emission Factors**

Unit #	Emission Factors (EF) (lb/MMBtu)					Source
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC	
S-1114-10	0.011	0.324	0.0713	0.031	0.003	PTO
S-1114-74	0.011	0.324	0.0713	0.021	0.003	PTO
S-3007-4	0.100*	NA	NA	NA	NA	See Assumptions

\*uncontrolled NOx EF

Pollutant	Pre-Project Emission Factors (EF) S-3007-4		Source
	0.1 lb-NO <sub>x</sub> /MMBtu	100 lb-NO <sub>x</sub> /scf	
NO <sub>x</sub>	0.1 lb-NO <sub>x</sub> /MMBtu	100 lb-NO <sub>x</sub> /scf	AP-42 (07/98) Table 1.4-2

**C. Calculations**

**1. Pre-Project Potential to Emit (PE1)**

S-1114-10:

Pollutant	Daily PE1			
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE (lb/day)
<b>NO<sub>x</sub></b>	0.0110	62.5	24	16.5
<b>SO<sub>x</sub></b>	0.324	62.5	24	486.0
<b>PM<sub>10</sub></b>	0.0713	62.5	24	107.0
<b>CO</b>	0.031	62.5	24	46.5
<b>VOC</b>	0.003	62.5	24	4.5

Pollutant	Annual PE1		
	EF (lb/MMBtu)	Heat Input (MMBtu/year)	Annual PE (lb/year)
<b>NO<sub>x</sub></b>	0.011	511,000	5,621
<b>SO<sub>x</sub></b>	0.324	511,000	165,564
<b>PM<sub>10</sub></b>	0.0713	511,000	36,434
<b>CO</b>	0.031	511,000	15,841
<b>VOC</b>	0.003	511,000	1,533

S-1114-74:

Pollutant	Daily PE1			
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE (lb/day)
NO <sub>x</sub>	0.011	62.5	24	16.5
SO <sub>x</sub>	0.324	62.5	24	486.0
PM <sub>10</sub>	0.0713	62.5	24	107.0
CO	0.021	62.5	24	31.5
VOC	0.003	62.5	24	4.5

Pollutant	Annual PE1			
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE (lb/year)
NO <sub>x</sub>	0.011	62.5	8,760	6,023
SO <sub>x</sub>	0.324	62.5	8,760	177,390
PM <sub>10</sub>	0.0713	62.5	8,760	39,037
CO	0.021	62.5	8,760	11,498
VOC	0.003	62.5	8,760	1,643

Summary PE1 (lb/year)					
Permit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
S-1114-10	5621	165,564	36,434	15,841	1,533
S-1114-74	6,023	177,390	39,037	11,498	1,643
PE1 Total:	11,644	262,537*	75,471	27,339	3,176

\*SLC limit.

S-3007-4:

Annual PE1				
Permit Unit	EF (lb/MMBtu)	Heat Input MMBtu/hr	Operating Schedule (hr/yr)	NO <sub>x</sub> (lb/year)
S-3007-4	0.100	0.5	8760	438

**2. Post Project Potential to Emit (PE2)**

S-1114-10:

Pollutant	Daily PE2			
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE (lb/day)
<b>NO<sub>x</sub></b>	0.0110	62.5	24	16.5
<b>SO<sub>x</sub></b>	0.324	62.5	24	486.0
<b>PM<sub>10</sub></b>	0.0713	62.5	24	107.0
<b>CO</b>	0.031	62.5	24	46.5
<b>VOC</b>	0.003	62.5	24	4.5

Pollutant	Annual PE2		
	EF (lb/MMBtu)	Heat Input (MMBtu/year)	Annual PE (lb/year)
<b>NO<sub>x</sub></b>	0.011	547,500	6,023
<b>SO<sub>x</sub></b>	0.324	547,500	177,390
<b>PM<sub>10</sub></b>	0.0713	547,500	39,037
<b>CO</b>	0.031	547,500	16,973
<b>VOC</b>	0.003	547,500	1,643



S-1114-74:

Pollutant	Daily PE2			
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE (lb/day)
NO <sub>x</sub>	0.011	62.5	24	16.5
SO <sub>x</sub>	0.324	62.5	24	486.0
PM <sub>10</sub>	0.0713	62.5	24	107.0
CO	0.021	62.5	24	31.5
VOC	0.003	62.5	24	4.5

Pollutant	Annual PE2			
	EF (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE (lb/year)
NO <sub>x</sub>	0.011	62.5	8,760	6,023
SO <sub>x</sub>	0.324	62.5	8,760	177,390
PM <sub>10</sub>	0.0713	62.5	8,760	39,037
CO	0.021	62.5	8,760	11,498
VOC	0.003	62.5	8,760	1,643

Summary PE2 (lb/year)					
Permit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
S-1114-10-31	6,023	177,390	39,037	16,973	1,643
S-1114-74-16	6,023	177,390	39,037	11,498	1,643
PE2 Total:	12,046	262,537*	75,471*	28,471	3,286

\*SLC limit.

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

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

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

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

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

## 5. Major Source Determination

### Rule 2201 Major Source Determination:

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

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

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

### Rule 2410 Major Source Determination:

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

PSD Major Source Determination (tons/year)						
	NO <sub>2</sub>	VOC	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>
Estimated Facility PE before Project Increase				>250		
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)				y		

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

## 6. Baseline Emissions (BE)

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

**a. BE NO<sub>x</sub>**

Pursuant to Rule 2201, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

S-1117-10 is equipped with a low NO<sub>x</sub> burner, which meet the requirements for achieved-in-practice BACT of current guideline 1.2.1. "Units firing on <50% PUC quality natural gas; commercial propane; and/or LPG: 9 ppmvd @ 3% O<sub>2</sub>". Therefore, their NO<sub>x</sub> BE=PE1.

S-3007-4 is not Highly Utilized, Fully Offset or a Clean Emission Unit; therefore its BE = HAE.

As shown in Appendix C, its historical fuel use is 3,277 Mcf

The unit is not equipped with a low NO<sub>x</sub> burner; therefore, its NO<sub>x</sub> EF is 0.1 lb/MMBtu (AP-42, Table 1.4-1).

$$BE = (3,277 \text{ Mcf})(1.0 \text{ MMBtu/Mcf})(0.1 \text{ lb-NO}_x\text{/MMBtu}) = 328 \text{ lb-NO}_x\text{/year}$$

**b. BE SO<sub>x</sub> and PM<sub>10</sub>**

S-1117-10 uses a SO<sub>x</sub> scrubber, which meets the requirements for achieved-in-practice BACT of current guideline 1.2.1. "use of a continuously operating SO<sub>2</sub> scrubber and either achieve 95% by weight control of sulfur compounds". Therefore, their SO<sub>x</sub> and PM<sub>10</sub> BE=PE1.

**c. BE CO**

As shown below in section VIII.B, offsets are not required in this project; therefore, CO BE calculations are not required.

**e. BE VOC**

S-1117-10 is gas-fired, which meet the requirements for achieved-in-practice BACT of current guideline 1.2.1. "Gaseous fuel". Therefore, their VOC BE=PE1.

**7. SB 288 Major Modification**

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

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO <sub>x</sub>	6,023	50,000	N
SO <sub>x</sub>	177,390	80,000	Y
PM <sub>10</sub>	39,037	30,000	Y
VOC	1,643	50,000	N

For projects where the PE2 surpasses the SB 288 Major Modification Threshold(s) the Net Emissions Increase (NEI) is compared to the SB 288 Major Modification thresholds in order to determine if this project constitutes an SB 288 Major Modification.

The NEI is the total of emission increases for every permit unit addressed in this project and is calculated as follows:

$$NEI = PE2 - BAE$$

Where: PE2 = the sum of all the PE2s for each permit unit in this project  
BAE = for units that are fully offset, the BAE = the PE1 for every unit, otherwise, the BAE is the actual annual emissions averaged over the baseline period for every unit.

The applicant concedes that the project triggers a SB 288 Major Modification for SO<sub>x</sub> and PM<sub>10</sub>; therefore, NEI calculations are not necessary.

## 8. Federal Major Modification

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

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

### Step 1

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

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

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

### PAE:

In this project S-1114-10's fuel use limit will be removed to standardize the unit with the facility's other steam generators and make regulatory conformance less cumbersome and

more straight forward. Note that the pre-project fuel use limit was 93% of the post-project limit. There is no expected increase in utilization of this unit. Creation of the PM10 SLC between S-1114-10 and '74 is to mitigate '10's PM10 increase. The modification to '10 is not due to an expected increase in steam demand or business activity and no increase in actual emissions is projected; therefore, the Projected Actual Emissions are determined to equal the BAE.

PAE	
	S-1114-10
NO <sub>x</sub>	3,364
SO <sub>x</sub>	1,330
PM <sub>10</sub>	2,375
VOC	0

**BAE:**

The unit's BAE is equal to its 2013 and 2014 emissions based on 2013 and 2014 fuel usage and the 2013 source test results. Note that only the 2013 source test results were used because the unit is on a triennial source testing schedule pursuant to Rule 4320; consequently, source testing was not performed for 2014.

BAE	
	S-1114-10
NO <sub>x</sub>	3,364
SO <sub>x</sub>	1,330
PM <sub>10</sub>	2,375
VOC	0

Since the PAE equals the BAE it is not necessary to calculate the UBC;

**Emission Increase:**

S-1114-10 Federal Major Modification Thresholds for Emission Increases					
	PAE	BAE	Emission Increase PAE – BAE	Thresholds (lb/yr)	Federal Major Modification?
NO <sub>x</sub>	3,364	3,364	0	0	N
SO <sub>x</sub>	1,330	1,330	0	0	N
PM <sub>10</sub>	2,375	2,375	0	30,000	N
PM <sub>2.5</sub>	0	0	0	20,000	N
VOC	3,364	3,364	0	80,000	N

Since none of the Federal Major Modification Thresholds are surpassed with this project, this project does not constitute a Federal Major Modification and no further analysis is required.

Pursuant to 40 CFR 51.165(a)(6), since the applicant used the method specified in 40 CFR 51.165(a)(1)(xxviii)(B)(1) through (3) to calculate the PAE for S-1114-10, records must be maintained and reporting performed pursuant to 40 CFR 51.165(a)(6)(v); therefore, the following conditions will be added to ATC S-1114-10-31. Note that this is not required for ATC S-1114-74-16 because its PAE equals its PE2.

*Permittee shall maintain daily and annual records of the actual NOx and VOC emissions on a calendar year basis. [District Rules 1070 and 2201]*

*If the steam generator's actual emissions exceed 3,364 lb-NOx, and/or 0 lb-VOC per calendar year, the permittee must report to the District the following information: actual NOx and VOC emissions per calendar year and an explanation of why the actual emissions differed from 3,364 lb-NOx, and/or 0 lb-VOC. Such records must be submitted to the District for a period of 5 calendar years beginning the year the flare is initially operated and shall be submitted by within 60 days of the end of each calendar year. [District Rule 2201]*

#### **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.

##### **I. Project Location Relative to Class 1 Area**

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

##### **II. Project Emission Increase – Significance Determination**

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

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

<b>PSD Significant Emission Increase Determination: Potential to Emit (tons/year)</b>					
	<b>NO<sub>2</sub></b>	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Total PE from New and Modified Units	5.8	131.3	13.7	37.7	37.7
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	n	y	n	n	n

As demonstrated in the table above, because the post-project potential to emit from all new and modified emission units is greater than at least one PSD significant emission increase threshold, further analysis is required to determine if the project will result in an increase greater than the PSD significant emission increase thresholds, see step b. below for further analysis.

**b. Evaluation of Calculated Emission Increases vs PSD Significant Emission Increase Thresholds**

In this step, the emission increase for each subject pollutant is compared to the PSD significant emission increase threshold, and if the emission increase for each subject pollutant is below their threshold, no further analysis is required.

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

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

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

In this project S-1114-10's fuel use limit will be removed to standardize the unit with their other steam generators and make regulatory conformance less problematic and more efficacious. No increase in future actual emissions is expected; therefore, the Projected Actual Emissions is not expected to exceed the Baseline Actual Emissions. Consequently, the emission increases from the project does not exceed any of the PSD significant emission increase thresholds. Therefore the project does not result in a PSD major modification and no further discussion is required.

**10. Quarterly Net Emissions Change (QNEC)**

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

## VIII. Compliance Determination

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

This rule applies to new stationary sources and all modifications to existing stationary sources which are subject to the District permit requirements and after construction emit or may emit one or more affected pollutant.

3.25.1 An action including at least one of the following items:

- 3.25.1.1 Any change in hours of operation, production rate, or method of operation of an existing emissions unit, which would necessitate a change in permit conditions.
- 3.25.1.2 Any structural change or addition to an existing emissions unit which would necessitate a change in permit conditions. A Replacement Emissions Unit shall not be considered to be a structural change.
- 3.25.1.3 An increase in emissions from an emissions unit caused by a modification of the Stationary Source when the emissions unit is not subject to a daily emissions limitation.
- 3.25.1.4 Addition of any new emissions unit which is subject to District permitting requirements.
- 3.25.1.5 A change in a permit term or condition proposed by an applicant to obtain an exemption from an applicable requirement to which the source would otherwise be subject.

Including S-1114-74 in a PM10 SLC with S-1117-10 does not constitute any of the above actions for S-1114-74; furthermore, this is not a new stationary source; therefore, this project does not sub ATC S-1114-74-16 to Rule 2201

#### 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**

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

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

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

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

$$\text{AIPE} = \text{PE}_2 - \text{HAPE}$$

Where,

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

PE<sub>2</sub> = Post-Project Potential to Emit, (lb/day)

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

$$\text{HAPE} = \text{PE}_1 \times (\text{EF}_2/\text{EF}_1)$$

Where,

PE<sub>1</sub> = The emissions unit's PE prior to modification or relocation, (lb/day)

EF<sub>2</sub> = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF<sub>2</sub> is greater than EF<sub>1</sub> then EF<sub>2</sub>/EF<sub>1</sub> shall be set to 1

EF<sub>1</sub> = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$\text{AIPE} = \text{PE}_2 - (\text{PE}_1 * (\text{EF}_2 / \text{EF}_1))$$

For S-1114-10 and '74 PE<sub>2</sub> = PE<sub>1</sub> and EF<sub>1</sub> = EF<sub>2</sub>; therefore, their AIPE = zero. Therefore BACT is not triggered.

**d. SB 288/Federal Major Modification**

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute an SB 288 Major Modification for SO<sub>x</sub> and PM<sub>10</sub> emissions. Therefore BACT is triggered for SO<sub>x</sub> for S-1114-10 and '74.

**2. BACT Guideline**

BACT Guideline 1.2.1, applies to steam generators S-1114-10 and '74. [Oilfield Steam Generator (> or =20 MMBtu/hr) (See Appendix D)]

### 3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see **Appendix D**), BACT has been satisfied with the following:

SOx and PM10: Gaseous fuel treated to remove 95% by weight of sulfur compounds

#### B. Offsets

##### 1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to 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 <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE2	>20,000	>54,750	>29,200	>200,000	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	y	y	y	y	y

##### 2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for all pollutants and the SSPE2 is greater than the offset thresholds. Therefore offset calculations will be required for this project.

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

NOx:

As shown in Section VII.C.6 above, S-1114-10 and '74's NOx BE are equal to their PE1 since they are Clean Emissions Units. S-3007-4's HAE = 328 lb/NOx/yr

Also, there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

	BE	PE2
S-1114-10	5,621	6,023
S-1114-74	6,023	6,023
S-3007-4	328	0
Total	11,972	12,046

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

PE2 (NOx) = 11,972 lb/year  
BE (NOx) = 12,046 lb/year  
ICCE = 0 lb/year

Offsets Required (lb/year) =  $([11,972 - 12,046] + 0) \times DOR$   
= 74 lb NOx/year

Pursuant to District Policy APR 1130, offsets will not be required for NOx since the total project annual emission increase ( $\Sigma [PE2 - PE1]$  for all units in the project) averages less than or equal to 0.5 lb/day and is therefore rounded to zero for the purposes of triggering NSR requirements

SOx:

As shown in Section VII.C.6 above, S-1114-10 and '74's PM10 BEs are equal to their PE1 since they are Clean Emissions Units.

Also, there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

	BE	PE2
S-1114-10	262,537*	262,537*
S-1114-74		
Total	75,471	75,471

\*SLC total

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

PE2 (NO<sub>x</sub>) = 262,537 lb/year

BE (NO<sub>x</sub>) = 262,537 lb/year

ICCE = 0 lb/year

Offsets Required (lb/year) =  $([262,537 - 262,537] + 0) \times DOR$   
= 0 lb SO<sub>x</sub>/year

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

PM10:

As shown in Section VII.C.6 above, S-1114-10 and '74's PM10 BE are equal to their PE1 since they are Clean Emissions Units.

Also, there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

	BE	PE2
S-1114-10	36,434	75,471*
S-1114-74	39,037	
Total	75,471	75,471

\*SLC total

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

PE2 (NO<sub>x</sub>) = 75,471 lb/year

BE (NO<sub>x</sub>) = 75,471 lb/year

ICCE = 0 lb/year

Offsets Required (lb/year) =  $([75,471 - 75,471] + 0) \times DOR$   
= 0 lb PM10/year

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

CO:

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

Ambient Air Quality Standards. As shown below in section VII.F, Ambient Air Quality Standards are not violated; therefore, offsets are not required for CO.

VOC:

As shown in Section VII.C.6 above, S-1114-10 and '74's VOC BE are equal to their PE1 since they are Clean Emissions Units.

Also, there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

	BE	PE2
S-1114-10	1,533	1,643
S-1114-74	1,643	1,643
Total	3,176	3,286

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

PE2 (VOC) = 3,286 lb/year

BE (VOC) = 3,176 lb/year

ICCE = 0 lb/year

Offsets Required (lb/year) =  $([3,286 - 3,176] + 0) \times DOR$   
= 110 lb VOC/year

Pursuant to District Policy APR 1130, offsets will not be required for VOC since the total project annual emission increase ( $\Sigma [PE2 - PE1]$  for all units in the project) averages less than or equal to 0.5 lb/day and is therefore rounded to zero for the purposes of triggering NSR requirements

**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. Federal Major Modifications, and SB 288 Major Modifications**

As demonstrated in Sections VII.C.7 and VII.C.8, this project is an SB 288 Major Modification. Therefore, public noticing for SB 288 Major Modification purposes is required.

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

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

**c. Offset Threshold**

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

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

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

**d. SSIPE > 20,000 lb/year**

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

SSIPE Public Notice Thresholds					
Pollutant	PE2 (lb/year)	PE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO <sub>x</sub>	11,644	12,046	402	20,000 lb/year	No
SO <sub>x</sub>	262,537	262,537	0	20,000 lb/year	No
PM <sub>10</sub>	75,471	75,471	0	20,000 lb/year	No
CO	27,339	28,471	1,132	20,000 lb/year	No
VOC	3,176	3,286	110	20,000 lb/year	No

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

## 2. Public Notice Action

As discussed above, public noticing is required for this project for SO<sub>x</sub> emissions triggering a SB 288 Major Modification. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

## D. Daily Emission Limits (DELs)

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

The DELs for the units are based on the units' heat input rating and their emission factors as shown:

### Proposed Rule 2201 (DEL) Conditions:

S-1114-10-3:

- Emissions rates shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 9 ppmv @ 3% O<sub>2</sub> or 0.011 lb/MMBtu, SO<sub>x</sub> (as SO<sub>2</sub>): 0.324 lb/MMBtu, PM<sub>10</sub>: 0.0713 lb/MMBtu, CO: 42 ppmv @ 3% O<sub>2</sub> or 0.031 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Y

S-1114-74-16:

- Emissions rates shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 9 ppmv @ 3% O<sub>2</sub> or 0.011 lb/MMBtu, SO<sub>x</sub> (as SO<sub>2</sub>): 0.324 lb/MMBtu, PM<sub>10</sub>: 0.0713 lb/MMBtu, CO: 29 ppmv @ 3% O<sub>2</sub> or 0.021 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Y

## E. Compliance Assurance

### 1. Source Testing

The units are subject to District Rules 4305, 4306 and 4320 for *Boilers, Steam Generators and Process Heaters*. Source testing requirements, in accordance with District Rules 4305, 4306 and 4320, will be discussed in Section VIII,

### 2. Monitoring

As required by District Rules 4305, 4306 and 4320 for *Boilers, Steam Generators and Process Heaters* the units are subject to monitoring requirements. Monitoring requirements, in accordance with District Rules 4305 and 4306, will be discussed in Section VIII.

### 3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) are listed on the permits to operate:

- Permittee shall maintain records of fuel gas and TEOR gas sulfur content, higher heating value, annual consumption in MMBtu/year. [District Rule 2201] Y

### 4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

## F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Appendix E** of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO<sub>x</sub>, CO, and SO<sub>x</sub>. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO<sub>x</sub>, CO, or SO<sub>x</sub>.

The proposed location is in a non-attainment area for the state's PM<sub>10</sub> as well as federal and state PM<sub>2.5</sub> thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM<sub>10</sub> and PM<sub>2.5</sub>.

## Rule 2410 Prevention of Significant Deterioration

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

## Rule 2520 Federally Mandated Operating Permits

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

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to



avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:

- a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
  - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
  6. Do not seek to consolidate overlapping applicable requirements;
  7. Do not grant or modify a permit shield.

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

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

40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Industrial Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or reconstruction).

The subject steam generators have a rating of 62.5 MMBtu/hr and are gas-fired. Subpart Dc has no standards for gas-fired steam generators. Therefore the subject steam generators are not an affected facility and subpart Dc does not apply.

#### **Rule 4101 Visible Emissions**

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity.

As long as the equipment is properly maintained and operated, compliance with visible emissions limits is expected under normal operating conditions.

#### **Rule 4102 Nuisance**

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

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

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

An RMR was previously performed for permit unit S-1114-10 (project S-1103506) which assessed the maximum hour and annual natural gas throughout. Therefore, an RMR was not performed for the current project (S-1170463). However, an AAQA (see Appendix E) was performed for the current project. Per the processing engineer, there is no increase in hourly emission rates.

#### **Rule 4201 Particulate Matter Concentration**

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

The steam generators currently comply with the requirements of this rule and the proposed modification is not expected to affect their compliance; continued compliance is expected.

Note that the following condition will be removed S-1114-10 since its requirements are duplicated in another condition:

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

#### **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,

#### **Rule 4305 Boilers, Steam Generators, And Process Heaters - Phase 2**

The steam generators are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*. In addition, the steam generator is also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3* and District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*.

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4305.

#### **Rule 4306 Boilers, Steam Generators, And Process Heaters – Phase 3**

The steam generators are subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*. In addition, the steam generator is also subject to *District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr*.

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4306 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4306.

**Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr**

The steam generators are subject to District Rule 4320 requirements pursuant to Section 2.0 of District Rule 4320.

Note that the units are subject to the NO<sub>x</sub> limit (9 ppmv @3% O<sub>2</sub>) specified in category C.3 of Table 1 and the applicant has requested that the units be subject to paragraph #1 of Rule 4320 FAQ "A4".

**Q4: How can a unit that burns gas that consists of a blend of PUC quality gas and non-PUC quality gas enjoy the higher NO<sub>x</sub> limits in section 5.1 Table 1, Section C.3, D.4, and F?**

A4: If PUC and non-PUC quality gases are combined prior to the burner, and the blended gas is not PUC quality, then the higher NO<sub>x</sub> limits apply. In this case it is not required to determine what volumetric percentage of the blended gas is PUC quality gas, only a demonstration that the sulfur and methane content of the blended gas does not meet the criteria for PUC quality gas is required.

Therefore the following revisions were made:

This condition was added:

*PUC and non-PUC quality gases shall be combined prior to the burner. [District Rule 4320]*

~~*In months where PUC quality gas is burned, the permittee shall maintain records on a calendar month basis **demonstrating that the sulfur and methane content of the blended gas does not meet the criteria for PUC quality gas is required** of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320]*~~

No other Rule 4320 revisions were made and the steam generators currently comply with the rule; therefore; no further discussion is required.

**Rule 4801 - Sulfur Compounds**

This rule limits sulfur compounds emissions at the point of discharge is 0.2 percent by volume, 2,000 ppmv, calculated as sulfur dioxide (SO<sub>2</sub>), on a dry basis averaged over 15 consecutive minutes.

The steam generators are currently in compliance with the requirements of this rule and the proposed modification is not expected to affect compliance; continued compliance is expected.

**California Environmental Quality Act (CEQA)**

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

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

### **Greenhouse Gas (GHG) Significance Determination**

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

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

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

### **District CEQA Findings**

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the project will occur at an existing facility and the project involves negligible or no expansion of the existing use. Furthermore, the District determined that the project will not have a significant effect on the environment. The District finds that the project 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 criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

#### IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs S-1114-10-31 and '74-16 subject to the permit conditions on the attached draft ATCs in **Appendix F**.

#### X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1114-10-31	3020-02 H	62.5 MMBtu/hr	\$1128
S-1114-74-16	3020-02 H	62.5 MMBtu/hr	\$1128

#### Appendixes

- A: Quarterly Net Emissions Change
- B: Current PTO(s)
- C: Historical Fuel Use
- D: BACT Guideline and BACT Analysis
- E: AQA Summary
- F: Draft ATCs

**APPENDIX A**  
**Quarterly Net Emissions Change (QNEC)**

**Quarterly Net Emissions Change (QNEC)**

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

QNEC = PE2 - PE1, where:

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

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

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

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

<b>Quarterly NEC [QNEC] S-1114-10-31</b>					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	6,023	1,506	5,621	1,405	101
SO <sub>x</sub>	177,390	44,348	165,564	41,391	2,957
PM <sub>10</sub>	39,037	9,759	36,434	9,109	651
CO	16,973	4,243	15,841	3,960	283
VOC	1,643	411	1,533	383	28

<b>Quarterly NEC [QNEC] S-1114-74-16</b>					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	6,023	1,506	6,023	1,506	0
SO <sub>x</sub>	177,390	44,348	177,390	44,348	0
PM <sub>10</sub>	39,037	9,759	39,037	9,759	0
CO	16,973	4,243	16,973	4,243	0
VOC	1,643	411	1,643	411	0

**APPENDIX B**  
**Current PTOs**



# San Joaquin Valley Air Pollution Control District

**PERMIT UNIT:** S-1114-10-30

**EXPIRATION DATE:** 02/28/2022

**SECTION:** SE15 **TOWNSHIP:** 31S **RANGE:** 22E

**EQUIPMENT DESCRIPTION:**

62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STRUTHERS STEAM GENERATOR WITH LOW NOX BURNER AND O2 CONTROLLER SERVED BY AIRPOL DUAL VALVE TRAY SOX SCRUBBER WITH CHEVRON TYPE MIST ELIMINATOR AND WET ELECTROSTATIC PRECIPITATOR SHARED WITH S-1114-10, '74

## PERMIT UNIT REQUIREMENTS

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1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. 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] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. Steam generator is authorized to operate at the following locations: SE Section 14, T31S, R22E; SE and NE Section 15, T31S, R22E; NE Section 24, T26S, R20E; Sections 18, 19, and 20, T11N, R 23W. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
6. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
7. Total fuel consumption, including TEOR gas, shall not exceed 511,000 MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Except as provided below, fuel burned in this unit shall not be PUC quality natural gas. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
9. Fuel H<sub>2</sub>S, total sulfur, and methane content shall be determined semi-annually using the following test methods H<sub>2</sub>S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, double GC for H<sub>2</sub>S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320] Federally Enforceable Through Title V Permit
10. When PUC quality gas is burned, the total gas fired in this unit in any calendar month shall be less than 50% by volume PUC quality natural gas. [District Rule 4320] Federally Enforceable Through Title V Permit
11. In months where PUC quality gas is burned, the permittee shall maintain records on a calendar month basis of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. Permittee shall install and maintain operational non-resettable, totalizing mass or volumetric flow meter(s) in the fuel (natural gas and TEOR gas) line(s) of the unit. Permittee shall determine the higher heating value (hhv) of the fuels (natural gas and TEOR gas) on a quarterly basis once per calendar quarter and whenever there is a change in the source of the TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Exhaust from unit shall be directed only to SO<sub>2</sub> scrubber authorized herein except when burning PUC regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Scrubber/wet ESP shall be in operation when combusting TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall be maintained with no detectable leaks. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Emission rate of SO<sub>x</sub> from S-1114-10, and '74 shall not exceed 262,537 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic, including sodium hydroxide and sodium carbonate. Other caustics may be used upon written District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Scrubber liquor pH shall be maintained between 6 and 8, and shall be continuously monitored. [District Rule 2201 and 40 CFR part 64] Federally Enforceable Through Title V Permit
19. Scrubber mist eliminator shall be properly cleaned and maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Scrubber recirculation liquor liquid to gas ratio shall be maintained at no less than 8.0 gpm/1000 acfm. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Scrubber/wet ESP control efficiency shall not be less than 95% by weight sulfur compounds. [District Rule 2201] Federally Enforceable Through Title V Permit
22. When any unit connected to scrubber is burning TEOR gas, scrubber shall be operating and permittee shall demonstrate compliance with PM<sub>10</sub> and sulfur oxide emissions limit by stack source testing within 60 days of initial scrubbing date and annually thereafter unless no TEOR gas has been burned since the last scrubber performance source test. Sulfur removal efficiency of scrubber shall be demonstrated during initial stack source test and calculated with subsequent tests. Ongoing compliance with sulfur oxide emissions limit shall be by calculation using the scrubber liquid pH, the demonstrated sulfur removal efficiency, and the fuel gas sulfur content. Fuel gas sulfur content shall be obtained by sample analysis at least quarterly. [District Rule 2201] Federally Enforceable Through Title V Permit
23. When unit is operated without scrubber/wet ESP, permittee shall demonstrate compliance with the sulfur oxide emissions limit by analysis of the fuel gas sulfur content within 60 days of initiating operation without scrubber. Analyses, as approved by the APCO, provided by the gas supplier may be used to satisfy this requirement. [District Rule 2201] Federally Enforceable Through Title V Permit
24. When complying with PM<sub>10</sub> and SO<sub>x</sub> emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Methods 5 or 201A, 6, 6B, 8, or ARB 100. When operating unscrubbed, a grab sample analysis by double GC performed in the laboratory and EPA Method 19 may be used to calculate SO<sub>x</sub> emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every 36 months unless testing is required by scrubber operational mode change as noted above. Annual source testing shall resume if any test fails to show compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
25. At no time shall amount of TEOR gas introduced to this unit and all units connected to scrubber/wet ESP exceed the amount introduced during a source test demonstrating compliance with permit limits. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

26. Emissions rates shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 9 ppmv @ 3% O<sub>2</sub> or 0.011 lb/MMBtu, SO<sub>x</sub> (as SO<sub>2</sub>): 0.324 lb/MMBtu, PM<sub>10</sub>: 0.0713 lb/MMBtu, CO: 42 ppmv @ 3% O<sub>2</sub> or 0.031 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. Source testing to demonstrate compliance with PM<sub>10</sub>, SO<sub>x</sub>, NO<sub>x</sub>, and CO emission limits shall be conducted annually, except as provided below. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Source testing to demonstrate compliance with PM<sub>10</sub>, SO<sub>x</sub>, NO<sub>x</sub>, and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If permittee fails any compliance demonstration for NO<sub>x</sub> and/or CO emission limits when testing not less than once every 36 months, compliance with NO<sub>x</sub> and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 2201] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320]
32. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO<sub>x</sub> and CO source testing requirement. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
34. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
35. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
36. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, sulfur oxides - ARB Methods 1-6, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
38. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

39. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
40. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. Permittee shall maintain records of fuel gas and TEOR gas sulfur content, higher heating value, annual consumption in MMBtu/year. [District Rule 2201] Federally Enforceable Through Title V Permit
42. Permittee shall comply with all notification and recordkeeping requirements of 40 CFR 60.7 a (1)(3) and (b). [District Rule 4001] Federally Enforceable Through Title V Permit
43. Fuel gas sulfur content shall be determined using ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
44. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit
45. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels. [District Rule 2520, 9.3.2, Kern County Rule 407] Federally Enforceable Through Title V Permit
46. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1070, 1081, 4201, 4301, 4305, 4306, and 4320. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: Kern County Rules 107, and 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
48. When the scrubber is operating, the scrubber liquor pH shall be recorded every 15 minutes. [40 CFR part 64] Federally Enforceable Through Title V Permit
49. An excursion from the scrubber liquor pH level is defined as a daily pH reading of less than 6 or greater than 8. Upon detecting any excursion from the acceptable pH level, the permittee shall investigate the excursion and take corrective action to restore required pH level and prevent recurrence of the excursion as expeditiously as practicable. [40 CFR part 64] Federally Enforceable Through Title V Permit
50. Records of scrubber pH monitoring equipment downtime, scrubber pH level excursions, and scrubber operation shall be maintained. [40 CFR part 64] Federally Enforceable Through Title V Permit
51. The scrubber pH sensor shall be calibrated annually. Calibration of the pH sensor shall be conducted by comparison of the sensor reading with a laboratory measurement of the scrubber recirculation fluid. [40 CFR part 64] Federally Enforceable Through Title V Permit
52. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

53. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit
54. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR part 64] Federally Enforceable Through Title V Permit
55. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
56. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall be inspected monthly for detectable leaks. Operator shall repair each leak within 15 calendar days of detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
57. Records of steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork monthly inspections shall be maintained. Inspection log shall contain at a minimum the following: 1) date of inspection; 2) name of inspector; 3) identification and location of leak; and 4) date when leak has been repaired. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
58. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
59. 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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1114-74-15

EXPIRATION DATE: 02/28/2022

SECTION: NE15 TOWNSHIP: 31S RANGE: 22E

## EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL /TEOR GAS FIRED STEAM GENERATOR (CUSA ID # 50-1-15A, DIS# 43005-78) WITH O2 CONTROLLER AND SO2 SCRUBBER AND WET ELECTROSTATIC PRECIPITATOR SHARED WITH UNIT S-1114-10

## PERMIT UNIT REQUIREMENTS

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1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. 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] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
4. Steam generator is authorized to operate at the following locations: SE Section 14, T31S, R22E; SE and NE Section 15, T31S, R22E; NE Section 24, T26S, R20E; Sections 18, 19, and 20, T11N, R 23W. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made in writing no later than 48 hours after starting operation at the location. [District Rule 1070 and Kern County Rule 107] Federally Enforceable Through Title V Permit
6. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
7. When operating at NE15, T31S/R22E, scrubber shall be used when burning TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Except as provided below, fuel burned in this unit shall not be PUC quality natural gas. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
9. Fuel H<sub>2</sub>S, total sulfur, and methane content shall be determined semi-annually using the following test methods H<sub>2</sub>S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, double GC for H<sub>2</sub>S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320] Federally Enforceable Through Title V Permit
10. When PUC quality gas is burned, the total gas fired in this unit in any calendar month shall be less than 50% by volume PUC quality natural gas. [District Rule 4320] Federally Enforceable Through Title V Permit
11. In months where PUC quality gas is burned, the permittee shall maintain records on a calendar month basis of the volume of PUC quality natural gas and the total gas fired in this unit. Permittee shall keep monthly records of the percentage by volume of PUC quality gas fired and indicate if the volume of PUC quality gas fired is less than 50%. [District Rule 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall be maintained with no detectable leaks. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Emission rates of SO<sub>x</sub> for units S-1114-10 and '1-74 shall not exceed 262,537 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Emissions rates shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 9 ppmv @ 3% O<sub>2</sub> or 0.011 lb/MMBtu, SO<sub>x</sub> (as SO<sub>2</sub>): 0.324 lb/MMBtu, PM<sub>10</sub>: 0.0713 lb/MMBtu, CO: 29 ppmv @ 3% O<sub>2</sub> or 0.021 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. At no time shall TEOR gas introduced to this unit and all units connected to scrubber exceed the amount introduced during a source test demonstrating compliance with permit limits. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
17. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 2201] Federally Enforceable Through Title V Permit
18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NO<sub>x</sub> and CO source testing requirement. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
20. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
23. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, sulfur oxides - ARB Methods 1-6, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

25. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
26. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
27. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. Permittee shall maintain records of fuel gas and TEOR gas sulfur contents and annual consumption of each. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall be inspected monthly for detectable leaks. Operator shall repair each leak within 15 calendar days of detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
30. Records of steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork monthly inspections shall be maintained. Inspection log shall contain at a minimum the following: 1) date of inspection; 2) name of inspector; 3) identification and location of leak; and 4) date when leak has been repaired. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
31. Fuel gas sulfur content shall be determined using ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. [District Rule 4301] Federally Enforceable Through Title V Permit
33. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [Kern County Rule 407] Federally Enforceable Through Title V Permit
34. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1070, 1081, 4201, 4301, 4305, 4306, and 4320. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
35. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: Kern County Rules 107, and 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
36. Scrubber/wet ESP control efficiency shall not be less than 95% by weight sulfur compounds. [District Rule 4320] Federally Enforceable Through Title V Permit
37. When the scrubber is operating, scrubber liquor pH shall be maintained between 6 and 8, and shall be continuously monitored. [40 CFR part 64] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.



38. When the scrubber is operating, the scrubber liquor pH shall be recorded every 15 minutes. [40 CFR part 64] Federally Enforceable Through Title V Permit
39. An excursion from the scrubber liquor pH level is defined as a daily pH reading of less than 6 or greater than 8. Upon detecting any excursion from the acceptable pH level, the permittee shall investigate the excursion and take corrective action to restore required pH level and prevent recurrence of the excursion as expeditiously as practicable. [40 CFR part 64] Federally Enforceable Through Title V Permit
40. Records of scrubber pH monitoring equipment downtime, scrubber pH level excursions, and scrubber operation shall be maintained. [40 CFR part 64] Federally Enforceable Through Title V Permit
41. The scrubber pH sensor shall be calibrated annually. Calibration of the pH sensor shall be conducted by comparison of the sensor reading with a laboratory measurement of the scrubber recirculation fluid. [40 CFR part 64] Federally Enforceable Through Title V Permit
42. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit
43. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit
44. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR part 64] Federally Enforceable Through Title V Permit
45. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
46. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit, the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
47. 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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

**San Joaquin Valley  
Air Pollution Control District**

**PERMIT UNIT:** S-3007-4-1

**EXPIRATION DATE:** 09/30/2021

**SECTION:** SE23 **TOWNSHIP:** 11N **RANGE:** 23W

**EQUIPMENT DESCRIPTION:**

0.5 MMBTU/HR TANK HEATER FIRED ON LEASE GAS (RIPLEY-TATUM LEASE)

**PERMIT UNIT REQUIREMENTS**

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1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall do one of the following: fire the unit only on PUC or FERC regulated natural gas; or test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels; or determine that the concentration of sulfur compounds in the exhaust does not exceed the concentration limit by a combination of source testing and fuel analysis. [Kern County Rule 407, District Rules 4301 and 4801] Federally Enforceable Through Title V Permit

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

**APPENDIX C**  
**S-3007-4 Historical Fuel Use**

S-3007-4 HISTORICAL  
FUEL USE

PROD DATE	GAS (mcf)
11/1/2014	0.02
12/1/2014	267.52
1/1/2015	364.42
2/1/2015	359.79
3/1/2015	291.41
4/1/2015	292.32
5/1/2015	288.89
6/1/2015	271.48
7/1/2015	219.95
8/1/2015	227.77
9/1/2015	284.97
10/1/2015	364.41
11/1/2015	393.82
12/1/2015	397.08
1/1/2016	386.61
2/1/2016	263.75
3/1/2016	329.59
4/1/2016	293.64
5/1/2016	281.28
6/1/2016	213.37
7/1/2016	199.82
8/1/2016	15.15
	6007.06

$$\frac{6007.06 \text{ mcf}}{22 \text{ MONTHS}} \times \frac{12 \text{ MONTHS}}{\text{YEAR}} = \frac{3277 \text{ mcf}}{\text{YEAR}}$$

**APPENDIX D**  
**BACT Guideline and BACT Analysis**

**Best Available Control Technology (BACT ) Guideline 1.2.1**  
**Last Update: 3/24/2014**

**Oilfield Steam Generator (> or =20 MMBtu/hr)**

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO2e	<p>FEDERAL BACT =====</p>	<p>FEDERAL BACT =====</p> <p>Federal BACT (40CFR52.21 (b)(23)) for Sources Subject to District Rule 2410 (Prevention of Significant Deterioration) Variable frequency drive high efficiency electrical motors driving the blower; and • When firing on =50% PUC quality natural gas, commercial propane, and/or LPG: a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr (HHV) of maximum rated heat input (verified by manufacturer or independent engineering/construction firm) or an overall thermal efficiency rating of 88% (verified by manufacturer or independent engineering/construction firm); or, • When firing on &lt;50% PUC quality natural gas, commercial propane, and/or LPG: split flow dual pass water feed configuration, a convection section having at least 128 square feet of heat transfer surface area per MMBtu/hr (HHV) of maximum rated heat input (verified by the manufacturer or independent</p>	<p>FEDERAL BACT =====</p>

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
		<p>engineering/construction firm) and at least six inches of castable refractory or an overall thermal efficiency rating of at least 85% (verified by manufacturer or independent engineering/construction firm); Variable frequency drive high efficiency electrical motors driving the blower; and, • When firing on =50% PUC quality natural gas, commercial propane, and/or LPG: a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr (HHV) of maximum rated heat input (verified by manufacturer or independent engineering/construction firm) or an overall thermal efficiency rating of 88% (verified by manufacturer or independent engineering/construction firm); or, • When firing on &lt;50% PUC quality natural gas, commercial propane, and/or LPG: split flow dual pass water feed configuration, a convection section having at least 128 square feet of heat transfer surface area per MMBtu/hr (HHV) of maximum rated heat input (verified by the manufacturer or independent engineering/construction firm) and at least six inches of castable refractory or an</p>	

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
		overall thermal efficiency rating of at least 85% (verified by manufacturer or independent engineering/construction firm); Or other emission reduction technique determined on a case by case basis that meets the requirements of 40 CFR52.21(b)(23)	
CO	25 ppmvd @ 3% O <sub>2</sub>		
NO <sub>x</sub>	<ul style="list-style-type: none"> <li>• Units rated 85 MMBtu/hr and fired solely on PUC quality natural gas: 6 ppmvd @ 3% O<sub>2</sub>; or</li> <li>• Units firing on &gt; or = 50% PUC quality natural gas; commercial propane; and/or LPG: 7 ppmvd @ 3% O<sub>2</sub>, except units rated 85 MMBtu/hr and fired solely on PUC quality natural gas; or</li> <li>• Units firing on &lt;50% PUC quality natural gas; commercial propane; and/or LPG: 9 ppmvd @ 3% O<sub>2</sub></li> </ul>	5 ppmvd @ 3% O <sub>2</sub>	
PM <sub>10</sub>	Fired on PUC quality natural gas, commercial propane, and/or commercial LPG; or gaseous fuel treated to remove 95% by weight of sulfur compounds; or treated such that the sulfur content of all fuel streams combined does not exceed 1 gr of sulfur compounds (as S) per 100 dscf; or use of a continuously operating SO <sub>2</sub> scrubber and either		



Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
	achieve 95% by weight control of sulfur compounds or achieve an emission rate of 9 ppmvd SO <sub>2</sub> @ 3% O <sub>2</sub>		
SO <sub>x</sub>	Fired on PUC quality natural gas, commercial propane, and/or commercial LPG; or gaseous fuel treated to remove 95% by weight of sulfur compounds; or treated such that the sulfur content of all fuel streams combined does not exceed 1 gr of sulfur compounds (as S) per 100 dscf; or use of a continuously operating SO <sub>2</sub> scrubber and either achieve 95% by weight control of sulfur compounds or achieve an emission rate of 9 ppmvd SO <sub>2</sub> @ 3% O <sub>2</sub>		
VOC	Gaseous fuel		

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.

## Top Down BACT Analysis

### BACT Analysis for SO<sub>x</sub> and PM<sub>10</sub> Emissions:

#### a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, identifies achieved in practice BACT for SO<sub>x</sub> emissions from steam generators as follows:

- Fired on PUC quality natural gas, commercial propane, and/or commercial LPG.
- Gaseous fuel treated to remove 95% by weight of sulfur compounds.
- Treated such that the sulfur content of all fuel streams combined does not exceed 1 gr of sulfur compounds (as S) per 100 dscf.
- Use of a continuously operating SO<sub>2</sub> scrubber and either achieve 95% by weight control of sulfur compounds.
- Achieve an emission rate of 9 ppmvd SO<sub>2</sub> @ 3% O<sub>2</sub>.

There are no technologically feasible options listed.

#### b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate.

#### c. Step 3 - Rank remaining options by control effectiveness

S-1114-10 currently performs the achieved in practice option: Gaseous fuel treated to remove 95% by weight of sulfur compounds

#### d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is not required.

#### e. Step 5 - Select BACT

BACT for SO<sub>x</sub> and PM<sub>10</sub> emissions from the steam generators is:

Gaseous fuel treated to remove 95% by weight of sulfur compounds

Therefore, BACT is satisfied.

**APPENDIX E**  
**AAQA Summary**

## San Joaquin Valley Air Pollution Control District Risk Management Review

To: David Torii – Permit Services  
From: Georgia Stewart – Technical Services  
Date: May 30, 2017  
Facility Name: Seneca Resources  
Location: North Midway-Sunset, 25449 Hwy 33, Section 15, T31S, R22E  
Application #(s): S-1114-10-31  
Project #: S-1170463

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### A. RMR REPORT

#### I. Project Description

Technical Services received a request on April 25, 2017 to perform an Ambient Air Quality Analysis and a Risk Management Review for a modification to an oil-gas exploration and production operation. The modification consisted of the removal of the steam generator's (permit unit S-1114-10) fuel use limit.

An RMR was previously performed for permit unit S-1114-10 (project S-1103506) which assessed the maximum hour and annual natural gas throughout. Therefore, an RMR was not performed for the current project (S-1170463). However, an AAQA was performed for the current project. Per the processing engineer, there is no increase in hourly emission rates.

#### II. Analysis

Technical Services performed modeling for criteria pollutants CO, NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub> with the emission rates below:

Unit #	NO <sub>x</sub> (Lbs.)		SO <sub>x</sub> (Lbs.)		CO (Lbs.)		PM <sub>10</sub> (Lbs.)	
	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.	Hr.	Yr.
10-31	0	402	0	0	0	1,132	0	0

The results from the Criteria Pollutant Modeling are as follows:

**Criteria Pollutant Modeling Results\***

	Background Site	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Bakersfield (2015)	N/A <sup>1</sup>	X	N/A <sup>1</sup>	X	X
NO <sub>x</sub>	Bakersfield (2015)	N/A <sup>1</sup>	X	X	X	Pass
SO <sub>x</sub>	Fresno – Garland (2015)	N/A <sup>1</sup>	N/A <sup>1</sup>	X	N/A <sup>1</sup>	N/A <sup>2</sup>
PM <sub>10</sub>	Bakersfield (2015)	X	X	X	N/A <sup>1</sup>	N/A <sup>2</sup>
PM <sub>2.5</sub>	Bakersfield (2015)	X	X	X	N/A <sup>1</sup>	N/A <sup>2</sup>

<sup>1</sup>Per the processing engineer, there is no increase in the hourly emission rates of NO<sub>x</sub>, SO<sub>x</sub>, CO and PM<sub>10</sub>.

<sup>2</sup>Per the processing engineer, there is no increase in the annual emission rates of SO<sub>x</sub> and PM<sub>10</sub>.

**III. Conclusion**

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

**APPENDIX F**  
**Draft ATCs**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: S-1114-10-31

LEGAL OWNER OR OPERATOR: SENECA RESOURCES  
MAILING ADDRESS: 4800 CORPORATE CT  
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL WESTERN  
CA

SECTION: SE15 TOWNSHIP: 31S RANGE: 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/TEOR GAS FIRED STRUTHERS STEAM GENERATOR WITH LOW NOX BURNER AND O2 CONTROLLER SERVED BY AIRPOL DUAL VALVE TRAY SOX SCRUBBER WITH CHEVRON TYPE MIST ELIMINATOR AND WET ELECTROSTATIC PRECIPITATOR SHARED WITH S-1114-10, '-74: REMOVE ANNUAL FUEL USE LIMIT AND CREATE PM10 SLC WITH S-1114-74 AND REQUIRE THAT PUC-QUALITY GAS AND TEOR GAS BE COMBINED PRIOR TO BURNER

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Permit S-3007-4 shall be canceled upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. This ATC shall be implemented prior to or concurrently with ATC S-1114-74-16. [District Rule 2201] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-1114-10-31 Jul 10 2017 1:16PM - TORID : Joint Inspection NOT Required

6. 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] Federally Enforceable Through Title V Permit
7. Steam generator is authorized to operate at the following locations: SE Section 14, T31S, R22E; SE and NE Section 15, T31S, R22E; NE Section 24, T26S, R20E; Sections 18, 19, and 20, T11N, R 23W. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made in writing no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
10. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
11. Except as provided below, fuel burned in this unit shall not be PUC quality natural gas. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
12. Fuel H<sub>2</sub>S, total sulfur, and methane content shall be determined semi-annually using the following test methods H<sub>2</sub>S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, double GC for H<sub>2</sub>S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320] Federally Enforceable Through Title V Permit
13. PUC and non-PUC quality gases shall be combined prior to the burner. [District Rule 4320] Federally Enforceable Through Title V Permit
14. Permittee shall maintain records on a calendar month basis demonstrating that the sulfur and methane content of the blended gas does not meet the criteria for PUC quality gas. [District Rule 4320] Federally Enforceable Through Title V Permit
15. Permittee shall install and maintain operational non-resettable, totalizing mass or volumetric flow meter(s) in the fuel (natural gas and TEOR gas) line(s) of the unit. Permittee shall determine the higher heating value (hhv) of the fuels (natural gas and TEOR gas) on a quarterly basis once per calendar quarter and whenever there is a change in the source of the TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Exhaust from unit shall be directed only to SO<sub>2</sub> scrubber authorized herein except when burning PUC regulated natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Scrubber/wet ESP shall be in operation when combusting TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall be maintained with no detectable leaks. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Emission rate of SO<sub>x</sub> from S-1114-10, and '74 shall not exceed 262,537 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emission rate of PM<sub>10</sub> from S-1114-10, and '74 shall not exceed 75,471 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Scrubber recirculation liquid pH shall be maintained only by the addition of caustic, including sodium hydroxide and sodium carbonate. Other caustics may be used upon written District approval. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Scrubber liquor pH shall be maintained between 6 and 8, and shall be continuously monitored. [District Rule 2201 and 40 CFR part 64] Federally Enforceable Through Title V Permit
23. Scrubber mist eliminator shall be properly cleaned and maintained [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE



24. Scrubber recirculation liquor liquid to gas ratio shall be maintained at no less than 8.0 gpm/1000 acfm. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Scrubber/wet ESP control efficiency shall not be less than 95% by weight sulfur compounds. [District Rule 2201] Federally Enforceable Through Title V Permit
26. When any unit connected to scrubber is burning TEOR gas, scrubber shall be operating and permittee shall demonstrate compliance with PM10 and sulfur oxide emissions limit by stack source testing within 60 days of initial scrubbing date and annually thereafter unless no TEOR gas has been burned since the last scrubber performance source test. Sulfur removal efficiency of scrubber shall be demonstrated during initial stack source test and calculated with subsequent tests. Ongoing compliance with sulfur oxide emissions limit shall be by calculation using the scrubber liquid pH, the demonstrated sulfur removal efficiency, and the fuel gas sulfur content. Fuel gas sulfur content shall be obtained by sample analysis at least quarterly. [District Rule 2201] Federally Enforceable Through Title V Permit
27. When unit is operated without scrubber/wet ESP, permittee shall demonstrate compliance with the sulfur oxide emissions limit by analysis of the fuel gas sulfur content within 60 days of initiating operation without scrubber. Analyses, as approved by the APCO, provided by the gas supplier may be used to satisfy this requirement. [District Rule 2201] Federally Enforceable Through Title V Permit
28. When complying with PM10 and SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Methods 5 or 201A, 6, 6B, 8, or ARB 100. When operating unscrubbed, a grab sample analysis by double GC performed in the laboratory and EPA Method 19 may be used to calculate SOx emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every 36 months unless testing is required by scrubber operational mode change as noted above. Annual source testing shall resume if any test fails to show compliance. [District Rule 2201] Federally Enforceable Through Title V Permit
29. At no time shall amount of TEOR gas introduced to this unit and all units connected to scrubber/wet ESP exceed the amount introduced during a source test demonstrating compliance with permit limits. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Emissions rates shall not exceed any of the following: NOx (as NO2): 9 ppmv @ 3% O2 or 0.011 lb/MMBtu, SOx (as SO2): 0.324 lb/MMBtu, PM10: 0.0713 lb/MMBtu, CO: 42 ppmv @ 3% O2 or 0.031 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. Source testing to demonstrate compliance with PM10, SOx, NOx, and CO emission limits shall be conducted annually, except as provided below. [District Rules 2520, 9.3.2, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Source testing to demonstrate compliance with PM10, SOx, NOx, and CO emission limits shall be conducted not less than once every 36 months if compliance is demonstrated on two consecutive annual tests. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
33. If permittee fails any compliance demonstration for NOx and/or CO emission limits when testing not less than once every 36 months, compliance with NOx and CO emission limits shall be demonstrated not less than once every 12 months. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
34. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 2201] Federally Enforceable Through Title V Permit
35. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
36. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

37. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
38. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
39. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
40. The following test methods shall be used: NO<sub>x</sub> (ppmv) - EPA Method 7E or ARB Method 100, NO<sub>x</sub> (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, sulfur oxides - ARB Methods 1-6, and fuel gas sulfur content - ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
41. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
42. If either the NO<sub>x</sub> or CO concentrations corrected to 3% O<sub>2</sub>, 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
43. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
44. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 3% O<sub>2</sub>, (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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
45. Permittee shall maintain records of fuel gas and TEOR gas sulfur contents and annual consumption of each. [District Rule 2201] Federally Enforceable Through Title V Permit
46. Permittee shall comply with all notification and recordkeeping requirements of 40 CFR 60.7 a (1)(3) and (b). [District Rule 4001] Federally Enforceable Through Title V Permit
47. Fuel gas sulfur content shall be determined using ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
48. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. Compliance with this requirement may be demonstrated by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

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49. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels. [District Rule 2520, 9.3.2, Kern County Rule 407] Federally Enforceable Through Title V Permit
50. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1070, 1081, 4201, 4301, 4305, 4306, and 4320. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
51. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: Kern County Rules 107, and 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
52. When the scrubber is operating, the scrubber liquor pH shall be recorded every 15 minutes. [40 CFR part 64] Federally Enforceable Through Title V Permit
53. An excursion from the scrubber liquor pH level is defined as a daily pH reading of less than 6 or greater than 8. Upon detecting any excursion from the acceptable pH level, the permittee shall investigate the excursion and take corrective action to restore required pH level and prevent recurrence of the excursion as expeditiously as practicable. [40 CFR part 64] Federally Enforceable Through Title V Permit
54. Records of scrubber pH monitoring equipment downtime, scrubber pH level excursions, and scrubber operation shall be maintained. [40 CFR part 64] Federally Enforceable Through Title V Permit
55. The scrubber pH sensor shall be calibrated annually. Calibration of the pH sensor shall be conducted by comparison of the sensor reading with a laboratory measurement of the scrubber recirculation fluid. [40 CFR part 64] Federally Enforceable Through Title V Permit
56. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit
57. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit
58. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR part 64] Federally Enforceable Through Title V Permit
59. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
60. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall be inspected monthly for detectable leaks. Operator shall repair each leak within 15 calendar days of detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
61. Records of steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork monthly inspections shall be maintained. Inspection log shall contain at a minimum the following: 1) date of inspection; 2) name of inspector; 3) identification and location of leak; and 4) date when leak has been repaired. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
62. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
63. Permittee shall maintain daily and annual records of the actual NO<sub>x</sub> and VOC emissions on a calendar year basis. [District Rules 1070 and 2201, 40 CFR 51.165(a)(6)] Federally Enforceable Through Title V Permit
64. If the steam generator's actual emissions exceed 4,304 lb-NO<sub>x</sub>, and/or 95 lb-VOC per calendar year, the permittee must report to the District the following information: actual NO<sub>x</sub> and VOC emissions per calendar year and an explanation of why the actual emissions differed from 3,364 lb-NO<sub>x</sub>, and/or 0 lb-VOC. Such records must be submitted to the District for a period of 5 calendar years beginning the year the flare is initially operated and shall be submitted by within 60 days of the end of each calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit

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65. 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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: S-1114-74-16

LEGAL OWNER OR OPERATOR: SENECA RESOURCES  
MAILING ADDRESS: 4800 CORPORATE CT  
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL WESTERN  
CA

SECTION: NE15 TOWNSHIP: 31S RANGE: 22E

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF 62.5 MMBTU/HR NATURAL /TEOR GAS FIRED STEAM GENERATOR (CUSA ID # 50-1-15A, DIS# 43005-78) WITH O2 CONTROLLER AND SO2 SCRUBBER AND WET ELECTROSTATIC PRECIPITATOR SHARED WITH UNIT S-1114-10: INCLUDE IN PM10 SLC WITH S-1114-10 AND REQUIRE THAT PUC-QUALITY GAS AND TEOR GAS BE COMBINED PRIOR TO BURNER

**CONDITIONS**

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. This ATC shall be implemented prior to or concurrently with ATC S-1114-10-31. [District Rule 2201] Federally Enforceable Through Title V Permit
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. 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] Federally Enforceable Through Title V Permit

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

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

S-1114-74-16, Jul 10 2017 1:16PM - TORID - Joint Inspection NOT Required

6. {450} Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO<sub>2</sub>, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
7. Steam generator is authorized to operate at the following locations: SE Section 14, T31S, R22E; SE and NE Section 15, T31S, R22E; NE Section 24, T26S, R20E; Sections 18, 19, and 20, T11N, R 23W. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made in writing no later than 48 hours after starting operation at the location. [District Rule 1070 and Kern County Rule 107] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
10. When operating at NE15, T31S/R22E, scrubber shall be used when burning TEOR gas. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Except as provided below, fuel burned in this unit shall not be PUC quality natural gas. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
12. Fuel H<sub>2</sub>S, total sulfur, and methane content shall be determined semi-annually using the following test methods H<sub>2</sub>S: ASTM D6228; total sulfur: ASTM D1072; ASTM D3246, double GC for H<sub>2</sub>S and mercaptans or ASTM D6228; and methane content: ASTM D1945. [District Rule 4320] Federally Enforceable Through Title V Permit
13. PUC and non-PUC quality gases shall be combined prior to the burner. [District Rule 4320] Federally Enforceable Through Title V Permit
14. Permittee shall maintain records on a calendar month basis demonstrating that the sulfur and methane content of the blended gas does not meet the criteria for PUC quality gas. [District Rule 4320] Federally Enforceable Through Title V Permit
15. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall be maintained with no detectable leaks. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Emission rates of SO<sub>x</sub> for units S-1114-10 and '-74 shall not exceed 262,537 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Emission rate of PM<sub>10</sub> from S-1114-10, and '-74 shall not exceed 75,471 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Emissions rates shall not exceed any of the following: NO<sub>x</sub> (as NO<sub>2</sub>): 9 ppmv @ 3% O<sub>2</sub> or 0.011 lb/MMBtu, SO<sub>x</sub> (as SO<sub>2</sub>): 0.324 lb/MMBtu, PM<sub>10</sub>: 0.0713 lb/MMBtu, CO: 29 ppmv @ 3% O<sub>2</sub> or 0.021 lb/MMBtu, or VOC: 0.003 lb/MMBtu. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. At no time shall TEOR gas introduced to this unit and all units connected to scrubber exceed the amount introduced during a source test demonstrating compliance with permit limits. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Source testing to measure NO<sub>x</sub> and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
21. Compliance source testing shall be conducted under conditions representative of normal operation. [District Rule 2201] Federally Enforceable Through Title V Permit

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22. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
23. Source test results from an individual unit that is identical to this unit, in terms of rated capacity, operational conditions, fuel used, and control method, as approved by the APCO, will satisfy the NOx and CO source testing requirement. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, sulfur oxides - ARB Methods 1-6, and fuel gas sulfur content - ASTM D3246 or double GC for H2S and mercaptans. [District Rules 1081, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
29. If either the NOx or CO concentrations corrected to 3% 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% 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 Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
32. Permittee shall maintain records of fuel gas and TEOR gas sulfur contents and annual consumption of each. [District Rule 2201] Federally Enforceable Through Title V Permit

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33. Steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork shall be inspected monthly for detectable leaks. Operator shall repair each leak within 15 calendar days of detection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. Records of steam generator firebox convection section, scrubber bypass valve, and all flue gas ductwork monthly inspections shall be maintained. Inspection log shall contain at a minimum the following: 1) date of inspection; 2) name of inspector; 3) identification and location of leak; and 4) date when leak has been repaired. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. Fuel gas sulfur content shall be determined using ASTM D3246 or double GC for H<sub>2</sub>S and mercaptans. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO<sub>2</sub>. [District Rule 4301] Federally Enforceable Through Title V Permit
37. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. [Kern County Rule 407] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rules 1070, 1081, 4201, 4301, 4305, 4306, and 4320. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
39. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: Kern County Rules 107, and 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
40. Scrubber/wet ESP control efficiency shall not be less than 95% by weight sulfur compounds. [District Rule 4320] Federally Enforceable Through Title V Permit
41. When the scrubber is operating, scrubber liquor pH shall be maintained between 6 and 8, and shall be continuously monitored. [40 CFR part 64] Federally Enforceable Through Title V Permit
42. When the scrubber is operating, the scrubber liquor pH shall be recorded every 15 minutes. [40 CFR part 64] Federally Enforceable Through Title V Permit
43. An excursion from the scrubber liquor pH level is defined as a daily pH reading of less than 6 or greater than 8. Upon detecting any excursion from the acceptable pH level, the permittee shall investigate the excursion and take corrective action to restore required pH level and prevent recurrence of the excursion as expeditiously as practicable. [40 CFR part 64] Federally Enforceable Through Title V Permit
44. Records of scrubber pH monitoring equipment downtime, scrubber pH level excursions, and scrubber operation shall be maintained. [40 CFR part 64] Federally Enforceable Through Title V Permit
45. The scrubber pH sensor shall be calibrated annually. Calibration of the pH sensor shall be conducted by comparison of the sensor reading with a laboratory measurement of the scrubber recirculation fluid. [40 CFR part 64] Federally Enforceable Through Title V Permit
46. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit
47. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit
48. If the District or EPA determine that a Quality improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR part 64] Federally Enforceable Through Title V Permit
49. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
50. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

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51. 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, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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