



MAY 27 2014

Mr. Timothy Alburger
Seneca Resources
2131 Mars Court
Bakersfield, CA 93308

**Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)
District Facility # S-1114
Project # 1141735**

Dear Mr. Alburger:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Seneca Resources has requested an Authority to Construct (ATC) permit to replace 4.0 MMBtu/hr boiler S-1114-91 with a 3.0 MMBtu/hr boiler for Rule 4307 compliance.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the Authority to Construct with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority 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.

Seyed Sadredin

Executive Director/Air Pollution Control Officer

Northern Region

4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)

1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region

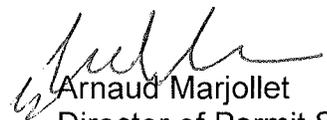
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

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Thank you for your cooperation in this matter.

Sincerely,


Arnaud Marjollet
Director of Permit Services

Enclosures

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

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Facility Name: Seneca Resources
Mailing Address: 2131 Mars Court
Bakersfield, CA 93308
Contact Person: Timothy Alburger
Telephone: 661-399-4270
Application #(s): S-1114-124-0
Project #: 1141735
Deemed Complete: 4/16/14

Engineer: David Torii
Lead Engineer: Rich Karrs

I. Proposal

Seneca Resources (Seneca) has requested an Authority to Construct (ATC) permit to replace 4.0 MMBtu/hr boiler S-1114-91 with a 3.0 MMBtu/hr boiler for Rule 4307 compliance.

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 (4/21/11)
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 4307	Boilers, Steam Generators, and Process Heaters – 2.0 MMBtu/hr to 5.0 MMBtu (May 19, 2011)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

The equipment will be located at the North Lost Hills Oilfield in the Heavy Oil Western stationary source, within the NE/4 of Section 24, Township 26S, Range 20E. The equipment is

not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The boiler provides heated water for circulation in a closed system to heat heavy crude oil tanks to lower the oil's viscosity to facilitate conveyance.

V. Equipment Listing

Current PTO S-1114-91-4 (see PTO in Appendix B) :

4.0 MMBTU/HR LEASE GAS-FIRED BOILER - STAR SECURITY LEASE

ATC S-1114-124-0:

3.0 MMBTU/HR NATURAL GAS-FIRED PROCESS HEATER/BOILER WITH ECLIPSE WINNOX WX0300 LOW NOX BURNER REPLACING PROCESS HEATER/BOILER S-1114-91 - STAR SECURITY LEASE

VI. Emission Control Technology Evaluation

Emissions from natural gas-fired boilers include NO_x, CO, VOC, PM₁₀, and SO_x.

NO_x is the major pollutant of concern when burning natural gas. NO_x formation is either due to thermal fixation of atmospheric nitrogen in the combustion air (thermal NO_x) or due to conversion of chemically bound nitrogen in the fuel (fuel NO_x). Due to the low fuel nitrogen content of natural gas, nearly all NO_x emissions are thermal NO_x. Formation of thermal NO_x is affected by four furnace zone factors: (1) nitrogen concentration, (2) oxygen concentration, (3) peak temperature, and (4) time of exposure at peak temperature.

VII. General Calculations

A. Assumptions

S-1114-91 and '124-0:

- The maximum operating schedule is 24 hours per day
- The unit is fired solely on field/lease gas
- Annual pre-project and post-project potential to emit is calculated based on 8,760 hours of operation per 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)

B. Emission Factors

Pollutant	Pre-Project Emission Factors		Source
NO _x	0.1 lb-NO _x /MMBtu		AP-42 (07/98) Table 1.4-2
SO _x	0.014 lb-SO _x /MMBtu	5 gr/100 scf	District Assumption
PM ₁₀	0.0076 lb-PM ₁₀ /MMBtu		AP-42 (07/98) Table 1.4-2
CO	0.296 lb-CO/MMBtu		Rule 4307
VOC	0.0055 lb-VOC/MMBtu		AP-42 (07/98) Table 1.4-2

Pollutant	Post-Project Emission Factors		Source
NO _x	0.036 lb-NO _x /MMBtu		Rule 4307 Table 1
SO _x	0.014 lb-SO _x /MMBtu	5 gr/100 scf	Proposed and Rule 4307
PM ₁₀	0.0076 lb-PM ₁₀ /MMBtu		AP-42 (07/98) Table 1.4-2
CO	0.296 lb-CO/MMBtu		Rule 4307
VOC	0.0055 lb-VOC/MMBtu		AP-42 (07/98) Table 1.4-2

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

▪ $PE1 = EF \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched. (hr/day or hr/year)}$

PE1		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	9.6	3504
SO _x	1.3	491
PM ₁₀	0.7	266
CO	28.4	10,372
VOC	0.5	193

2. Post Project Potential to Emit (PE2)

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

▪ $PE2 = EF \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Sched. (hr/day or hr/year)}$

PE2		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	2.6	946
SO _x	1.0	368
PM ₁₀	0.5	200
CO	21.3	7779
VOC	0.4	145

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

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)

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants; therefore, 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)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Estimated Facility PE before Project Increase							>100,000
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source ? (Y/N)							y

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

6. Baseline Emissions (BE)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project to determine the amount of offsets required.

This project is exempt from offsets; therefore, BE calculations are not required.

7. SB 288 Major Modification

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

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	946	50,000	N
SO _x	368	80,000	N
PM ₁₀	200	30,000	N
VOC	145	50,000	N

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

8. Federal Major Modification

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

Step 1

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

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

The proposed replacement boiler is considered to be an existing emissions unit for Federal Major Modification calculation purposes.

Emission Increase = PAE – BAE - UBC

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

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period (5 years for electric utility steam generating units). The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

UBC: Since this project does not result in an increase in design capacity or potential to emit, and it does not impact the ability of the emission unit to operate at a higher utilization rate, the UBC is the portion of PAE that the emission units could have accommodated during the baseline period.

Therefore, the Net Emission Increase (NEI) = PAE – BAE – UBC = 0

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

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

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀
- Greenhouse gases (GHG): CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆

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 major source for PSD. Because the project is not located within 10 km 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. Significance of Project Emission Increase Determination

a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO2	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0.5	0.2	3.9	0.1	0.1	1537.4
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	n	n	n	n	n	n

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase 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

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

However, BACT shall not be required for the following:

4.2.3 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from Best Available Control Technology for all air pollutants, provided all of the following conditions are met:

- 4.2.3.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
- 4.2.3.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
- 4.2.3.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
- 4.2.3.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO_x, or 25 tons per year of VOC, or 15 tons per year of SO_x, or 15 tons per year of PM₁₀, or 50 tons per year of CO.

Since each of the above-listed criteria are met, BACT is not triggered for any pollutant. No further discussion is required.

B. Offsets

1. Offset Applicability

The proposed modifications are solely for compliance with Rule 4307, and are exempt from offsets if the following criteria are satisfied. Rule 2201, Section 4.6.8 provides the following exemption from offsets.

Emission offsets shall not be required for the following:

- 4.2.3.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
- 4.2.3.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
- 4.2.3.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
- 4.2.3.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO_x, or 25 tons per year of VOC, or 15 tons per year of SO_x, or 15 tons per year of PM₁₀, or 50 tons per year of CO.

Since the above-listed criteria are met, offsets are not triggered for any pollutant.

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, and/or
- d. Any project with an SSPE of greater than 20,000 lb/year for any pollutant.

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

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

b. PE > 100 lb/day

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

c. Offset Threshold

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

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

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds			
Pollutant	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	946	20,000 lb/year	No
SO _x	368	20,000 lb/year	No
PM ₁₀	200	20,000 lb/year	No
CO	7779	20,000 lb/year	No
VOC	145	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, this project will not result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

Seneca Resources, 1141735, S-1114

- The sulfur content of fuel combusted shall not exceed 5 grains-S per 100 scf. [District Rules 2201 and 4307] Y
- Emissions shall not exceed any of the following limits: NO_x: 30 ppmvd @ 3% O₂ or 0.036 lb-NO_x/MMBtu; 0.0076 lb-PM₁₀/MMBtu; 0.0296 lb-CO/MMBtu or 0.0055 lb-VOC/MMBtu. [District Rules 2201 and 4307] N

E. Compliance Assurance

1. Source Testing

District Rule 4307 requires initial NO_x and CO emission testing to verify compliance with the emission limits. Source testing for Rule 4307 also satisfies source testing requirements for Rule 2201. No additional source testing is required

2. Monitoring

See the Rule 4307 discussion below.

3. Recordkeeping

The permittee is required to keep records of the monitoring data, source test data, and portable analyzer calibration records. All records are required to be kept for a period of at least 5 years.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2410 Prevention of Significant Deterioration (6/16/11)

As shown above in section VII.9 this project does not result in a PSD significant emission increase and is therefore not subject to the requirements of Rule 2410. 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.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative

Rule 4001 New Source Performance Standards (NSPS)

There are no potentially applicable NSPS subparts for boilers 2-5 MMBtu/hr.

Rule 4101 Visible Emissions

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

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

As demonstrated above, there are no increases in emissions associated with this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

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.

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
PM10 Emission Factor: 0.005 lb-PM10/MMBtu
Percentage of PM as PM10 in Exhaust: 100%
Exhaust Oxygen (O₂) Concentration: 3%
Excess Air Correction to F Factor = $20.9/(20.9 - 3) = 1.17$

$$GL = \left(\frac{0.0076 \text{ lb} - \text{PM}}{\text{MMBtu}} \right) * \left(\frac{7,000 \text{ grain}}{\text{lb} - \text{PM}} \right) / \left(\frac{8,578 \text{ ft}^3}{\text{MMBtu}} * 1.17 \right)$$

$$GL = 0.005 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

Therefore, compliance with District Rule 4201 requirements is expected.

Rule 4304 Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters

Tune up requirements are discussed in District Rule 4307, Section 5.5.1, discussion below.

District Rule 4307 Boilers, Steam Generators and Process Heaters – Phase 3

The unit is a natural gas boiler with a maximum heat input of 3.0 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4307, the unit is subject to this rule.

Section 5.1, NO_x and CO Emissions Limits

The replacement boiler is a non-atmospheric unit, is located in an oilfield and will be installed prior to 1/1/16; therefore, the unit is subject to the 30 ppmv NO_x and 400 ppmv CO limits of Table 1. The unit will be limited to 30 ppmv NO_x and 400 ppmv CO.

Section 5.2 applies to atmospheric units and therefore doesn't apply to the proposed non-atmospheric unit.

Pursuant to section 5.3 the applicant has proposed to limit the fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet which meets the particulate matter control requirements of this rule.

Pursuant to section 5.4 the applicable emission limits of Sections 5.1 and 5.2.1.2 shall not apply during start-up or shutdown. The applicant has not requested startup and shutdown provisions; therefore, this section does not apply.

Section 5.5 requires the operator to:

Monitor, at least once a month, the operational characteristics recommended by the manufacturer and approved by the APCO; and

Tune the unit at least twice per calendar year, (from four to eight months apart) using a qualified technician in accordance with the procedure described in Rule 4304 (Equipment Tuning Procedure for Boilers, Steam Generators, and Process Heaters). If the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year; this unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown. In lieu of tuning the unit, operators shall monitor the emissions with a portable NOx analyzer and adjust the unit's operating parameters accordingly to assure compliance with the emission limits of this rule.

The following conditions will ensure compliance with this section:

{3824} The owner/operator shall monitor, at least once a month, the operational characteristics recommended by the manufacturer and approved by the APCO. [District Rule 4307] N

The permittee shall tune the unit at least twice per calendar year, (from four to eight months apart) using a qualified technician in accordance with the procedure described in Rule 4304. If the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for a calendar year. No tune-up is required if the unit is not operated during that calendar year. The unit may be test fired to verify availability of the unit for its intended use, but once the test firing is complete the unit shall be shutdown. [District Rule 4307] Y

{3826} If the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year; this unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown. [District Rule 4307] N

{3827} In lieu of tuning the unit twice each calendar year, the owner/operator shall monitor the emissions with a portable NOx analyzer at least twice each calendar year and adjust the unit's operating parameters accordingly to assure compliance with the emission limits of this rule. [District Rule 4307] N

Emission certification was not requested; therefore, section 5.6 does not apply.

Pursuant to section 6.1.2 the operator of any unit subject to the applicable requirements of Sections 5.5.1.1 and 5.5.1.2 shall maintain records to verify that tune-up and monitoring of the operational characteristics of the unit have been performed. The following conditions will ensure compliance with this section:

{3828} The owner/operator shall maintain records to verify that the required monitoring of the operational characteristics, and tune-ups or portable NOx analyzing has been performed. [District Rule 4307] N

{3898} Tune-up records shall include: 1) date of tune-up, 2) name of technician performing tune-up, and 3) reason that they are qualified. [District Rule 4307] N

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{3899} Portable analyzer records shall include: 1) date of emissions analyzing, 2) results of emissions analyzing, 3) name of technician performing analyzing, 4) make and model of analyzer, 5) date of last calibration of the analyzer, and 6) a description of any adjustments made to the unit's operating parameters for the purposes of assuring compliance. [District Rule 4307] N

{3820} 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 4307] N

The following conditions will ensure compliance with the source test method requirements of section 6.2:

{3834} NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rule 4307] N

{3835} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4307] N

{3836} Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4307] N

{3838} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 4307] N

{3828} The owner/operator shall maintain records to verify that the required monitoring of the operational characteristics, and tune-ups or portable NO_x analyzing has been performed. [District Rule 4307] N

Pursuant to section 6.3 the operator shall conduct an initial source test at the time of installation and/or modification for each non-certified unit or each non-certified retrofit control technology to demonstrate compliance with the applicable certification emission limits in Section 5.1. Units demonstrating compliance are eligible for certification under the provisions of Section 9.0.

The following conditions will ensure compliance with section 6.3:

Source testing to measure NO_x and CO emissions from this unit shall be conducted no later than 60 days after the start-up. [District Rules 2201 and 4307] N

{3833} 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] N

Therefore, compliance with District Rule 4307 requirements is expected.

District Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{n RT}{P}$$

With:

N = moles SO₂

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

R (Universal Gas Constant) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

$$\frac{0.014 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 9.9 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 9.9 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is located within 1,000 feet of a school. However, pursuant to California Health and Safety Code 42301.6, since this project will not result in an increase in emissions, a school notice is not required.

California Environmental Quality Act (CEQA)

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

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

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District has

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determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATC S-1114-124-0 subject to the permit conditions on the attached draft ATC in **Appendix C**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1114-124-0	3020-02 F	3.0 MMBtu/hr	\$607

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:

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

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

Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	946	237	0	0	237
SO _x	368	92	0	0	92
PM ₁₀	200	50	0	0	50
CO	7779	1945	0	0	1945
VOC	145	36	0	0	36

PE2		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	2.6	946
SO _x	1.0	368
PM ₁₀	0.5	200
CO	21.3	7779
VOC	0.4	145

Permit #: S-1114-124-0	Last Updated
Facility: SENECA RESOURCES	05/08/2014 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	946.0	368.0	200.0	7779.0	145.0
Daily Emis. Limit (lb/Day)	2.6	1.0	0.5	21.3	0.4
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	237.0	92.0	50.0	1945.0	36.0
Q2:	237.0	92.0	50.0	1945.0	36.0
Q3:	237.0	92.0	50.0	1945.0	36.0
Q4:	237.0	92.0	50.0	1945.0	36.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1114-91-4

EXPIRATION DATE: 02/29/2016

SECTION: NE24 **TOWNSHIP:** 26S **RANGE:** 20E

EQUIPMENT DESCRIPTION:

4.0 MMBTU/HR LEASE GAS-FIRED BOILER - STAR SECURITY LEASE

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
3. The permittee shall tune the unit at least twice per calendar year, (from four to eight months apart) using a qualified technician in accordance with the procedure described in Rule 4304. If the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for a calendar year. No tune-up is required if the unit is not operated during that calendar year. The unit may be test fired to verify availability of the unit for its intended use, but once the test firing is complete the unit shall be shutdown. [District Rule 4307] Federally Enforceable Through Title V Permit
4. The permittee shall maintain records of: (1) the date that tune-ups are performed, (2) a description of any corrective action taken to maintain the emissions within the acceptable range, and (3) a record of the operational characteristics monitored. [District Rule 4307] Federally Enforceable Through Title V Permit
5. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. 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
6. Permittee shall demonstrate compliance with the sulfur oxide emissions limit by analysis of the fuel gas sulfur content at least annually. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
7. If compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D1072, D3031, D4084, D3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
8. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D1826 or D1945 in conjunction with ASTM D3588 for gaseous fuels. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

10. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: SJVUAPCD Rule 4201, 4301 and Kern County Rules 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
11. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit

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

Appendix C
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1114-124-0

LEGAL OWNER OR OPERATOR: SENECA RESOURCES
MAILING ADDRESS: 2131 MARS COURT
BAKERSFIELD, CA 93308-6830

LOCATION: HEAVY OIL WESTERN
CA

EQUIPMENT DESCRIPTION:

3.0 MMBTU/HR NATURAL GAS-FIRED PROCESS HEATER/BOILER WITH ECLIPSE WINNOX WX0300 LOW NOX BURNER REPLACING PROCESS HEATER/BOILER S-1114-91 - STAR SECURITY LEASE

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. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. 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
5. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director APCO

Arnaud Marjollet, Director of Permit Services

S-1114-124-0 May 19 2014 12:07PM - TORID : Joint Inspection NOT Required

6. The owner/operator shall monitor, at least once a month, the operational characteristics recommended by the manufacturer and approved by the APCO. [District Rule 4307] Federally Enforceable Through Title V Permit
7. The permittee shall tune the unit at least twice per calendar year, (from four to eight months apart) using a qualified technician in accordance with the procedure described in Rule 4304. If the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for a calendar year. No tune-up is required if the unit is not operated during that calendar year. The unit may be test fired to verify availability of the unit for its intended use, but once the test firing is complete the unit shall be shutdown. [District Rule 4307] Federally Enforceable Through Title V Permit
8. In lieu of tuning the unit twice each calendar year, the owner/operator shall monitor the emissions with a portable NOx analyzer at least twice each calendar year and adjust the unit's operating parameters accordingly to assure compliance with the emission limits of this rule. [District Rule 4307] Federally Enforceable Through Title V Permit
9. This unit shall be fired only on gas with a sulfur content not exceeding 5 grains/100 dscf, or 80 ppmv. [District Rules 2201 and 4307] Federally Enforceable Through Title V Permit
10. Except for periods of startup and shutdown, emissions shall not exceed any of the following limits: NOx: 30 ppmvd @ 3% O₂ or 0.036 lb-NOx/MMBtu; 0.0076 lb-PM₁₀/MMBtu; CO: 400 ppmv @ 3% O₂ or 0.296 lb-CO/MMBtu; or 0.0055 lb-VOC/MMBtu. [District Rules 2201 and 4307] Federally Enforceable Through Title V Permit
11. Source testing to measure NOx and CO emissions from this unit shall be conducted no later than 60 days after the start-up. [District Rules 2201 and 4307] Federally Enforceable Through Title V Permit
12. 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
13. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rule 4307] Federally Enforceable Through Title V Permit
14. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4307] Federally Enforceable Through Title V Permit
15. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4307] Federally Enforceable Through Title V Permit
16. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 4307] Federally Enforceable Through Title V Permit
17. The owner/operator shall maintain records to verify that the required monitoring of the operational characteristics, and tune-ups or portable NOx analyzing has been performed. [District Rule 4307] Federally Enforceable Through Title V Permit
18. Tune-up records shall include: 1) date of tune-up, 2) name of technician performing tune-up, and 3) reason that they are qualified. [District Rule 4307] Federally Enforceable Through Title V Permit
19. Portable analyzer records shall include: 1) date of emissions analyzing, 2) results of emissions analyzing, 3) name of technician performing analyzing, 4) make and model of analyzer, 5) date of last calibration of the analyzer, and 6) a description of any adjustments made to the unit's operating parameters for the purposes of assuring compliance. [District Rule 4307] Federally Enforceable Through Title V Permit
20. 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 4307] Federally Enforceable Through Title V Permit
21. Permittee shall demonstrate compliance with the sulfur oxide emissions limit by analysis of the fuel gas sulfur content at least annually. [District Rules 2201 and 4307] Federally Enforceable Through Title V Permit
22. If compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D1072, D3031, D4084, D3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

23. PTO S-1114-91 shall be canceled upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

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