

SEP 28 2016

Tim Alburger  
Seneca Resources  
4800 Corporate Court  
Bakersfield, CA 93311

**RE: Final - Authority to Construct / Certificate of Conformity (Significant Modification)**  
**Facility Number: S-1114**  
**Project Number: S-1160069**

Dear Mr. Alburger:

The Air Pollution Control Officer has issued the Authority to Construct permit to Seneca Resources for a steam generator, in western Kern County. Enclosed are the Authority to Construct permit and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the Authority to Construct permit was published on 6/23/16. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on 6/17/16.

Subsequent to the public notice period, the California Environmental Quality Act (CEQA) section of the Application Review was revised to address the Kern County Zoning Ordinance. This change was minor and did not trigger additional public notification requirements.

Prior to operating with the modifications authorized by the Authority to Construct, you must submit an application to modify the Title V permit as an administrative amendment in accordance with District Rule 2520, Section 11.5. Application forms have been enclosed for your use. These forms may also be found on the District's website at [www.valleyair.org](http://www.valleyair.org).

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

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**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

Mr. Alburger  
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Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura at (661) 392-5500.

Sincerely,

A handwritten signature in blue ink, reading "Arnaud Marjollet". The signature is written in a cursive style with a horizontal line underneath the name.

Arnaud Marjollet  
Director of Permit Services

AM:dbt

Enclosures

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



## AUTHORITY TO CONSTRUCT

PERMIT NO: S-1114-136-0

ISSUANCE DATE: 09/22/2016

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

LOCATION: HEAVY OIL WESTERN  
CA

SECTION: NE17 TOWNSHIP: 31S RANGE: 22E

**EQUIPMENT DESCRIPTION:**

85 MMBTU/HR (OR EQUIVALENT) NATURAL GAS-FIRED STEAM GENERATOR, WITH NORTH AMERICAN LEL ULTRA LOW NOX BURNER (OR EQUIVALENT) AND A FLUE GAS RECIRCULATION SYSTEM

### CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1703 lb, 2nd quarter - 1703 lb, 3rd quarter - 1703 lb, and fourth quarter - 1704 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-4640-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] 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-1114-136-0: Sep 22 2016 7:28AM -- TORID : Joint Inspection NOT Required

5. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 795 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Number S-4638-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 2122 lb, 2nd quarter - 2122 lb, 3rd quarter - 2122 lb, and fourth quarter - 2123 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
8. ERC Certificate Number C-1359-4, C-1379-4, N-1367-4 and N-1368-4 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1499 lb, 2nd quarter - 1500 lb, 3rd quarter - 1500 lb, and fourth quarter - 1500 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
10. ERC Certificate Numbers N-1365-1 and N-1363-1 (or a certificate(s) split from this certificate(s)) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
14. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
16. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
17. 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
18. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

19. The sulfur content of any fuel, or fuels combined, shall not exceed 1 grains of total sulfur (as H<sub>2</sub>S) per 100 dscf of fuel gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
20. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 D 1072, D 3031, D 3246, D 4084, D 4468, D 6667 or grab sample analysis by GC-FPD/TCD or double GC performed in the laboratory. [District Rule 1070, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested monthly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 6 consecutive months for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, monthly testing shall resume. [District Rules 1070, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
22. 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 D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 1070, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
23. Emissions shall not exceed any of the following limits: 5 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0061 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 25 ppmvd CO @ 3% O<sub>2</sub> or 0.0185 lb-CO/MMBtu, or 0.0054 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. Flue gas recirculation system shall be operated whenever steam generator is operated. [District Rule 2201] Federally Enforceable Through Title V Permit
25. 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
26. 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
27. 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
28. 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

CONDITIONS CONTINUE ON NEXT PAGE

29. 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 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. 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
31. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of startup and at least once every twelve (12) months thereafter. 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
32. When the unit changes fuel source, the unit shall undergo source testing to measure NO<sub>x</sub> and CO emissions within 60 days of the change unless the unit has already undergone source testing in the last twelve (12) months or thirty-six (36) months after demonstrating compliance on the previous two (2) source tests when fired on that fuel source. [District Rule 2201] 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 30 days prior to any compliance source test, and a source test plan must be submitted for approval 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. NO<sub>x</sub> 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
37. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
39. 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
40. Permittee shall submit notification to the District of the date of construction, anticipated startup, and actual startup. Notifications shall be postmarked no later than 30 days after construction and 15 days after actual startup. The notifications shall include the design heat input and identification of fuels for this permit unit. [40 CFR 60.48c (a)] Federally Enforceable Through Title V Permit
41. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
42. Records of sulfur content (gr S/100 scf) of combusted gas shall be maintained. [District Rules 1070, 2201, and 4320] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit

**San Joaquin Valley Air Pollution Control District**  
**Final Authority to Construct Application Review**  
**New Steam Generator**

**The California Environmental Quality Act (CEQA) section of this evaluation on pages 30 through 32 has been revised to address the Kern County Zoning Ordinance**

Facility Name:	Seneca Resources	Date:	9/13/16
Mailing Address:	4800 Corporate Court Bakersfield, CA 93311	Engineer:	David Torii
Contact Person:	Tim Alburger	Lead Engineer:	Steve Leonard
Telephone:	661-399-4270 x3544		
Application #(s):	S-1114-136-0		
Project #:	1160069		
Deemed Complete:	2/2/16		

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**I. Proposal**

Seneca Resources (Seneca) has requested an Authority to Construct (ATC) permit for the installation of an 85 MMBtu/hr natural gas fired steam generator.

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 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
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

The equipment will be located in the North Midway Oil Field, within the NE/4 of Section 17, ~~Township 31S, Range 32E In Seneca's Heavy Oil Western stationary source.~~ The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### IV. Process Description

In thermally enhanced oil recovery (TEOR) operations, steam generators produce steam for injection into heavy crude oil bearing strata via injection wells to reduce the viscosity of the crude oil, thereby facilitating thermally enhanced oil production.

### V. Equipment Listing

S-1114-136-0: 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL LEL ULTRA LOW NOX BURNER, OR EQUIVALENT, AND FLUE GAS RECIRCULATION

### VI. Emission Control Technology Evaluation

Criteria pollutants from natural gas-fired steam generators include NO<sub>x</sub>, CO, VOC, PM<sub>10</sub>, and SO<sub>x</sub>.

NO<sub>x</sub> is the major pollutant of concern when burning natural gas. NO<sub>x</sub> formation is either due to thermal fixation of atmospheric nitrogen in the combustion air (thermal NO<sub>x</sub>) or due to conversion of chemically bound nitrogen in the fuel (fuel NO<sub>x</sub>). Due to the low fuel nitrogen content of natural gas, nearly all NO<sub>x</sub> emissions are thermal NO<sub>x</sub>. Formation of thermal NO<sub>x</sub> is affected by four furnace zone factors: (1) nitrogen concentration, (2) oxygen concentration, (3) peak temperature, and (4) time of exposure at peak temperature.

Flue gas recirculation (FGR) reduces NO<sub>x</sub> emissions by recirculating a percentage of the exhaust gas back into the windbox. This reduces the oxygen concentration in the air-fuel mixture and regulates the combustion process, lowering the combustion temperature. The lowered availability of oxygen in conjunction with lowered combustion temperature reduces the formation of NO<sub>x</sub>.

### VII. General Calculations

#### A. Assumptions

- Annual potential to emit is calculated based on 8,760 hours of operation per year
- The unit will be fired exclusively on PUC quality natural gas
- EPA F-factor for natural gas is 8,710 dscf/MMBtu



- Molar specific volume of a gas @ 60 °F is 379.5 ft<sup>3</sup>/lb-mol
- Maximum Heat Input: 85.0 MMBtu/hr (per applicant).
- PM10 is all PM2.5

**B. Emission Factors**

Pollutant	Steam Generator Emission Factors (EF2)		Source
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	
NO <sub>x</sub>	0.0061 lb-NO <sub>x</sub> /MMBtu	5 ppmvd NO <sub>x</sub> (@ 3%O <sub>2</sub> )	Proposed and BACT
SO <sub>x</sub>	0.00285 lb-SO <sub>x</sub> /MMBtu	1.0 gr-S/100 scf	Proposed, BACT and APR 1720
PM <sub>10</sub>	0.0076 lb-PM <sub>10</sub> /MMBtu		Proposed and AP-42 (7/98), Table 1.4-2
CO	0.0185 lb-CO/MMBtu	25 ppmv CO @3% O <sub>2</sub>	Proposed and BACT
VOC	0.0054 lb-VOC/MMBtu		Proposed and AP-42 (7/98), Table 1.4-2

**C. Calculations**

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

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

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

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO <sub>x</sub>	0.0061	85	24	12.4
SO <sub>x</sub>	0.00285	85	24	5.8
PM <sub>10</sub>	0.0076	85	24	15.5
CO	0.019	85	24	37.7
VOC	0.0054	85	24	11.0

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO <sub>x</sub>	0.0061	85	8,760	4,542
SO <sub>x</sub>	0.00285	85	8,760	2,122
PM <sub>10</sub>	0.0076	85	8,760	5,659
CO	0.019	85	8,760	13,775
VOC	0.0054	85	8,760	3,999

**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.

The SSPE1 can be calculated by adding the PE1 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site (Total<sub>ERC</sub>).

$$SSPE1_{Total} = SSPE1_{Permit Unit} + Total_{ERC}$$

SSPE1 (lb/year)					
Permit Unit/ERC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE1*	68,906	326,779	99,599	270,415	137,619

\*from S1143718

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

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

The SSPE2 can be calculated by adding the PE2 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site (Total<sub>ERC</sub>).

$$SSPE2_{Total} = SSPE2_{Permit Unit} + Total_{ERC}$$

SSPE2 (lb/year)					
Permit Unit/ERC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE1	68,906	326,779	99,599	270,415	137,619
ATC S-1114-136-0	4542	2122	5659	13,775	3999
SSPE2	73,448	328,901	105,258	284,190	141,618

#### 5. Major Source Determination

##### Rule 2201 Major Source Determination:

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

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

Rule 2201 Major Source Determination (lb/year)						
	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	VOC
SSPE1	68,906	326,779	99,599	99,599	270,415	137,619
SSPE2	73,448	328,901	105,258	105,258	284,190	141,618
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	y	y	n	n	y	y

Note: PM2.5 assumed to be equal to PM10

This source is an existing Major Source for NO<sub>x</sub>, SO<sub>x</sub>, CO and VOC emissions 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	34	69	163	135	50	50
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	n	n	n	n	n	n

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

**6. Baseline Emissions (BE)**

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.  
Since this is a new emissions unit, BE = PE1 = 0 for all pollutants.

## 7. SB 288 Major Modification

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

Since this facility is a major source for NO<sub>x</sub>, SO<sub>x</sub>, CO and VOC, the project's PE2 is compared to the SB 288 Major Modification thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO <sub>x</sub>	4542	50,000	N
SO <sub>x</sub>	2122	80,000	N
PM <sub>10</sub>	5659	30,000	N
VOC	3999	50,000	N

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

## 8. Federal Major Modification

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

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

### Step 1

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

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

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO <sub>x</sub> *	4542	0	Y
VOC*	3999	0	Y
PM <sub>10</sub>	5659	30,000	N
PM <sub>2.5</sub>	5659	20,000	N
SO <sub>x</sub>	2122	80,000	N

\*If there is any emission increases in NO<sub>x</sub> or VOC, this project is a Federal Major Modification and no further analysis is required.

Since there is an increase in NO<sub>x</sub> and VOC emissions, this project constitutes a Federal Major Modification, and no further analysis is required.

**Federal Offset Quantities:**

The Federal offset quantity is calculated only for the pollutants for which the project is a Federal Major Modification. The Federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) during the baseline period for each emission unit times the applicable federal offset ratio. There are no special calculations performed for units covered by an SLC.

NO <sub>x</sub>		Federal Offset Ratio		1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)	
S-1114-136-0	0	4542	4,542	
Net Emission Change (lb/year):			4,542	
Federal Offset Quantity: (NEC * 1.5):			6,813	

VOC		Federal Offset Ratio		1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)	
S-1114-136-0	0	3999	3,999	
Net Emission Change (lb/year):			3,999	
Federal Offset Quantity: (NEC * 1.5):			5,999	

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

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

**I. Project Emissions Increase - New Major Source Determination**

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

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

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Total PE from New and Modified Units	2	2	1	7	3	3
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	n	n	n	n	n	n

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

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

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

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

As seen in Section VII.C.2 of this evaluation, the project authorizes a new emission unit with a PE greater than 2 lb/day for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC. BACT is triggered for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, and VOC.

**2. BACT Guideline**

BACT Guideline 1.2.1 [Steam Generator ( $\geq 5$  MMBtu/hr, Oilfield) updated 3/24/14 is included in **Appendix B**.

**3. Top-Down BACT Analysis**

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

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

NO<sub>x</sub>: 5 ppmv @ 3% O<sub>2</sub>  
 SO<sub>x</sub>, & PM<sub>10</sub>: natural gas, with a sulfur content not exceeding 1 gr of sulfur compounds (as S) per 100 scf.  
 CO: 25 ppmv @ 3% O<sub>2</sub>  
 VOC: Gaseous fuel

**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	73,448	328,901	105,258	284,190	141,618
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	y	y	y	y	y

**2. Quantity of Offsets Required**

As seen above, the SSPE2 is greater than the offset thresholds for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, CO, and VOCs. 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.

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

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.

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otherwise,  
BE = HAE

The facility is proposing to install a new emissions unit; therefore BE = 0. Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

### NO<sub>x</sub>

Offsets Required (lb/year) = [(PE2 – BE] + ICCE) x DOR

PE2 (NO<sub>x</sub>) = 4,542 lb/year  
BE (NO<sub>x</sub>) = 0 lb/year  
ICCE = 0 lb/year

The project is a Federal Major Modification and therefore the correct offset ratio for NO<sub>x</sub> and VOCs is 1.5:1.

Offsets Required (lb/year) = ([4,542 – 0] + 0) x 1.5  
= 4,542 x 1.5  
= 6,813 lb NO<sub>x</sub>/year

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

Quarterly offsets required (lb/qtr) = (6813 lb NO<sub>x</sub>/year) ÷ (4 quarters/year)  
= 1703.25 lb/qtr

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

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



<b>Redistribution of Required Quarterly Offsets</b> (where X is the annual amount of offsets, and $X + 4 = Y.z$ )				
Value of z	Quarter 1	Quarter 2	Quarter 3	Quarter 4
.0	Y	Y	Y	Y
.25	1703	1703	1703	1704
.5	Y	Y	Y+1	Y+1
.75	Y	Y+1	Y+1	Y+1

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

<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
1703	1703	1703	1704

The applicant has stated that the facility plans to use ERC certificate S-4640-2 to offset the increases in NO<sub>x</sub> emissions associated with this project. The above certificate has available quarterly NO<sub>x</sub> credits as follows:

	<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
ERC #S-4640-2	1730	1730	1730	1730

As seen above, the facility has sufficient credits to fully offset the quarterly NO<sub>x</sub> emissions increases associated with this project.

**Proposed Rule 2201 (offset) Conditions:**

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender NO<sub>x</sub> emission reduction credits for the following quantity of emissions: 1st quarter – 1703 lb, 2nd quarter – 1703 lb, 3rd quarter – 1703 lb, and fourth quarter – 1704 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- {GC# 1983} ERC Certificate Number S-4640-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**SO<sub>x</sub>**

PE2 (SO<sub>x</sub>) = 2,122 lb/year  
 BE (SO<sub>x</sub>) = 0 lb/year  
 ICCE = 0 lb/year

The site of reductions occurred at another stationary source greater than 15 miles from the proposed steam generators and therefore the correct offset ratio 1.5:1.

Assuming an offset ratio of 1.5:1, the amount of SO<sub>x</sub> ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([2,122 - 0] + 0) \times 1.5 \\ &= 2,122 \times 1.5 \\ &= 3,183 \text{ lb SO}_x\text{/year} \end{aligned}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (3183 \text{ lb SO}_x\text{/year}) \div (4 \text{ quarters/year}) \\ &= 795.75 \text{ lb/qtr} \end{aligned}$$

<b>Redistribution of Required Quarterly Offsets</b> (where X is the annual amount of offsets, and $X \div 4 = Y.z$ )				
Value of z	Quarter 1	Quarter 2	Quarter 3	Quarter 4
.0	Y	Y	Y	Y
.25	Y	Y	Y	Y+1
.5	Y	Y	Y+1	Y+1
.75	795	796	796	796

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

<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
795	796	796	796

The applicant has stated that the facility plans to use ERC certificate listed in the following table which have been reserved for the quantities shown.

Certificate	Q1	Q2	Q3	Q4
S-4638-5	796	796	796	796

As seen above, the facility has sufficient credits to fully offset the quarterly SO<sub>x</sub> emissions increases associated with this project.

**Proposed Rule 2201 (offset) Conditions:**

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender SO<sub>x</sub> emission reduction credits for the following quantity of emissions: 1st quarter – 795 lb, 2nd quarter – 796 lb, 3rd quarter – 796 lb, and fourth quarter – 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- {GC# 1983} ERC Certificate Number S-4638-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal.

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

**PM<sub>10</sub>**

PE2 (PM10) = 5,659 lb/year  
BE (PM10) = 0 lb/year  
ICCE = 0 lb/year

The site of reductions occurred at another stationary source greater than 15 miles from the proposed steam generators and therefore the correct offset ratio 1.5:1.

The amount of PM<sub>10</sub> ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([5,659 - 0] + 0) \times 1.5 \\ &= 5,659 \times 1.5 \\ &= 8,489 \text{ lb PM}_{10}/\text{year} \end{aligned}$$

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (8489 \text{ lb PM}_{10}/\text{year}) \div (4 \text{ quarters/year}) \\ &= 2122.25 \text{ lb/qtr} \end{aligned}$$

<b>Redistribution of Required Quarterly Offsets</b> (where X is the annual amount of offsets, and $X + 4 = Y.z$ )				
Value of z	Quarter 1	Quarter 2	Quarter 3	Quarter 4
.0	Y	Y	Y	Y
.25	2122	2122	2122	2123
.5	Y	Y	Y+1	Y+1
.75	Y	Y+1	Y+1	Y+1

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

<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
2122	2122	2122	2123

Per section 4.13.7 of Rule 2201, AER for PM that occurred from October through March, inclusive, may be used to offset increases in PM during any period of the year.

The applicant has stated that the facility plans to use ERC certificate listed in the following table which have been reserved for the quantities shown.

Certificate	Q1	Q2	Q3	Q4	
C1359-4	0	0	0	9	
C-1379-4	0	0	0	5680	
N-1367-4	138	137	84	53	
N-1368-4	651	288	1073	376	
<b>Total:</b>	<b>789</b>	<b>425</b>	<b>1157</b>	<b>6118</b>	<b>Total</b> <b>8489</b>

As seen above, the facility has sufficient credits to fully offset the quarterly PM10 emissions increases associated with this project.

**Proposed Rule 2201 (offset) Conditions:**

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter – 2122 lb, 2nd quarter – 2122 lb, 3rd quarter – 2122 lb, and fourth quarter – 2123 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

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- {GC# 1983} ERC Certificate Number C-1359-4, C-1379-4, N-1367-4 and N-1368-4 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [~~District Rule 2201~~]

**VOCs**

PE2 (VOCs) = 3,999 lb/year  
 BE (VOCs) = 0 lb/year  
 ICCE = 0 lb/year

The amount of VOCs ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([3,999 - 0] + 0) \times 1.5 \\ &= 3,999 \times 1.5 \\ &= 5,999 \text{ lb PM}_{10}/\text{year} \end{aligned}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (5,999 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 1499.75 \text{ lb/qtr} \end{aligned}$$

<b>Redistribution of Required Quarterly Offsets</b> (where X is the annual amount of offsets, and $X + 4 = Y.z$ )				
Value of z	Quarter 1	Quarter 2	Quarter 3	Quarter 4
.0	Y	Y	Y	Y
.25	Y	Y	Y	Y+1
.5	Y	Y	Y+1	Y+1
.75	1499	1500	1500	1500

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

<u>1<sup>st</sup> Quarter</u>	<u>2<sup>nd</sup> Quarter</u>	<u>3<sup>rd</sup> Quarter</u>	<u>4<sup>th</sup> Quarter</u>
1499	1500	1500	1500

AER for VOC that occurred from April through November may be used to offset increases in NOx and VOC during any period of the year.

The applicant has stated that the facility plans to use ERC certificate listed in the following table which have been reserved for the quantities shown.

Certificate	Q1	Q2	Q3	Q4	
N-1365-1	1500	287	2514	1004	
N-1363-1	0	0	695	0	Total
Total:	1500	287	3209	1004	6000

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

**Proposed Rule 2201 (offset) Conditions:**

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 1499 lb, 2nd quarter – 1500 lb, 3rd quarter – 1500 lb, and fourth quarter – 1500 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- {GC# 1983} ERC Certificate Numbers N-1365-1 and N-1363-1 (or a certificate(s) split from this certificate(s)) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**CO**

CO: 13,775 lb/yr

Notwithstanding the above, Section 4.6.1 of Rule 2201 states that emissions offsets are not required for increases in carbon monoxide in attainment areas provided 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. The District performed an Ambient Air Quality Analysis and determined that this project will not result in or contribute to a violation of an Ambient Air Quality Standard for CO (see Attachment V). Therefore, CO offsets are not required for this project.

**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.
- e. Any project which results in a Title V significant permit modification

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

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

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

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

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

**c. Offset Threshold**

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO <sub>x</sub>	68,906	73,448	20,000 lb/year	No
SO <sub>x</sub>	326,779	328,901	54,750 lb/year	No
PM <sub>10</sub>	99,599	105,258	29,200 lb/year	No
CO	270,415	284,190	200,000 lb/year	No
VOC	137,619	141,618	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.

<b>SSIPE Public Notice Thresholds</b>					
<b>Pollutant</b>	<b>SSPE1 (lb/year)</b>	<b>SSPE2 (lb/year)</b>	<b>SSIPE (lb/year)</b>	<b>SSIPE Public Notice Threshold</b>	<b>Public Notice Required?</b>
NO <sub>x</sub>	68,906	73,448	4,542	20,000 lb/year	No
SO <sub>x</sub>	326,779	328,901	2,122	20,000 lb/year	No
PM <sub>10</sub>	99,599	105,258	5,659	20,000 lb/year	No
CO	270,415	284,190	13,775	20,000 lb/year	No
VOC	137,619	141,618	3,999	20,000 lb/year	No

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

**e. Title V Significant Permit Modification**

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

**2. Public Notice Action**

As discussed above, public noticing is required for this project for triggering a Title V significant 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.

**Proposed Rule 2201 (DEL) Conditions:**

Emissions shall not exceed any of the following limits: 5 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0061 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 25 ppmvd CO @ 3% O<sub>2</sub> or 0.0185 lb-CO/MMBtu, or 0.0054 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Y

## **E. Compliance Assurance**

### **1. Source Testing**

This units are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, 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*. Source testing requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rules 4305, 4306, and 4320 of this evaluation.

### **1. Monitoring**

#### Sulfur Monitoring for Rule 4320 Compliance

The following conditions will be included on the ATCs for the steam generators:

*When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested monthly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 6 consecutive months for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, monthly testing shall resume. [District Rules 1070, 2201, 2520, and 4320] Y*

#### NOx and CO

As required by District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, 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*, this unit is subject to monitoring requirements. Monitoring requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rules 4305, 4306, and 4320 of this evaluation.

### **2. Recordkeeping**

As required by District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase 2*, 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*, this unit is subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, *District Rules 4305, 4306, and 4320* of this evaluation.

The following permit condition will be listed on permit as follows:

*All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] N*



#### **4. Reporting**

No reporting is required to demonstrate compliance with Rule 2201.

#### **F. Ambient Air Quality Analysis (AAQA)**

An AAQA is conducted by the Technical Services group, for any project which has an increase in emissions and triggers public notification requirements. Discuss the AAQA results as follows.

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

The proposed location is in an attainment area for NO<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>.

#### **G. Compliance Certification**

The compliance certification is required for any project, which constitutes a New Major Source or a Federal Major Modification.

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

#### **H. Alternate Siting Analysis**

*Alternative siting analysis is required for any project, which constitutes a New Major Source or a Federal Major Modification.*

The current project occurs at an existing facility. The applicant proposes to install a [Insert project description].

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

### **Rule 2410 Prevention of Significant Deterioration**

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

### **Rule 2520 Federally Mandated Operating Permits**

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

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

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

#### **40 CFR Part 60 Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units**

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Institutional Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or, reconstruction). Subpart Dc has standards for SO<sub>x</sub> and PM<sub>10</sub>. The 85 MMBtu/hr steam generator is subject to Subpart Dc requirements.

#### **60.42c – Standards for Sulfur Dioxide**

Since coal is not combusted by the steam generator in this project, the requirements of this section are not applicable.

#### **60.43c – Standards for Particulate Matter**

The steam generator does not fired on coal, combust mixtures of coal with other fuels, combust wood, combust mixtures of wood with other fuels, or oil; therefore, it will not be subject to the requirements of this section.

#### **60.44c – Compliance and Performance Tests Methods and Procedures for Sulfur Dioxide.**

Since the steam generator in this project is not subject to the sulfur dioxide requirements of this subpart, no testing to show compliance is required. Therefore, the requirements of this section are not applicable to the steam generator in this project.

**60.45c – Compliance and Performance Test Methods and Procedures for Particulate Matter**

Since the steam generator in this project is not subject to the particulate matter requirements of this subpart, no testing to show compliance is required. Therefore, the requirements of this section are not applicable to the steam generator in this project.

**60.46c – Emission Monitoring for Sulfur Dioxide**

Since the steam generator in this project is not subject to the sulfur dioxide requirements of this subpart, no monitoring is required. Therefore, the requirements of this section are not applicable to the steam generator in this project.

**60.47c – Emission Monitoring for Particulate Matter**

Since the steam generator in this project is not subject to the particulate matter requirements of this subpart, no monitoring is required. Therefore, the requirements of this section are not applicable to the steam generator in this project.

**60.48c – Reporting and Recordingkeeping Requirements**

Section 60.48c (a) states that the owner or operator of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by §60.7 of this part. This notification shall include:

- (1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

*The design heat input capacity and type of fuel combusted at the facility will be listed on the unit's equipment description. No conditions are required to show compliance with this requirement.*

- (2) If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel mixture of fuels under §60.42c or §40.43c.

*This requirement is not applicable since the unit is not subject to §60.42c or §40.43c.*

- (3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

*The facility has not proposed an annual capacity factor; therefore one will not be required.*

- (4) Notification if an emerging technology will be used for controlling SO<sub>2</sub> emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of §60.42c(a) or (b)(1), unless and until this determination is made by the Administrator

*This requirement is not applicable since the unit will not be equipped with an emerging technology used to control SO<sub>2</sub> emissions.*

District Rule 4001, §3.0 defines the Administrator as the APCO of the District. The following condition ensures compliance:

- Permittee shall submit notification to the District of the date of construction, anticipated startup, and actual startup. Notifications shall be postmarked no later than 30 days after construction and 15 days after actual startup. ~~The notifications shall include the design heat input and identification of fuels for this permit unit. [40 CFR 60.48c (a)]~~

Section 60.48c (g) states that the owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day. The following conditions will be added to the permit to ensure compliance with this section.

- A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)]
- Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)]

Section 60.48c (i) states that all records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record. District Rule 4320 requires that records be kept for five years. Compliance is ensured with the following condition:

- All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)]

Therefore, compliance with the requirements of this rule is expected.

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

Per Section 5.0, 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). A condition will be placed on the ATC to ensure compliance with the opacity limit.

Therefore, compliance with the requirements of this rule is expected.

#### **Rule 4102 Nuisance**

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

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

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

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

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (**Appendix C**), the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

<b>RMR Summary</b>			
<b>Categories</b>	<b>NG Steam Generator (Unit 136-0)</b>	<b>Project Totals</b>	<b>Facility Totals</b>
<b>Prioritization Score</b>	0.09	0.09	>1.0
<b>Acute Hazard Index</b>	0.00	0.00	0.15
<b>Chronic Hazard Index</b>	0.00	0.00	0.12
<b>Maximum Individual Cancer Risk</b>	3.46E-08	3.46E-08	1.07E-05
<b>T-BACT Required?</b>	No		
<b>Special Permit Requirements?</b>	Yes		

**Discussion of T-BACT**

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

**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

PM<sub>10</sub> Emission Factor: 0.005 lb-PM<sub>10</sub>/MMBtu

Percentage of PM as PM<sub>10</sub> in Exhaust: 100%

Exhaust Oxygen (O<sub>2</sub>) Concentration: 3%

$$\text{Excess Air Correction to F Factor} = \frac{20.9}{(20.9 - 3)} = 1.17$$

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

$GL = 0.0053 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$

Therefore, compliance with the requirements of this rule is expected.

**Rule 4301 Fuel Burning Equipment**

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

Section 5.0 gives the requirements of the rule.

A person shall not discharge into the atmosphere combustion contaminants exceeding in concentration at the point of discharge, 0.1 grain per cubic foot of gas calculated to 12% of carbon dioxide at dry standard conditions.

A person shall not build, erect, install or expand any non-mobile fuel burning equipment unit unless the discharge into the atmosphere of contaminants will not and does not exceed any one or more of the following rates:

- 200 pound per hour of sulfur compounds, calculated as sulfur dioxide (SO<sub>2</sub>)
- 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO<sub>2</sub>)
- Ten pounds per hour of combustion contaminants as defined in Rule 1020 and derived from the fuel.

District Rule 4301 Limits			
	NO <sub>2</sub>	Total PM	SO <sub>2</sub>
	0.0061 x 85 = 0.52	0.0076 x 85 = 0.65	0.00285 x 85 = 0.24
Rule Limit (lb/hr)	140	10	200

The particulate emissions from the steam generators will not exceed 0.1 gr/dscf at 12% CO<sub>2</sub> or 10 lb/hr. Further, the emissions of SO<sub>x</sub> and NO<sub>x</sub> will not exceed 200 lb/hr or 140 lb/hr, respectively.

Therefore, compliance with the requirements of this rule is expected.

**District Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2**

The units have a maximum heat input of 85 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305, the unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*.

In addition, the unit is also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

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.

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

The units have a maximum heat input of 85 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

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**

This rule limits NO<sub>x</sub>, CO, SO<sub>2</sub> and PM<sub>10</sub> emissions from boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. This rule also provides a compliance option of payment of fees in proportion to the actual amount of NO<sub>x</sub> emitted over the previous year.

The units in this project are all rated at greater than 5 MMBtu/hr heat input and are subject to this rule.

#### **Section 5.1 NO<sub>x</sub> Emission Limits**

Section 5.1 states that an operator of a unit(s) subject to this rule shall comply with all applicable requirements of the rule and one of the following, on a unit-by-unit basis:

- 5.1.1 Operate the unit to comply with the emission limits specified in Sections 5.2 and 5.4; or
- 5.1.2 Pay an annual emissions fee to the District as specified in Section 5.3 and comply with the control requirements specified in Section 5.4; or
- 5.1.3 Comply with the applicable Low-use Unit requirements of Section 5.5.

The unit will comply with the NO<sub>x</sub> and CO emissions limits specified in Section 5.2 of the rule.

The proposed NO<sub>x</sub> and CO limits are 5 and 25 ppmv @ 3% O<sub>2</sub>, respectively.

Therefore, compliance with the emissions limits of Section 5.2 of District Rule 4320 is expected.

A permit condition listing the emissions limits will be listed on permit as shown in the DEL section above.

#### **Section 5.4 Particulate Matter Control Requirements**

Section 5.4.1 states that to limit particulate matter emissions, an operator shall comply with one of the options listed in the rule.

Section 5.4.1.1 provides option for the operator to comply with the rule by firing the unit exclusively on PUC-quality gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;

Section 5.4.1.2 provides option for the operator to comply with the rule by limiting the fuel sulfur content to no more than five (5) grains of total sulfur per hundred (100) standard cubic feet.

Section 5.4.1.3 provides option for the operator to comply with the rule by installing and properly operating an emissions control system that reduces SO<sub>2</sub> emissions by at least 95% by weight; or limit exhaust SO<sub>2</sub> to less than or equal to 9 ppmv corrected to 3 % O<sub>2</sub>.

The steam generator will be fired on natural gas containing no more than 1 gr S/100 scf. Therefore, compliance with this section of the rule is expected.

### **Section 5.5 Low Use**

Section 5.5 requires that units limited to less than or equal to 1.8 billion Btu per calendar year heat input pursuant to a District Permit to Operate Tune the unit at least twice per calendar year, or 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; or operate the unit in a manner that maintains exhaust oxygen concentrations at less than or equal to 3.00 percent by volume on a dry basis.

The subject steam generator is not a low use unit and therefore the requirements of Section 5.5 do not apply.

### **Section 5.6, Startup and Shutdown Provisions**

Applicable emissions limits are not required during startup and shutdown provided the duration of each start-up or each shutdown shall not exceed two hours, the emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown or operator has submitted an application for a Permit to Operate condition to allow more than two hours for each start-up or each shutdown provided the operator meets all of the conditions specified in Sections 5.6.3.1 through 5.6.3.3. No special start-up and shut-down emissions have been proposed.

### **Section 5.7 Monitoring Provisions**

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 shall either install or maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NO<sub>x</sub>, CO and O<sub>2</sub>, or implement an APCO-approved alternate monitoring.

Seneca has proposed to implement Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires periodic monitoring of NO<sub>x</sub>, CO, and O<sub>2</sub> concentrations at least once a month using a portable analyzer. The following conditions will be placed in the permits to ensure compliance with the requirements of this alternate monitoring plan:

*{2395} 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 analyzer 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] Y*

*If either the NO<sub>x</sub> or CO concentrations corrected to 3%, 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 performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Y*

*All NO<sub>x</sub>, CO, and O<sub>2</sub> 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 NO<sub>x</sub>, CO, and O<sub>2</sub> 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 sample 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 4102, 4305, 4306 and 4320] Y*

*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 by volume 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] Y*

Section 5.7.6.1 requires that operators complying with Sections 5.4.1.1 or 5.4.1.2 shall provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permit To Operate. Sulfur analysis shall be performed in accordance with the test methods in Section 6.2. The following conditions will be placed in the ATCs for compliance with this rule requirement:

*If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 D 1072, D 3031, D 3246, D 4084, D 4468, D 6667 or grab sample analysis by GC-FPD/TCD or double GC performed in the laboratory. [District Rule 1070, 2201, 2520, and 4320] Y*

*When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested monthly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 6 consecutive months for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, monthly testing shall resume. [District Rules 1070, 2201, 2520, and 4320] Y*

*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 D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 1070, 2201, 2520, and 4320] Y*

## **Section 5.8 Compliance Determination**

Section 5.8.1 requires that the operator of any unit have the option of complying with either ~~the applicable heat input (lb/MMBtu), emission limits or the concentration (ppmv) emission~~ limits specified in Section 5.2. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling). Therefore, the following condition will be retained or listed on the permits as follows:

*{2976} The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Y*

Section 5.8.2 requires that 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. Unless otherwise 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. Therefore, the following permit condition will be listed on the permits as follows:

*{2972} 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. Unless otherwise 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. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Y*

Section 5.8.4 requires that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NO<sub>x</sub> analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings 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. Therefore, the following previously listed permit condition will be on the permits as follows:

*{2937} 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] Y*

Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If

two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the permit as follows:

*{2980} 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] Y*

### **Section 6.1 Recordkeeping**

Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO and EPA upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule. Therefore, the following permit condition will be listed on the permit as follows:

*All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Y*

### **Section 6.2, Test Methods**

Section 6.2 identifies test methods to be used when determining compliance with the rule. The following conditions will be listed on the permits:

*{109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Y*

*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 (O<sub>2</sub>) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO<sub>x</sub> - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H<sub>2</sub>S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D. 3588. [District Rules 4305, 4306 and 4320] Y*

### **Section 6.3, Compliance Testing**

Section 6.3.1 requires that each unit subject to the requirements in Section 5.2 shall be source tested at least once every 12 months, except if two consecutive annual source tests demonstrate compliance, source testing may be performed every 36 months. If such a source test demonstrates non-compliance, source testing shall revert to every 12 months. The following conditions will be included in the permits:

*Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of startup and at least once every twelve (12) months thereafter. 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] Y*

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

Sections 6.3.2.1 through 6.3.2.7 address the requirements of group testing which is not proposed in this project. Therefore these sections are not applicable.

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## **Conclusion**

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule, see attached draft permits. Therefore, compliance with District Rule 4320 requirements is expected.

## **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 SO<sub>2</sub>, on a dry basis averaged over 15 consecutive minutes. The unit will combust gas containing no more than 1 gr S/100 scf and therefore compliance is expected.

## **California Health & Safety Code 42301.6 (School Notice)**

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

## **California Environmental Quality Act (CEQA)**

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

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

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

### **District is a Responsible Agency**

Oil and gas operations in Kern County must comply with the *Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting*. In 2015, Kern County revised the Kern County Zoning Ordinance Focused on Oil and Gas Activities (Kern Oil

and Gas Zoning Ordinance) in regards to future oil and gas exploration, and drilling and production of hydrocarbon resource projects occurring within Kern County.

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

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

### **District CEQA Findings**

The proposed project is located in Kern County and is thus subject to the *Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting*. The *Kern County Zoning Ordinance* was developed by the Kern County Planning Agency as a comprehensive set of goals, objectives, policies, and standards to guide development, expansion, and operation of oil and gas exploration within Kern County.

In 2015, Kern County revised their *Kern County Zoning Ordinance* in regards to exploration, drilling and production of hydrocarbon resources projects. Kern County 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 revised Kern County Zoning Ordinance establishes a written process (Conformity Review permit process or Minor Activity permit) by which oil and gas exploration projects involving site-specific operations can be evaluated to determine whether the environmental effects of the operation were covered in the *Kern County Zoning Ordinance* EIR.

For stationary source emissions that are below the offset threshold, i.e. not required to surrender ERCs, and for non-stationary source emissions, Kern County entered into an Oil and Gas Emission Reduction Agreement (Oil and Gas ERA) with the District pursuant to the EIR. Per the Oil and Gas ERA, the applicant shall fully mitigate project emissions that are not required to be offset by District permit rules and regulations. Such mitigation can be achieved through any of the three options: (1) the applicants pay an air quality mitigation fee with each Oil and Gas Conformity Review permit issued by the Kern County, (2) the applicants may develop and propose to implement their own emission reduction projects instead of paying all or part of the mitigation fee, or (3) the applicants will be allowed to enter into an agreement directly with the District (if approved by Kern County) to develop an alternative fee schedule.

Kern County, as the lead agency, is the agency that will enforce the mitigation measures identified the EIR, including the mitigation requirements of the Oil and Gas

ERA. As a responsible agency the District complies with CEQA by considering the EIR prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project involved (CCR §15096). The District has reviewed the EIR prepared by Kern County, the Lead Agency for the project, and finds it to be adequate. To reduce project related impacts on air quality, the District evaluates emission controls for the project such as Best Available Control Technology (BACT) under District Rule 2201 (New and Modified Stationary Source Review). In addition, the District is requiring the applicant to surrender emission reduction credits (ERC) for stationary source emissions above the offset threshold.

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

### **Indemnification Agreement/Letter of Credit Determination**

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

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

### **IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Issue ATC S-1114-136-0 subject to the permit conditions on the attached draft ATC in **Appendix E**.

### **X. Billing Information**

<b>Annual Permit Fees</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Annual Fee</b>
S-1114-136-0	3020-02 H	85 MMBtu/hr	\$1080

**Appendixes**

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

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

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**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:

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

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

<b>Quarterly NEC [QNEC]</b>					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO <sub>x</sub>	4542	1,136	0	0	1,136
SO <sub>x</sub>	2122	531	0	0	531
PM <sub>10</sub>	5659	1,415	0	0	1,415
CO	13,775	3,444	0	0	3,444
VOC	3999	1,000	0	0	1,000

**APPENDIX B**  
**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
NOx	<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>	
PM10	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>		
SOx	Fired on PUC quality natural gas, commercial propane, and/or		

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
	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		

## Top Down BACT Analysis for the Steam Generator

Oxides of nitrogen (NO<sub>x</sub>) are generated from the high temperature combustion of the natural gas fuel. A majority of the NO<sub>x</sub> emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO<sub>x</sub> emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

### 1. BACT Analysis for NO<sub>x</sub> Emissions:

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

The SJVUAPCD BACT Clearinghouse Guideline 1.2.1, updated 3/24/14, identifies for achieved in practice BACT for NO<sub>x</sub> emissions from oil field steam generators  $\geq 5$  MMBtu/hr as follows (non-applicable Achieved-in-Practice requirements are in strikeout text):

##### Achieved-in-Practice

•Units rated 85 MMBtu/hr and fired solely on PUC-quality natural gas: 6 ppmvd @ 3% O<sub>2</sub>

~~•Units firing on  $\geq 50\%$  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— unit is 85 MMBtu/hr~~

~~•Units firing on  $< 50\%$  PUC quality natural gas; commercial propane; and/or LPG: 9 ppmvd @ 3% O<sub>2</sub>— unit is fired on PUC-quality natural gas~~

##### Technologically Feasible

5 ppmvd @ 3% O<sub>2</sub> – units rated 85 MMBtu/hr and fired solely on PUC-quality natural gas

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

There are no technologically infeasible options to eliminate from step 1.

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

- 1) 6 ppmvd @ 3% O<sub>2</sub> – Achieved-in-Practice
- 2) 5 ppmvd @ 3% O<sub>2</sub> – Technologically Feasible

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

A cost effective analysis is required for technologically feasible control options that are not proposed. The applicant is proposing a NO<sub>x</sub> limit of 5 ppmvd @ 3% O<sub>2</sub>, the highest rank technology; therefore, a cost effective analysis is not required.

## 2. BACT Analysis for SO<sub>x</sub> Emissions:

Oxides of sulfur (SO<sub>x</sub>) emissions occur from the combustion of the sulfur, which is present in the fuel.

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

---

The SJVUAPCD BACT Clearinghouse Guideline 1.2.1, updated 3/24/14, identifies for achieved in practice BACT for SO<sub>x</sub> emissions from oil field steam generators ≥5 MMBtu/hr as follows:

#### Achieved-in-Practice

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>

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

There are no technologically infeasible options to eliminate from step 1.

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

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>

### d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

### e. Step 5 - Select BACT

BACT for SO<sub>x</sub> emissions from this oil field steam generator is natural gas fuel with a sulfur content ≤1 gr-S/100 scf. BACT is satisfied.

### 3. BACT Analysis for PM<sub>10</sub> Emissions:

Particulate matter (PM<sub>10</sub>) emissions result from the incomplete combustion of various elements in the fuel.

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

The SJVUAPCD BACT Clearinghouse Guideline 1.2.1, updated 3/24/14, identifies for achieved in practice BACT for CO<sub>10</sub> emissions from oil field steam generators ≥5 MMBtu/hr as follows:

##### Achieved-in-Practice

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>

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

There are no technologically infeasible options to eliminate from step 1.

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

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>

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

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

#### e. Step 5 - Select BACT

BACT for PM<sub>10</sub> emissions from this oil field steam generator is natural gas fuel with a sulfur content ≤1 gr-S/100 scf. BACT is satisfied.

#### **4. BACT Analysis for CO Emissions:**

Carbon monoxide (CO) emissions are generated from the incomplete combustion of air and fuel.

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

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The SJVUAPCD BACT Clearinghouse Guideline 1.2.1, updated 3/24/14, identifies for achieved in practice BACT for CO emissions from oil field steam generators  $\geq 5$  MMBtu/hr as follows:

- 1) 25 ppmvd @ 3% O<sub>2</sub>

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

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

There are no technologically infeasible options to eliminate from step 1.

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

- 1) 25 ppmvd @ 3% O<sub>2</sub>

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

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

##### **e. Step 5 - Select BACT**

BACT for CO emissions from this oil field steam generator is a CO limit of 50ppmvd @ 3% O<sub>2</sub>. The applicant has proposed to install an oil field steam generator with a CO limit of 25 ppmvd @ 3% O<sub>2</sub>; therefore BACT for CO emissions is satisfied.



**5. BACT Analysis for VOC Emissions:**

Volatile organic compounds (VOC) emissions are generated from the incomplete combustion of the fuel.

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

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 1<sup>st</sup> quarter 2005, identifies for achieved in practice BACT for VOC emissions from oil field steam generators  $\geq 5$  MMBtu/hr as follows:

- 1) Gaseous fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

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

There are no technologically infeasible options to eliminate from step 1.

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

- 1) Gaseous fuel

**d. Step 4 - Cost effectiveness analysis**

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

**e. Step 5 - Select BACT**

BACT for VOC emissions from this oil field steam generator is gaseous fuel. The applicant has proposed to install an oil field steam generator fired on gaseous fuel; therefore BACT for PM<sub>10</sub> emissions is satisfied.

**APPENDIX C**  
**HRA and AAQA**

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

To: David Torii – Permit Services  
 From: Tadeh Issakhanian – Technical Services  
 Date: March 30, 2016  
 Facility Name: Seneca Resources  
 Location: Section 17, T31S, R22E  
 Application #(s): S-1114-136-0  
 Project #: S-1160069

---

### A. RMR SUMMARY

RMR Summary			
Categories	NG Steam Generator (Unit 136-0)	Project Totals	Facility Totals
<b>Prioritization Score</b>	0.09	0.09	>1.0
Acute Hazard Index	0.00	0.00	0.15
Chronic Hazard Index	0.00	0.00	0.12
Maximum Individual Cancer Risk	3.46E-08	3.46E-08	1.07E-05
T-BACT Required?	No		
Special Permit Requirements?	Yes		

### Proposed Permit Requirements

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

#### Unit # 136-0

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.

### B. RMR REPORT

#### I. Project Description

Technical Services received a request on March 29, 2016, to perform an Ambient Air Quality Analysis for the proposed installations of a 85 mmBtu/hr natural gas-fired steam generator. A Risk Management Review (RMR) was performed on February 3, 2016; however, the AAQA was not submitted at that time.

## II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Toxic emissions for this proposed unit were derived from data in the 1992 Radian Corporation report to WSPA. The AERMOD model was used, with the parameters outlined below and meteorological data for 2004-2008 from Fellows to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP) and the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 136-0			
Source Type	Point	Location Type	Rural
Stack Height (m)	6.1	Closest Receptor (m)	374
Stack Diameter. (m)	1.1	Type of Receptor	Business
Stack Exit Velocity (m/s)	8.2	Fuel Type	NG
Stack Exit Temp. (°K)	377	Burner Rating (MMBtu/hr)	85

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.
136-0	0.53	4617	0.25	2122	1.57	13775	0.65	5659

The results from the Criteria Pollutant Modeling are as follows:

### Criteria Pollutant Modeling Results\*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO <sub>x</sub>	Pass <sup>1</sup>	X	X	X	Pass
SO <sub>x</sub>	Pass	Pass	X	Pass	Pass
PM <sub>10</sub>	X	X	X	Pass <sup>2</sup>	Pass <sup>2</sup>
PM <sub>2.5</sub>	X	X	X	Pass <sup>2</sup>	Pass <sup>2</sup>

\*Results were taken from the attached PSD spreadsheet.

<sup>1</sup>The project was compared to the 1-hour NO<sub>2</sub> National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures<sup>2</sup>The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

### **III. Conclusion**

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

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

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

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

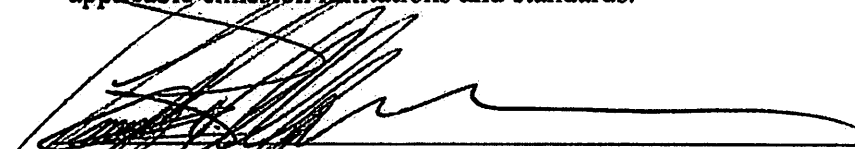
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**APPENDIX D**  
**Compliance Certification**

**San Joaquin Valley  
Unified Air Pollution Control District  
DETERMINATION OF COMPLIANCE STATEMENT**

Company Name: Seneca Resources	Facility ID(s): S-1114; S-3007; S-3755
--------------------------------	--

All major Stationary Source(s) owned or operated by Seneca Resources in California that are subject to emission limitations are in compliance or on a schedule for compliance with all applicable emission limitations and standards.

  
\_\_\_\_\_  
Signature of Responsible Official

01.19.16  
\_\_\_\_\_  
Date

Timothy R. Alburger

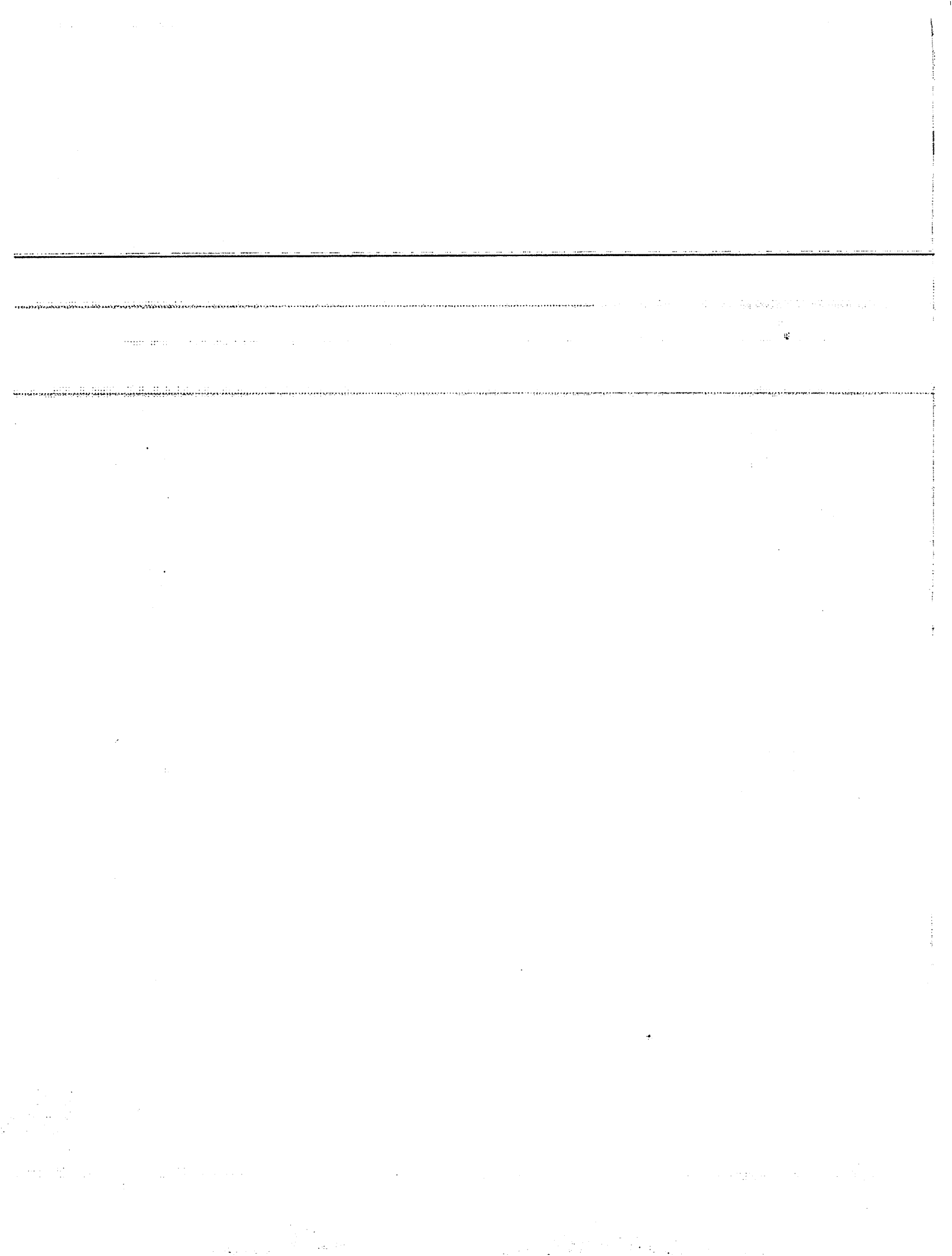
\_\_\_\_\_  
Name of Responsible Official (please print)

Senior Advisor, EHSQ

\_\_\_\_\_  
Title of Responsible Official (please print)

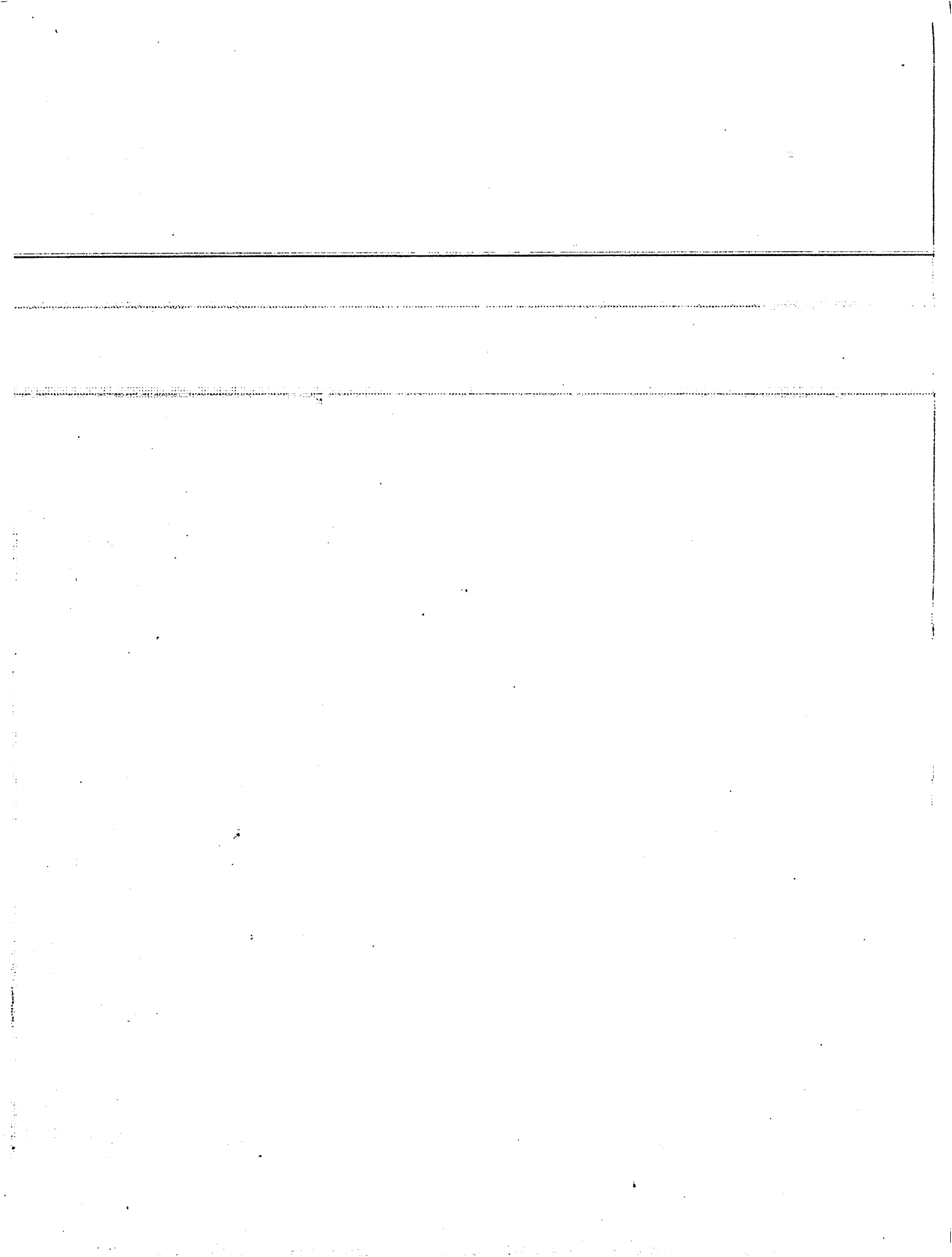
Deliver to:

San Joaquin Valley Unified  
Air Pollution Control District  
34946 Flyover Court  
Bakersfield, CA 93308





**APPENDIX E**  
**Draft ATC**





## AUTHORITY TO CONSTRUCT

PERMIT NO: S-1114-136-0

ISSUANCE DATE: 09/22/2016

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

LOCATION: HEAVY OIL WESTERN  
CA

SECTION: NE17 TOWNSHIP: 31S RANGE: 22E

**EQUIPMENT DESCRIPTION:**

85 MMBTU/HR (OR EQUIVALENT) NATURAL GAS-FIRED STEAM GENERATOR, WITH NORTH AMERICAN LEL ULTRA LOW NOX BURNER (OR EQUIVALENT) AND A FLUE GAS RECIRCULATION SYSTEM

### CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1703 lb, 2nd quarter - 1703 lb, 3rd quarter - 1703 lb, and fourth quarter - 1704 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number S-4640-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

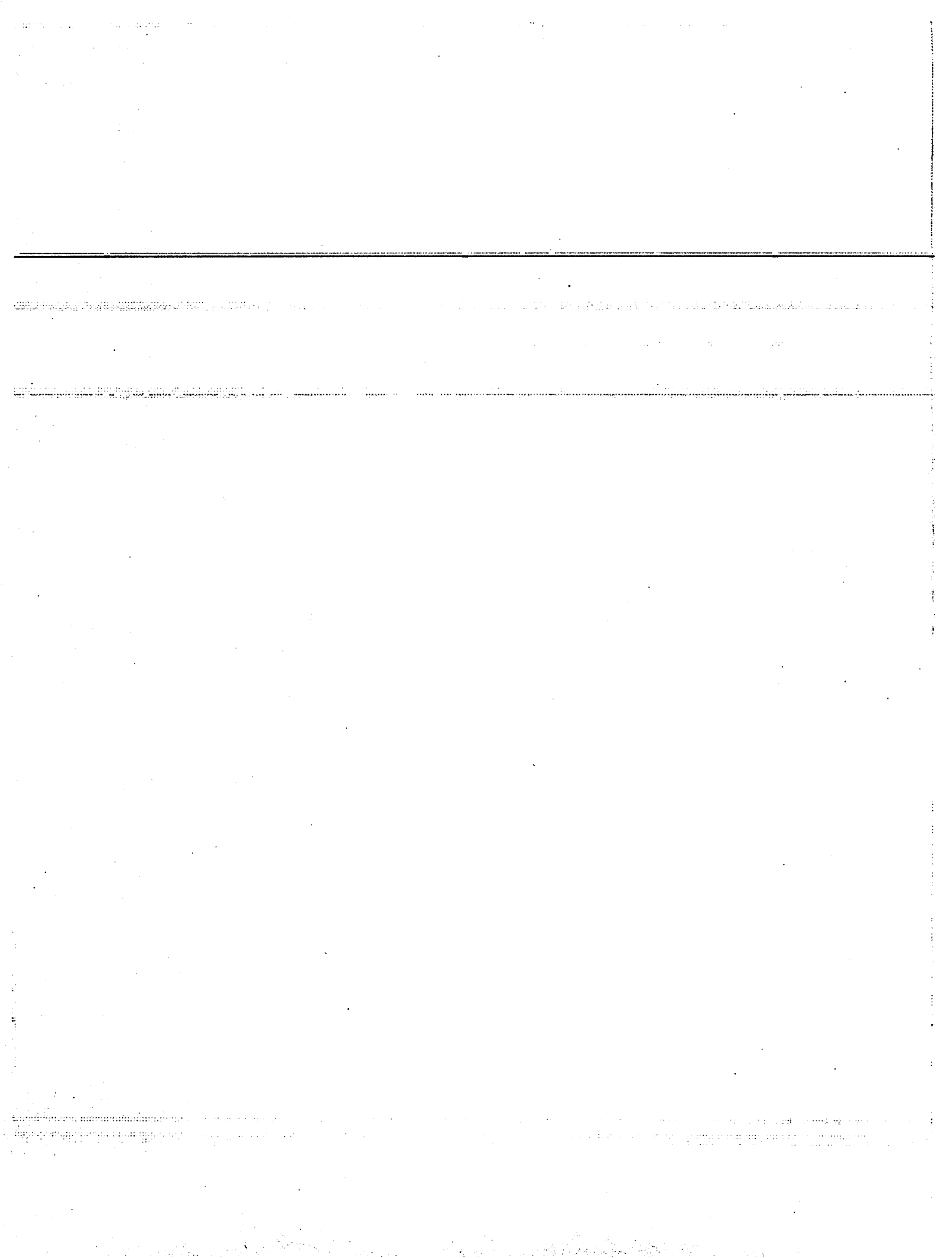
**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5600 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE.** Approval or denial of a PERMIT TO OPERATE will be made after an inspection 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-1114-136-0 Sep 22 2016 7:28AM -- TORID Joint Inspection NOT Required



5. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 795 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
6. ERC Certificate Number S-4638-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 2122 lb, 2nd quarter - 2122 lb, 3rd quarter - 2122 lb, and fourth quarter - 2123 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
8. ERC Certificate Number C-1359-4, C-1379-4, N-1367-4 and N-1368-4 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1499 lb, 2nd quarter - 1500 lb, 3rd quarter - 1500 lb, and fourth quarter - 1500 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
10. ERC Certificate Numbers N-1365-1 and N-1363-1 (or a certificate(s) split from this certificate(s)) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
14. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
16. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
17. 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
18. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit

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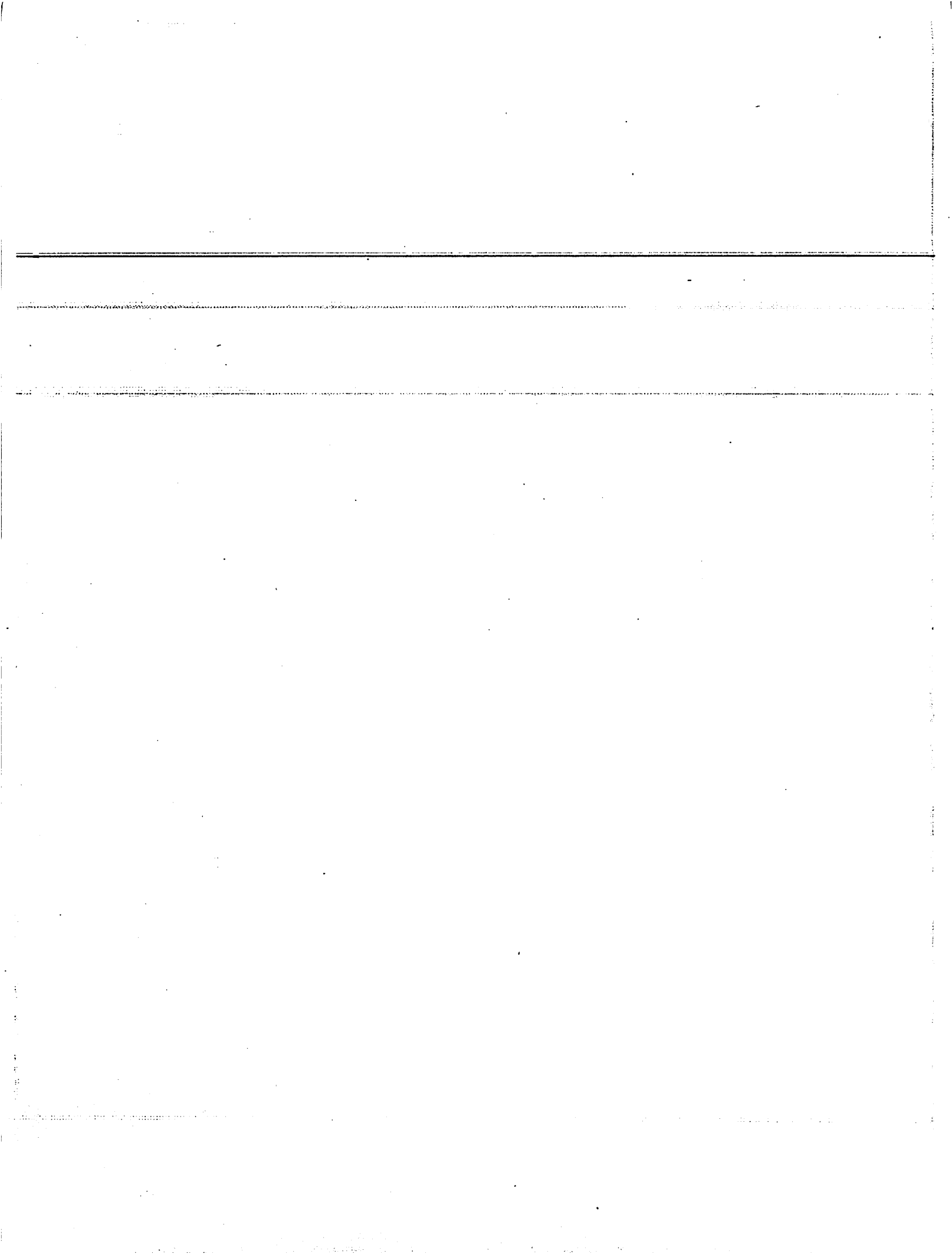
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19. The sulfur content of any fuel, or fuels combined, shall not exceed 1 grains of total sulfur (as H<sub>2</sub>S) per 100 dscf of fuel gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
20. If the unit is fired on noncertified gaseous fuel and compliance with SO<sub>x</sub> 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 D 1072, D 3031, D 3246, D 4084, D 4468, D 6667 or grab sample analysis by GC-FPD/TCD or double GC performed in the laboratory. [District Rule 1070, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
21. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested monthly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 6 consecutive months for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, monthly testing shall resume. [District Rules 1070, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
22. 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 D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 1070, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit
23. Emissions shall not exceed any of the following limits: 5 ppmvd NO<sub>x</sub> @ 3% O<sub>2</sub> or 0.0061 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 25 ppmvd CO @ 3% O<sub>2</sub> or 0.0185 lb-CO/MMBtu, or 0.0054 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. Flue gas recirculation system shall be operated whenever steam generator is operated. [District Rule 2201] Federally Enforceable Through Title V Permit
25. 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
26. 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
27. 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
28. 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

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29. 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 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. 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
31. Source testing to measure natural gas-combustion NO<sub>x</sub> and CO emissions from this unit shall be conducted within 60 days of startup and at least once every twelve (12) months thereafter. 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
32. When the unit changes fuel source, the unit shall undergo source testing to measure NO<sub>x</sub> and CO emissions within 60 days of the change unless the unit has already undergone source testing in the last twelve (12) months or thirty-six (36) months after demonstrating compliance on the previous two (2) source tests when fired on that fuel source. [District Rule 2201] 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 30 days prior to any compliance source test, and a source test plan must be submitted for approval 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. NO<sub>x</sub> 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 Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
37. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
39. 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
40. Permittee shall submit notification to the District of the date of construction, anticipated startup, and actual startup. Notifications shall be postmarked no later than 30 days after construction and 15 days after actual startup. The notifications shall include the design heat input and identification of fuels for this permit unit. [40 CFR 60.48c (a)] Federally Enforceable Through Title V Permit
41. Permittee shall maintain daily records of the type and quantity of fuel combusted by the steam generator. [District Rule 2201 and 40 CFR 60.48c (g)] Federally Enforceable Through Title V Permit
42. Records of sulfur content (gr S/100 scf) of combusted gas shall be maintained. [District Rules 1070, 2201, and 4320] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)] Federally Enforceable Through Title V Permit