San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

OCT 25 2013

Christy Munn
Salt Creek Oil, LLC.
6300 Seven Seas Avenue
Bakersfield, CA 93308

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-5576
Project Number: S-1131829

Dear Mr. Munn:

Enclosed for your review and comment is the District's analysis of Salt Creek Oil, LLC.'s application for an Authority to Construct to modify the current NOx and CO emission limits for a steam generator operating within Salt Creek's Kern County Heavy Western source.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

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

Sincerely,

David Warner
Director of Permit Services

DW:WEJ/st

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

Facility Name:	Salt Creek Oil, LLC	Date:	10/10/13
Mailing Address:	6300 Seven Seas Avenue Bakersfield, CA 93308	Engineer:	William Jones
		Lead Engineer:	Rich Karrs
Contact Person:	Christy Munn		
Telephone:	661-589-0632		
Fax:	661-589-4112		
E-Mail:	wittemunn@yahoo.com		
Application #(s):	S-5576-1-6		
Project #:	S-1131829		
Deemed Complete:	5/13/13		

RWK
10/17/13

I. Proposal

Salt Creek Oil, LLC has submitted an Authority to Construct (ATC) application to lower the NOx emissions limit on a 25.2 MM Btu/hr steam generator (S-5576-1) from 15 to 9 ppmv @ 3% O_2. The reduction in the NOx emissions limit will reduce the annual fees the operator must pay to comply with the fee paying option of Rule 4320. Additionally, Salt Creek has proposed an increase in the CO emissions limit for the unit, as higher CO emissions are expected as the unit is tuned and higher flue gas recirculation rates are put into effect to achieve the lower NOx emissions limit. The CO emissions limit will be established at 100 ppmv @ 3% O_2 or the actual value achieved at the initial compliance source test plus a 30% compliance margin, whichever is greater, but not to exceed 400 ppmv @3% O2, as stated in Rule 4306.

This facility is not a Title V facility.

See Appendix B: Current Permit to Operate (PTO)

II. Applicable Rules

District Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
District Rule 2520	Federally Mandated Operating Permits (6/21/01)
District Rule 4001	New Source Performance Standards (4/14/99)
District Rule 4101	Visible Emissions (11/15/01)
District Rule 4102	Nuisance (12/17/92)
District Rule 4201	Particulate Matter Concentration (12/17/92)
District Rule 4301	Fuel Burning Equipment (12/17/92)
District Rule 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)

District Rule 4306 Boilers, Steam Generators and Process Heaters – Phase III (10/16/08)
District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/Hr – (10/16/08)
District Rule 4351 Boilers, Steam Generators and Process Heaters – Phase I (8/21/03)
District 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

This facility is located at Salt Creek's Western Kern County fields heavy oil production facility. The facility 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

Salt Creek Oil LLC operates a natural gas, field gas, and propane-fired steam generator used to thermally enhance the oil recovery at Salt Creek's Western Kern County fields heavy oil production facility. The applicant is proposing to adjust and tune the steam generator to achieve 9 ppmvd-NO_X @ 3% O_2 (0.011 lb.-NO_X/MMBtu) and expects higher CO emissions as a result.

This unit is currently designated as complaint dormant. The maximum operating schedule use for Potential to Emit calculation is 24 hr. /day, 7 days/week, and 52 weeks/year.

V. Equipment Listing

Pre-Project Equipment Description:

S-5576-1-4: 25.2 MM BTU/HR NATURAL GAS-FIRED NATIONAL STEAM GENERATOR CHEROKEE #5 WITH FLUE GAS RECIRCULATION AND LONOX DIFFUSER MODEL SM00015 DIFFUSER PLATE

Proposed Modification:

S-5576-1-6: MODIFICATION OF 25.2 MM BTU/HR NATURAL GAS-FIRED NATIONAL STEAM GENERATOR CHEROKEE #5 WITH FLUE GAS RECIRCULATION AND LONOX DIFFUSER MODEL SM00015 DIFFUSER PLATE: REDUCE NOX EMISSIONS LIMIT TO 9.0 PPVM, AND INCREASE THE CO LIMIT FOR COMPLIANCE WITH RULE 4320

Post Project Equipment Description:

S-5576-1-6: 25.2 MM BTU/HR NATURAL GAS-FIRED NATIONAL STEAM GENERATOR CHEROKEE #5 WITH FLUE GAS RECIRCULATION AND LONOX DIFFUSER MODEL SM00015 DIFFUSER PLATE

VI. Emission Control Technology Evaluation

There are no proposed changes to the emission unit; therefore, there is no need to evaluate the emission controls. See project S-1075765 for emission control technology evaluation.

The operator will tune the burner to achieve the 9 ppmv NOx limit. The result of which may increase CO emissions.

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 24 hours per day
- A start-up/shutdown period will last 0.5 hours per day combined
- The unit is fired on natural gas, field gas, and LPG, or any combination of these fuels
- The same emission factors apply to all fuels
- Annual pre-project and post-project potential to emit is calculated based on 8,760 hours of operation per year
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B)

B. Emission Factors

Pre-Project Emission Factors

For this unit, post-project emission factors are listed in the table below.

Pollutant	Steady State Post-Project Emission Factors (EF1)			Source
NO_X	18.2 lb.-NO_X/MMscf	0.0182 lb.-NO_X/MMBtu	15 ppmvd NO_X (@ 3%O2)	Applicant's data
SO_X	2.85 lb.-SO_X/MMscf	0.00285 lb.-SO_X/MMBtu		Applicant's data
PM_{10}	5 lb-PM_{10}/MMscf	0.005 lb-PM_{10}/MMBtu		Current Permit
CO	31 lb.-CO/MMscf	0.0310 lb.-CO/MMBtu	42 ppmvd CO (@ 3%O2)	Current Permit
VOC	3 lb.-VOC/MMscf	0.003 lb.-VOC/MMBtu	4 ppmvd VOC (@ 3%O2)	Current Permit

Pollutant	Start-Up/Shutdown Post-Project Emission Factors (EF2)			Source
NO_X	18.2 lb.-NO_X/MMscf	0.0182 lb.-NO_X/MMBtu	15 ppmvd NO_X (@ 3%O2)	Applicant's data
SO_X	2.85 lb.-SO_X/MMscf	0.00285 lb.-SO_X/MMBtu		Applicant's data
PM_{10}	5 lb-PM_{10}/MMscf	0.005 lb-PM_{10}/MMBtu		Current Permit
CO	296 lb.-CO/MMscf	0.296 lb.-CO/MMBtu	400 ppmvd CO (@ 3%O2)	Applicant's data
VOC	3 lb.-VOC/MMscf	0.003 lb.-VOC/MMBtu	4 ppmvd VOC (@ 3%O2)	Current Permit

Post-Project Emission Factors

For this unit, post-project emission factors are listed in the table below.

Pollutant	Steady State Post-Project Emission Factors (EF2)			Source
NO_X	11.2 lb.-NO_X/MMscf	0.011 lb.-NO_X/MMBtu	9 ppmvd NO_X (@ 3%O2)	Rule 4320 Limit
SO_X	2.85 lb.-SO_X/MMscf	0.00285 lb.-SO_X/MMBtu		Current Permit
PM_{10}	5 lb-PM_{10}/MMscf	0.005 lb-PM_{10}/MMBtu		Current Permit
CO	296 lb.-CO/MMscf	0.296 lb.-CO/MMBtu	400 ppmvd CO (@ 3%O2)	Rule 4320 Limit
VOC	3 lb.-VOC/MMscf	0.003 lb.-VOC/MMBtu	4 ppmvd VOC (@ 3%O2)	Current Permit

Pollutant	Start-Up/Shutdown Post-Project Emission Factors (EF2)			Source
NO_X	11.2 lb.-NOX/MMscf	0.011 lb.-NOX/MMBtu	9 ppmvd NO_X (@ 3%O2)	Rule 4320 Limit
SO_X	2.85 lb.-SO_X/MMscf	0.00285 lb.-SO_X/MMBtu		Current Permit
PM_{10}	5 lb-PM_{10}/MMscf	0.005 lb-PM_{10}/MMBtu		Current Permit
CO	296 lb.-CO/MMscf	0.296 lb.-CO/MMBtu	400 ppmvd CO (@ 3%O2)	Rule 4320 Limit
VOC	3 lb.-VOC/MMscf	0.003 lb.-VOC/MMBtu	4 ppmvd VOC (@ 3%O2)	Current Permit

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

(See project S-1052968 for PE1 Calculations)

$PE1 = PE1_{Start\text{-}up} + PE1_{Steady\ State}$

Daily PE1			
Pollutant	$PE1_{Start\text{-}up}$ (lb./day)	$PE1_{Steady\ State}$ (lb./day)	PE1 (lb./day)
NO_X	0.2	10.8	11.0
SO_X	0.0	1.7	1.7
PM_{10}	0.1	3.0	3.1
CO	3.7	18.4	22.1
VOC	0.0	1.8	1.8

Annual PE1			
Pollutant	$PE1_{Start\text{-}up}$ (lb./year)	$PE1_{Steady\ State}$ (lb./year)	PE1 (lb./year)
NO_X	84	3,934	4,018
SO_X	13	616	629
PM_{10}	23	1,081	1,104
CO	1,362	6,700	8,062
VOC	14	648	662

2. Post Project Potential to Emit (PE2)

The PE2 for each pollutant is calculated with the following equation:

- PE2 = EF (lb./MMBtu) × Heat Input (MMBtu/hr.) × Op. Sched. (hr./day or hr./year)
- The hours of operation for PE2 are based on 0.5 hours of start-up and shutdowns combined, plus 23.5 hours of steady state operation as defined in the following equation:
- PE2 = 23.5 hr./day (steady state) + 0.5 hr./day (start-up and shutdown)

Steady State

Daily Steadt State PE2				
Pollutant	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO_X	0.011	25.2	23.5	6.5
SO_X	0.00285	25.2	23.5	1.7
PM_{10}	0.0050	25.2	23.5	3.0
CO	0.296	25.2	23.5	175.3
VOC	0.0030	25.2	23.5	1.8

Annual Steady State PE2				
Pollutant	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO_X	0.011	25.2	8,577.5	2,378
SO_X	0.00285	25.2	8,577.5	616
PM_{10}	0.0050	25.2	8,577.5	1,081
CO	0.296	25.2	8,577.5	63,981
VOC	0.0030	25.2	8,577.5	648

Start-up

Annual Start-Up PE2				
Pollutant	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO_X	0.011	25.2	183	51
SO_X	0.00285	25.2	183	13
PM_{10}	0.0050	25.2	183	23
CO	0.296	25.2	183	1,365
VOC	0.0030	25.2	183	14

Daily Start-Up PE2				
Pollutant	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO_X	0.011	25.2	0.5	0.14
SO_X	0.00285	25.2	0.5	0.04
PM_{10}	0.0050	25.2	0.5	0.06
CO	0.296	25.2	0.5	3.73
VOC	0.0030	25.2	0.5	0.04

$PE2 = PE2_{Start\text{-}up} + PE2_{Steady\ State}$

Daily PE2			
Pollutant	$PE2_{Start\text{-}up}$ (lb./day)	$PE2_{Steady\ State}$ (lb./day)	PE2 (lb./day)
NO_X	0.14	6.5	6.7
SO_X	0.04	1.7	1.7
PM_{10}	0.06	3.0	3.0
CO	3.73	175.3	179.0
VOC	0.04	1.8	1.8

Annual PE2			
Pollutant	$PE2_{Start\text{-}up}$ (lb./year)	$PE2_{Steady\ State}$ (lb./year)	PE2 (lb./year)
NO_X	51	2,378	2,428
SO_X	13	616	629
PM_{10}	23	1,081	1,104
CO	1,361	63,981	65,343
VOC	14	648	662

CO_2E calculations

Project

CO_2E emissions = 25.2 MMBtu/hr. * 8,760 hr./yr. * 0.0529 CO2e metric tonnes/MMBtu
= 11,677.78 ton CO2e./yr.
= 11,678 ton CO2e. /yr.

Facility

Since there is only one COe emitting source at this facility the facility wide COe emissions rate is the same as the project COe emissions rate

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

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

SSPE1 (lb./year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
S-5576-1-4	4,081	629	1,104	8,062	662
S-5576-2-1	0	0	0	0	73
SSPE1	4,081	629	1,104	8,062	735

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.

SSPE2 (lb./year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
S-5576-1-6	2,428	629	1,104	65,343	662
S-5576-2-1	0	0	0	0	73
SSPE2	2,428	629	1,104	65,343	735

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

Rule 2201 Major Source Determination (lb./year)					
	NO_X	SO_X	PM_{10}	CO	VOC
Facility emissions pre-project	4,081	629	1,104	8,062	735
Facility emissions – post project	2,428	629	1,104	65,343	735
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No

As seen in the table above, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Estimated Facility PE before Project Increase	2.0	0.3	0.6	4.0	0.4	0.4	11,678
PSD Major Source Thresholds	100	100	100	100	100	100	100,000

PSD Major Source Determination (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
PSD Major Source ? (Y/N)	N	N	N	N	N	N	N

As shown above, the facility is not an existing major source for PSD for at least one pollutant. Therefore the facility is not an existing major source for PSD.

6. Baseline Emissions (BE)

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

As shown in Section VII.C.5 above, the facility is not a Major Source for any pollutant.

Therefore BE=PE1.

S-5576-1-6:
As calculated in Section VII.C.1 above, PE1 is summarized in the following table:

BE (lb./year)					
	NO_X	SO_X	PM_{10}	CO	VOC
S-5576-1-6	4,018	629	1,104	8,062	662

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 not a major source for any of the pollutants addressed in 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.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM_{10} (140,000 lb/year), it is not a major source for PM2.5 (200,000 lb/year).

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

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

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

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not (See Section VII.C.5 of this document).

In the case the facility is an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

In the case the facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

In the case the facility is new source, the second step of the PSD evaluation is to determine if this new facility will become a new PSD major Source as a result of the project and if so, to determine which pollutant will result in a PSD significant increase.

I. Potential to Emit for New or <u>Modified</u> Emission Units vs PSD Major Source Thresholds

As a screening tool, the project potential to emit from all new and modified units is compared to the PSD major source threshold, and if total project potential to emit from all new and modified units is below this threshold, no futher analysis will be needed.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination: Potential to Emit (tons/year)							
	NO2	VOC	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	1.2	0.3	0.6	32.7	0.3	0.3	11,678
PSD Major Source threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	N	N	N	N	N	N	N

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

10. Quarterly Net Emissions Change (QNEC)

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

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

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

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

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

AIPE = PE2 – HAPE

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)
PE2 = Post-Project Potential to Emit, (lb/day)
HAPE = Historically Adjusted Potential to Emit, (lb/day)

HAPE = PE1 x (EF2/EF1)

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)
EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

AIPE = PE2 – (PE1 * (EF2 / EF1))

<u>S-5576-1-6</u>:

<u>NOX</u>
AIPE = 6.6 – (11.0 * (1/1)
= 6.6 – 11.0 * 1
= 0.0 lb. /day

<u>SOX</u>
AIPE = 1.7 – (1.7 * (1/1))
= 1.7 – 1.7 * 1
= 0.0 lb. /day

PM10
AIPE = 3.1 – (3.1 * (1/1))
= 3.1 – 3.1 * 1
= 0.0 lb. /day

CO
AIPE = 179 – (22.1 * (1/1))
= 179 – 22.1* 1
= 156.9 lb. /day
= 157 lb. /day

VOC
AIPE = 1.8 – (1.8 * (1/1))
= 1.8 – 1.8 * 1
= 0.0 lb. /day

As demonstrated above, the AIPE is not greater than 2.0 lb. /day for PM_{10}, VOC, SOx, and NOx emissions. There is an increase in CO emissions greater than 2.0 lbs. /day. However the SSPE2 for CO emissions are less than 200,000 lbs. /year. Therefore BACT is not triggered for PM_{10}, VOC, SOx, NOx, or CO emissions.

d. SB 288/Federal Major Modification

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

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_X	SO_X	PM_{10}	CO	VOC
SSPE2	2,428	629	1,104	65,343	735
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	No

2. Quantity of Offsets Required

As seen above, the SSPE2 is not greater than the offset thresholds for all the pollutants; therefore offset calculations are not necessary and offsets will not be 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 SSIPE of greater than 20,000 lb. /year for any pollutant.

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

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

As demonstrated in Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb./day

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

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb./year)	SSPE2 (lb./year)	Offset Threshold	Public Notice Required?
NO_X	4,081	2,428	20,000 lb./year	No
SO_X	629	629	54,750 lb./year	No
PM_{10}	1,104	1,104	29,200 lb./year	No
CO	8,062	65,343	200,000 lb./year	No
VOC	735	735	20,000 lb./year	No

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

d. SSIPE > 20,000 lb./year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb./year)	SSPE1 (lb./year)	SSIPE (lb./year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	2,428	4,081	-1,653	20,000 lb./year	No
SO_x	629	629	0	20,000 lb./year	No
PM_{10}	1,104	1,104	0	20,000 lb./year	No
CO	65,343	8,062	57,281	20,000 lb./year	Yes
VOC	735	735	0	20,000 lb./year	No

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

2. Public Notice Action

As discussed above, public noticing is required for this project for increase in CO emissions greater than 20,000 lb. /year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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

The DELs for the unit is based on the use of natural gas as a fuel and will be stated in the form of emission factors as shown:

- Except during start-up and shutdown, emissions from the gas-fired unit shall not exceed any of the following limits: 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.005 lb-PM10/MMBtu, 400 ppmvd CO @ 3% O2 or 0.296 lb-CO/MMBtu, or 003 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306]

- During start-up and shutdown, emissions from the gas-fired unit shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.005 lb-PM10/MMBtu, 400 ppmvd CO @ 3% O2 or 0.296 lb-CO/MMBtu, or 003 lb-VOC/MMBtu. [District Rule District Rules 2201, 4305, and 4306]

- {2964} The unit shall only be fired on PUC-regulated natural gas. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

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

3. Record keeping

As required by District Rule 4305, *Boilers, Steam Generators and Process Heaters, Phase II*, and District Rule 4306, *Boilers, Steam Generators and Process Heaters, Phase III*, this unit is subject to record keeping requirements. Record keeping requirements, in accordance with District Rules 4305 and 4306, will be discussed in Section VIII, *District Rules 4305 and 4306*, of this evaluation.

The following condition will be on the permit:

- {2983} 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, and 4306]

- {3422} Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

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

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

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

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

Rule 4101 Visible Emissions

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

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (**Appendix C**), the

total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and 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_{10} Emission Factor: 0.0076 lb-PM_{10}/MMBtu
Percentage of PM as PM_{10} in Exhaust: 100%
Exhaust Oxygen (O_2) Concentration: 3%
Excess Air Correction to F Factor = $\frac{20.9}{(20.9 - 3)}$ = 1.17

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

$$GL = 0.0053\ grain/dscf < 0.1\,grain/dscf$$

Therefore, compliance with District Rule 4201 requirements is expected and a permit condition will be listed on the permit as follows:

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

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO_2, NO_2, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

District Rule 4301 Limits			
Pollutant	**NO_2**	**Total PM**	**SO_2**
ATC #S-5576-1-3 (lb./hr.)	0.28	0.13	0.07
Rule Limit (lb./hr.)	140	10	200

The above table indicates compliance with the maximum lb./hr. emissions in this rule; therefore, continued compliance is expected.

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

The unit is gas-fired with a maximum heat input of 25.2 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 II.*

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

Since emissions limits of District Rule 4306 and 4320 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4306 and 4320 requirements will satisfy requirements of District Rule 4305.

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

The unit is gas-fired with a maximum heat input of 25.2 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306.

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 NOx, CO, SO_2 and PM_{10} 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 NOx emitted over the previous year.

The unit in this project is rated at greater than 5 MMBtu/hr. heat input and is subject to this rule.

Section 5.1 NOx 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.

Section 5.2 NOx and CO Emission Limits

Section 5.2.1 states that on and after the indicated Compliance Deadline, units shall not be operated in a manner which exceeds the applicable NOx limit specified in Table 1 of this rule,

shown below. On and after October 1, 2008, units shall not be operated in a manner to which exceeds a carbon dioxide (CO) emissions limit of 400 ppmv.

In lieu of complying with NOx and CO emissions requirements set forth in Section 5.2, the operator is paying annual emissions fees as allowed for in Section 5.1.2 and as specified in Section 5.3. The operator will continue to pay emission fees, but will be assessed at the lower NOx limit of 9 ppmv @3% O_2.

Per section 5.3.1.5 the operator shall pay the total annual fee to the District, no later than July 1 of each year, for the emissions of the previous calendar year. The facility is currently a fee paying unit and the following condition will remain on the permit:

- {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320] N

Per section 5.3.2 annual emission fee payments shall continue until the unit either is permanently removed from use in the San Joaquin Valley Air Basin and the Permit to Operate is surrendered or the operator demonstrates compliance with applicable NOx emissions limits shown. This facility has not proposed meeting the Final Limit NOx emissions limits of 5 ppmv as required for Oilfield Steam Generator Units with a total rated heat input >20.0 MMBtu/hr. by the compliance deadline of 1/1/14, and will therefore be required to continue to pay annual emission fee payments. This facility is currently in compliance with this section. Continued compliance is expected.

Section 5.4 Particulate Matter Control Requirements

The unit is in compliance with the particulate matter control requirements set forth in Section 5.4, by firing on utility grade natural gas.

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_X, CO and O_2, or implement an APCO-approved alternate monitoring.

Salt Creek Oil, LLC has proposed to implement Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires periodic monitoring of NO_X, CO, and O_2 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:

- {2935} The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if

the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306, and 4320] N

- {2936} If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306, and 4320] N

- {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 and 4306, and 4320] N

- {2938} The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306, and 4320] N

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]

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]

Section 5.8.4 requires that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NO_X 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]

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]

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)]

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]

- The following test methods shall be used: NOX (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities – EPA Method 2; Stack gas moisture content – EPA Method 4; SOx – EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H2S 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]

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 NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306 and 4320] N

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

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.

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 4351 Boilers, Steam Generators, and Process Heaters – Phase 1

This rule applies to boilers, steam generators, and process heaters at NO_x Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. If applicable, the emission limits, monitoring provisions, and testing requirements of this rule are satisfied when the unit is operated in compliance with Rule 4306. Therefore, compliance with this rule 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_2, on a dry basis averaged over 15 consecutive minutes.

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

$$\text{Volume } SO_2 = \frac{n\,RT}{P}$$

With:

N = moles SO_2
T (Standard Temperature) = 60°F = 520°R
P (Standard Pressure) = 14.7 psi
R (Universal Gas Constant) = $\frac{10.73\,\text{psi}\cdot\text{ft}^3}{\text{lb}\cdot\text{mol}\cdot{}^\circ\text{R}}$

$$\frac{0.00285\,lb-SOx}{MMBtu}\times\frac{MMBtu}{8{,}578\,dscf}\times\frac{1\,lb\cdot mol}{64\,lb}\times\frac{10.73\,psi\cdot ft^3}{lb\cdot mol\cdot{}^\circ R}\times\frac{520^\circ R}{14.7\,psi}\times\frac{1{,}000{,}000\cdot parts}{million}=1.97\frac{parts}{million}$$

$$SulfurConcentration = 1.97\frac{parts}{million} < 2{,}000 \text{ ppmv (or 0.2\%)}$$

Therefore, continued compliance with District Rule 4801 requirements 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.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

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

Greenhouse Gas (GHG) Significance Determination

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

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

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions

of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATC S-5576-1-6 subject to the permit conditions on the attached draft ATC in **Appendix A.**

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-5576-1-6	3020-02-H	25.2 MMBtu/hr.	$882.00

Appendixes

A: Draft ATC
B: Current PTO
C: AAQA Summary
D: Quarterly Net Emissions Change
E: Emission Profile

APPENDIX A
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-5576-1-6 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: SALT CREEK OIL LLC
MAILING ADDRESS: 6300 SEVEN SEAS AVE
BAKERSFIELD, CA 93308

LOCATION: HEAVY OIL WESTERN
CA

SECTION: 15 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 25.2 MMBTU/HR NATURAL GAS-FIRED NATIONAL STEAM GENERATOR CHEROKEE #5 WITH FLUE GAS RECIRCULATION AND LONOX DIFFUSER MODEL SM00015 DIFFUSER PLATE: REDUCE NOX EMISSIONS LIMIT TO 9.0 PPMV, AND INCREASE THE CO LIMIT FOR COMPLIANCE WITH RULE 4320

CONDITIONS

1. While dormant, the fuel line shall be physically disconnected from the unit. [District Rule 2080]
2. {4562} Permittee shall submit written notification to the District upon designating the unit as dormant or active. [District Rule 2080]
3. {4560} While dormant, normal source testing shall not be required. [District Rule 2080]
4. {4563} Upon recommencing operation of this unit, normal source testing shall resume. [District Rule 2080]
5. {4564} Any source testing required by this permit shall be performed within 60 days of recommencing operation of this unit, regardless of whether the unit remains active or is again designated as dormant. [District Rule 2080]
6. {4565} Records of all dates and times that this unit is designated as dormant or active, and copies of all corresponding notices to the District, shall be maintained, retained for a period of at least five years, and made available for District inspection upon request. [District Rule 1070]
7. Steam generator is approved for operation at the following locations: Sections 20 and 21, T25S/R20E; Sections 14 and 15, T31S/R22E; and Section 24, T26S/R20E. [District Rule 2201]
8. {1407} All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director/APCO

DRAFT

DAVID WARNER, Director of Permit Services
S-5576-1-6 : Oct 17 2013 11:17AM – KARRER : Joint Inspection NOT Required

9. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

10. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

11. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

12. Fuel gas sulfur content shall not exceed 1 grains of sulfur per 100 dscf. [District Rule 2201 and 4320]

13. The unit shall be fired on natural gas, field gas, propane, or any combination of these fuels. [District Rule 2201]

14. Emissions from the gas-fired unit shall not exceed any of the following limits: 9 ppmvd NOx @ 3% O2 or 0.011 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.005 lb-PM10/MMBtu or 0.003 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306]

15. CO emissions shall not exceed the higher of 100 ppmv @ 3% O2 or the CO emission rate demonstrated during the initial source test (@ 3%O2) plus a margin of 30%. In any case, CO emissions shall not exceed 400 ppmv @ 3% O2 [District Rules 2201 and 4306]

16. Duration of start-up or shutdown shall not exceed 0.5 hours per day combined. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 2201, 4305, and 4306]

17. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 2201 and 4306]

18. {2935} The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]

19. {2936} If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306]

20. {2938} The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]

21. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306 and 4320]

22. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

23. If the unit is fired on natural gas, field gas, and propane, or any combination of these fuels, during any calendar year, additional source testing for NOx and CO emissions shall be performed for any fuel that is fired for more than 100 hours during that calendar year and has not been previously tested as a part of the facility's annual source testing requirement [District Rules 2201 and 4320]

24. 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 weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks 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, weekly testing shall resume. [District Rule 2201]

25. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2201]

26. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201]

27. {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. 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 and 4306]

28. {2976} The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]

29. {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]

30. The following test methods shall be used: NOX (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H2S 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]

31. {2977} NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306]

32. {2978} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306]

33. {2979} Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306]

34. {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 and 4306]

35. {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 and 4306]

36. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

CONDITIONS CONTINUE ON NEXT PAGE

37. {3422} Daily records of start-up and shutdown durations and number of occurrences of each shall be maintained. [District Rule 2201]

38. {2983} 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, and 4306]

39. {4194} Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]

40. {4314} Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such 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 and Rule 4320]

APPENDIX B
Current PTO

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-5576-1-4 **EXPIRATION DATE:** 02/29/2016

SECTION: 15 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
25.2 MM BTU/HR NATURAL GAS-FIRED NATIONAL STEAM GENERATOR CHEROKEE #5 WITH FLUE GAS RECIRCULATION AND LONOX DIFFUSER MODEL SM00015 DIFFUSER PLATE

PERMIT UNIT REQUIREMENTS

1. The permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070]
2. When designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rule 4306]
3. When designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rule 4306]
4. A source test to demonstrate compliance with the NOx and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rule 4306]
5. Steam generator is approved for operation at the following locations: Sections 20 and 21, T25S/R20E; Sections 14 and 15, T31S/R22E; and Section 24, T26S/R20E. [District Rule 2201]
6. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
7. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
8. 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]
9. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
10. Fuel gas sulfur content shall not exceed 1 grains of sulfur per 100 dscf. [District Rule 2201]
11. The unit shall be fired on natural gas, field gas, propane, or any combination of these fuels. [District Rule 2201]
12. Except during start-up and shutdown, emissions from the gas-fired unit shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.005 lb-PM10/MMBtu, 42 ppmvd CO @ 3% O2 or 0.0310 lb-CO/MMBtu, or 003 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306]
13. During start-up and shutdown, emissions from the gas-fired unit shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.005 lb-PM10/MMBtu, 400 ppmvd CO @ 3% O2 or 0.296 lb-CO/MMBtu, or 003 lb-VOC/MMBtu. [District Rule District Rules 2201, 4305, and 4306]
14. Duration of start-up or shutdown shall not exceed 0.5 hours per day combined. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 2201, 4305, and 4306]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

15. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 2201 and 4306]

16. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]

17. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306]

18. 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 and 4306]

19. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306]

20. Source testing to measure NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]

21. If the unit is fired on natural gas, field gas, and propane, or any combination of these fuels, during any calendar year, additional source testing for NOx and CO emissions shall be performed for any fuel that is fired for more than 100 hours during that calendar year and has not been previously tested as a part of the facility's annual source testing requirement [District Rule]

22. 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 weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks 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, weekly testing shall resume. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

23. When complying with SOx emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6B; or Method 8; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by GC-FPD/TCD performed in the laboratory and EPA Method 19 to calculated emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2201]
24. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 4084, D 3246 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201]
25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
26. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306]
27. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306]
28. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306]
29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306]
30. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
31. 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, and 4306]
32. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
33. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such 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 and Rule 4320]

APPENDIX C
HRA Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review
AAQA ONLY MEMO

To:	William Jones – Permit Services
From:	Cheryl Lawler – Technical Services
Date:	September 26, 2013
Facility Name:	Salt Creek Oil, LLC
Location:	SE ¼, Section 20, T25S, R20E
Application #(s):	S-5576-1-6
Project #:	S-1131829

A. RMR SUMMARY

RMR Summary			
Categories	**Natural Gas Steam Generator (Unit 1-6)**	**Project Totals**	**Facility Totals**
Prioritization Score	N/A*	N/A	N/A
Acute Hazard Index	N/A	N/A	N/A
Chronic Hazard Index	N/A	N/A	N/A
Maximum Individual Cancer Risk	N/A	N/A	N/A
T-BACT Required?	**No**		
Special Permit Conditions?	**No**		

*A Risk Management Review was not required for this project, because one has already been performed and is still valid. Only an Ambient Air Quality Analysis (AAQA) was required. See Page Two of this memo for AAQA results.

B. RMR REPORT

I. Project Description

Technical Services received a request on September 18, 2013, to perform an Ambient Air Quality Analysis only for a 25.2 MMBtu/hr natural gas steam generator. A Risk Management Review was not required, because one has already been performed and is still valid.

II. Analysis

The following parameters were used for the Ambient Air Quality Analysis:

Analysis Parameters			
Source Type	Point	**Closest Receptor (m)**	1609
Stack Height (m)	9.02*	**Closest Receptor Type**	Residence & Business
Inside Diameter (m)	0.98*	**Project Location Type**	Rural
Gas Exit Temperature (K)	450*	**Stack Gas Velocity (m/s)**	9.38*

*Because device specific stack parameters were not available from the processing engineer, District approved default stack parameters for a similar device were used during the AERMOD modeling of this project.

Technical Services performed AAQA modeling for the criteria pollutants NOx, CO, SOx, and PM10. The emission rates used for criteria pollutant modeling were 0.28 lb/hr of NOx, 7.46 lb/hr of CO, 0.07 lb/hr of SOX, and 0.13 lb/hr of PM10.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*
Values are in $\mu g/m^3$

Natural Gas Steam Generator	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO_x	Pass	X	X	X	Pass
SO_x	Pass	Pass	X	Pass	Pass
PM_{10}	X	X	X	Pass[1]	Pass[1]

*Results were taken from the attached PSD spreadsheet.
[1]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

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

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

Attachments

AAQA Request Form
AAQA Result Spreadsheet

APPENDIX D
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

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

<u>NOX</u>

$PE2_{quarterly}$ = $PE2_{annual}$ ÷ 4 quarters/year
= 2,428 lb./year ÷ 4 qtr./year
= 607 lb. NOX /qtr.

$PE1_{quarterly}$ = $PE1_{annual}$ ÷ 4 quarters/year
= 4,081 lb./year ÷ 4 qtr./year
= 1,020.25 lb. NOX /qtr.
= 1,020 lb. NOX /qtr.

<u>SOX</u>

$PE2_{quarterly}$ = $PE2_{annual}$ ÷ 4 quarters/year
= 629 lb./year ÷ 4 qtr./year
= 157.25 lb. SOX /qtr.
= 157 lb. SOX /qtr.

$PE1_{quarterly}$ = $PE1_{annual}$ ÷ 4 quarters/year
= 629 lb./year ÷ 4 qtr./year
= 157.25 lb. SOX /qtr.
= 157 lb. SOX /qtr.

<u>PM10</u>

$PE2_{quarterly}$ = $PE2_{annual}$ ÷ 4 quarters/year
= 1,104 lb./year ÷ 4 qtr./year
= 276.0 lb. PM_{10}/qtr.

$PE1_{quarterly}$ = $PE1_{annual}$ ÷ 4 quarters/year
= 1,104 lb./year ÷ 4 qtr./year
= 276.0 lb. PM_{10}/qtr.

<u>CO</u>

$PE2_{quarterly}$ = $PE2_{annual}$ ÷ 4 quarters/year
= 65,343 lb./year ÷ 4 qtr./year
= 16,335.8 lb. CO /qtr.

= 16,336 lb. CO /qtr.

$PE1_{quarterly}$ = $PE1_{annual}$ ÷ 4 quarters/year
= 8,062 lb./year ÷ 4 qtr./year
= 2,015.5 lb. CO /qtr.
= 2,016 lb. CO /qtr.

<u>VOC</u>

$PE2_{quarterly}$ = $PE2_{annual}$ ÷ 4 quarters/year
= 662 lb./year ÷ 4 qtr./year
= 165.5 lb. VOC /qtr.
= 166 lb. VOC /qtr.

$PE1_{quarterly}$ = $PE1_{annual}$ ÷ 4 quarters/year
= 662 lb./year ÷ 4 qtr./year
= 165.5 lb. VOC /qtr.
= 166 lb. VOC /qtr.

Quarterly NEC [QNEC]			
	PE2 (lb. /qtr.)	PE1 (lb. /qtr.)	QNEC (lb. /qtr.)
NO_X	607	1,020	-413
SO_X	157	157	0
PM_{10}	276	276	0
CO	16,336	2,016	14,320
VOC	166	166	0

APPENDIX E
Emission Profile

Application Emissions

Permit #: S-5576-1-6	**Last Updated**	
Facility: SALT CREEK OIL LLC	10/08/2013	JONESW

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	2428.0	629.0	1104.0	65343.0	662.0
Daily Emis. Limit (lb/Day)	6.7	1.7	3.0	179.0	1.8
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	-413.0	0.0	0.0	14320.0	0.0
Q2:	-413.0	0.0	0.0	14320.0	0.0
Q3:	-413.0	0.0	0.0	14320.0	0.0
Q4:	-413.0	0.0	0.0	14320.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					