



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

DEC 22 2010

Mr. Jim Robinson
Vintage Production California, LLC
9600 Ming Avenue, Suite 300
Bakersfield, CA 93311

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1326
Project # S-1104728**

Dear Mr. Robinson:

Enclosed for your review and comment is the District's analysis of an application for Authority to Construct for Vintage Production California, LLC Heavy Oil Central Stationary Source, CA. The project is to install a new 85 MMBtu/hr natural gas-fired steam generator.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the Authority to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

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

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW: DG/cm

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

DEC 22 2010

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St.
San Francisco, CA 94105

Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1326
Project # S-1104728

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Vintage Production California, LLC Heavy Oil Central Stationary Source, CA, which has been issued a Title V permit. Vintage Production California, LLC is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The project is to install a new 85 MMBtu/hr natural gas-fired steam generator.

Enclosed is the engineering evaluation of this application and proposed Authority to Construct # S-1326-401-0 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW: DG/cm

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San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

DEC 22 2010

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

Re: **Notice of Preliminary Decision - ATC / Certificate of Conformity**
Facility # S-1326
Project # S-1104728

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authority to Construct for Vintage Production California, LLC Heavy Oil Central Stationary Source, CA. The project is to install a new 85 MMBtu/hr natural gas-fired steam generator.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

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

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

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**NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Authority To Construct to Vintage Production California, LLC for its heavy oil operation at Heavy Oil Central Stationary Source, California. The project is to install a new 85 MMBtu/hr natural gas-fired steam generator.

The analysis of the regulatory basis for these proposed actions, Project #S-1104728, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 Flyover Court, Bakersfield, CA 93308.**

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

New Steam Generator

Facility Name: Vintage Production California LLC Date: 11/23/2010
Mailing Address: 9600 Ming Ave., Suite 300 Engineer: Dolores Gough
Bakersfield, CA 93311 Lead Engineer: ~~Richard Harte~~
Contact Person: Jim Robinson *AP SUPR A Q E*
Telephone: 661-869-8074 or 332-0343 (cell) DEC 02 2010
Fax: 661-869-8151
E-Mail: Jim_Robinson@oxy.com
Application #(s): S-1326-401-0
Project #: S-1104728
Deemed Complete: 11/3/2010

I. Proposal

Vintage Production California, LLC (VPC) operates a thermally enhanced crude oil production operation in the Kern Front Oil Field. VPC is requesting an Authority to Construct (ATC) permit to install a new gas-fired 85.0 MMBtu/hr steam generator to meet their steam requirements. The proposed steam generator will be equipped with a North American Model 4231-85 GLE (or equivalent) natural gas-fired burner and a flue gas recirculation (FGR) system. As with their other steam generators at this location, the steam generator will be fired on purchased natural gas and/or a mixture of purchased and produced gas. The produced gas will be supplied by the field gas supply pipeline.

VPC received their Title V Permit on August 31, 2001. This modification can be classified as a Title V Minor Modification pursuant to Rule 2520, Section 3.20, 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. VPC must apply to administratively amend their Title V Operating Permit to include the requirements of the ATCs issued with this project.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (10/18/08) *6/10/10*
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 & Process Heaters - Phase II (8/21/03)

Rule 4306 Boilers, Steam Generators & 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 4351 Boilers, Steam Generators & Process Heaters – Phase I (8/21/03)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
California Health & Safety Code 42301.6
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 steam generator will be located in VPC's Heavy Oil Central Stationary Source within the Kern Front Oil Field in the SE & NW/4 of Section 23, Township 28S, Range 27E (Appendix A). The equipment will not be located within 1,000 feet of the outer boundary of a K-12 school; therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

Steam generators are used to provide high quality steam for injection into heavy crude oil production zones. The heat added by the steam reduces the viscosity of the crude oil making it easier to produce.

Well head casing vapor collection systems collect vapors from the well head, condensed out the entrained liquids and route the non-condensable vapors to DOGGR-approved re-injection wells for re-injection into the formation, to a flare for incineration, or to the field fuel gas system. VPC also proposes to utilize this new steam generator as an authorized well head casing vapor destruction device.

V. Equipment Listing

S-1326-401-0: 85.0 MMBTU/HR NATURAL GAS-STEAM GENERATOR WITH A NORTH AMERICAN 4231-85 GLE BURNER (OR EQUIVALENT) AND A FLUE GAS RECIRCULATION (FGR) SYSTEM

VI. Emission Control Technology Evaluation

The combustion equipment in this project is capable of generating emissions of NO_x, CO, VOC, PM₁₀, and SO_x due to the combustion of natural gas, with NO_x as the major pollutant of concern. The steam generator will be equipped with ultra-low NO_x burner capable of achieving 7 ppmv NO_x @ 3% O₂. Low-NO_x burners reduce NO_x formation by producing lower flame temperatures (and longer flames) than conventional burners. Conventional burners thoroughly mix all the fuel and air in a single stage just prior to combustion, whereas low-NO_x burners delay the mixing of fuel and air by introducing the fuel (or sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in

reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO_x. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

The use of FGR can reduce nitrogen oxides (NO_x) emissions by 60% to 70%. In an FGR system, a portion of the flue gas is re-circulated back to the inlet air. As flue gas is composed mainly of nitrogen and the products of combustion, it is much lower in oxygen than the inlet air and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since thermal NO_x is formed by high flame temperatures, the lower flame temperatures produced by FGR serve to reduce thermal NO_x.

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 24 hours per day, 8,760 hr/year (365 days)
- Maximum heat input rating = 85.0 MMBtu/hr/unit
- Natural Gas Heating Value: 1,000 Btu/scf
- F-Factor for Natural Gas @ 60 °F: 8,578 dscf/MMBtu
- The unit will be fired exclusively on natural gas; the natural gas may be a mixture of purchased and produced gas
- Natural gas sulfur content = 1 grain per 100 scf

B. Emission Factors

Pollutant	Project Emission Factors (EF2)		Source
NO _x	0.008 lb-NO _x /MMBtu	7 ppmvd (@ 3%O ₂)	Burner Manufacturer's Guarantee
SO _x	0.00285 lb-SO _x /MMBtu	1.0 gr-S/100 scf	Applicant's Proposal
PM10	0.003 lb-PM10/MMBtu		Applicant's Proposal **
CO	0.0185 lb-CO/MMBtu	25 ppmv @ 3% O ₂	Applicant's Proposal
VOC	0.0055 lb-VOC/MMBtu	--	AP-42 (7/98), Table 1.4-2

** Per applicant, based on emissions testing documenting that natural gas-fired steam generators have a PM10 emission rate of 0.001 lb/MMBTU

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since the proposed steam generator is a new emissions unit, PE1 =0 for all criteria pollutants.

2. Post Project Potential to Emit (PE2)

The PE2 calculations are shown below:

Pollutant	Daily PE2			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.008	85	24	16.3
SO _x	0.00285	85	24	5.8
PM ₁₀	0.0030	85	24	6.1
CO	0.0185	85	24	37.7
VOC	0.0055	85	24	11.2

Pollutant	Annual PE2			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.008	85	8,760	5,957
SO _x	0.00285	85	8,760	2,122
PM ₁₀	0.0030	85	8,760	2,234
CO	0.019	85	8,760	13,775
VOC	0.0055	85	8,760	4,095

Greenhouse Gas (GHG) Emissions:

The GHG direct emissions from the proposed steam generator can be calculated using the following equation:

$$\text{GHG (metric tons as CO}_2\text{)} = \text{EF (kg-CO}_2\text{/MMBtu)} * \text{Ht Input/yr} * (1 \times 10^{-3})$$

Where EF = 52.87 kg-CO₂/MMBtu for 1,000 BTU/scf natural gas
(CARB Compendium of Emission Factors, 2008)

$$\begin{aligned} \text{GHG (metric tons as CO}_2\text{)} &= 52.87 * 744,600 \text{ MMBtu/yr} * 10^{-3} \\ &= 39,367 \text{ metric tons as CO}_2 \end{aligned}$$

As shown in the above calculation, the GHG as CO₂ is already above the District threshold of 230 metric tons of CO₂ equivalent. To address the potential increase in GHG emissions, Vintage is proposing to comply with the best performance standard (BPS) developed by the District for steam generators. The steam generator will utilize high efficiency variable speed drive electric motors and a bare tube area exceeding 235 ft/MMBTU of heat input, which meets the District's BPS. BPS conditions will be included to ensure compliance with the GHG requirements.

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (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 that have occurred at the source, and which have not been used on-site.

An application for a new identical steam generator was recently submitted and currently being processed under Project S-1103505. The SSPE2 from that project will be used as the SSPE1 for this project (S-1104728).

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	78,139	24,434	24,881	198,857	124,997

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

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) 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 that have occurred at the source, and which have not been used on-site.

The Potential to Emit from the proposed steam generator will be added to the SSPE1 to get the SSPE2.

Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	78,139	24,434	24,881	198,857	124,997
PE2	5,957	2,122	2,234	13,775	4,095
SSPE2	84,096	26,556	27,115	212,632	129,092

5. Major Source Determination

Pursuant to Section 3.23 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values.

Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	78,139	24,434	24,881	198,857	124,997
SSPE2	84,096	26,556	27,115	212,632	129,092
Major Source Threshold	50,000	140,000	140,000	200,000	50,000
Major Source?	Yes	No	No	Yes	Yes

As shown above, the facility will remain a major source for NO_x and VOC and will be a major source for CO as a result of this project.

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 Section 3.7 of District Rule 2201, BE = Pre-project Potential to Emit 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,

Since this is a new emissions unit, BE = PE1 = 0

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 (as in effect on Dec. 19, 2002) 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.”*

Pursuant to the draft APR XXX-1 “Implementation of rule 2201 (as amended on 12/18/08 and effective on 6/10/10) for SB288 Major Modifications and Federal Major modifications”, the project’s emission increase for each pollutant is equal to the sum of the differences between the potential to emit and the baseline emissions for existing units or the sum of the potential to emit for new emissions

unit. Since the steam generator is a new unit, the project's emission increase is equal to the PE2.

SB 288 Major Modification Thresholds (lb/yr)				
	NOx	SOx	PM₁₀	VOC
Project PE**	5,957	2,122	2,234	4,095
Threshold	50,000	80,000	30,000	50,000
SB 288 Major Mod?	No	No	No	No

** From Section VII(C)(2)

As shown above, this project does not constitute a SB 288 major modification.

8. Federal Major Modification

District Rule 2201, Section 3.17 defines Federal Major Modification the same as "Major modification" as defined in 40 CFR 51.165 and Part D of Title I of the CAA. Section 3.17 also states that an SB 288 Major Modification is not a Federal Major Modification if the emission increase for the project or the net emission increase for the facility (calculated pursuant to 40 CFR 51.165(a)(2)(ii)(B) through (D) and (F) does not result in a significant emission increase as defined in Rule 2201 Table 3-1 (shown below) or the modification does not cause facility wide emissions to exceed a previously established plant wide applicability limit (PAL).

Pursuant to the District draft policy mentioned above, the project's emission increase for each pollutant is equal to the sum of the differences between the projected actual emissions (PAE) or PE and the baseline actual emissions (BAE) for existing units or the sum of the potential to emit for new emission units. Furthermore, for new emission units, the emissions increase is the PE and PAE cannot be used. Therefore, for this project, the net increase for federal major modification calculation purposes is equal to the PE2.

Federal Major Modification Thresholds (lb/yr)				
	NOx	SOx	PM₁₀	VOC
Project PE**	5,957	2,122	2,234	4,095
Threshold	0	80,000	30,000	0
Federal Major Mod?	Yes	No	No	Yes

** From Section VII(C)(2)

As shown above, this project will result in an increase in NOx and VOC emissions greater than the Federal Major Modification threshold. Therefore, this project is a Federal Major Modification and the facility shall address alternative siting requirements pursuant to Section 4.15.1 of Rule 2201. The proposed steam generator will be located at an existing oilfield to support current operations; therefore, an alternative site would be impractical.

In addition, pursuant to Section 4.15.2, the owner of the proposed new major source or federal major modification shall demonstrate to the satisfaction of the APCO that all major stationary sources owned or operated by such person (or any entity controlling, controlled by, or under common control with such person) in California which are subject to emission limitations are in compliance or on a schedule for compliance with all applicable limitations and standards. Vintage provided verification that all major Stationary Sources owned or operated by Vintage in California are in compliance or on a schedule for compliance with all applicable emission limitations and standards (Appendix E).

9. 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. The QNEC is calculated as follows:

$$\text{QNEC (lb/tr)} = [\text{PE2 (lb/yr)} - \text{PE1 (lb/yr)}] / 4$$

	NOx	SOx	PM10	CO	VOC
PE2	5,957	2,122	2,234	13,775	4,095
PE1	0	0	0	0	0
QNEC (lb/qtr)	1,489	531	559	3,444	1,024

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 for the following*:

- 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 a Major Modification.

*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, VPC is proposing to install a new steam generator with a PE greater than 2 lb/day for NO_x, SO_x, PM₁₀, CO and VOC. The SSPE2 for CO is greater than 200,000 lb/yr; therefore, BACT is triggered for all the criteria pollutants.

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

The proposed steam generator is not a modified emissions unit ; therefore, BACT for AIPE > 2.0 lb/day purposes, is not triggered.

d. Major Modification

As discussed in Section VII above, this project does not constitute an SB 288 Major modification; however, it is a Federal Major Modification for NO_x and VOC; therefore, BACT is triggered for these two pollutants.

2. BACT Guideline

A BACT Guideline does not currently exist for natural-gas fired steam generators.

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 (Appendix B), BACT has been satisfied with the following:

- NO_x: 7 ppmv @ 3% O₂
- SO_x: Gaseous fuel with sulfur content not to exceed 1 gr/100 scf
- PM₁₀: Gaseous fuel with sulfur content not to exceed 1 gr/100 scf
- CO: 25 ppmvd @ 3% O₂
- VOC: Gaseous fuel

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

Offset Determination (lb/year)					
	NO_x	SO_x	PM₁₀	CO	VOC
Post Project SSPE (SSPE2)	84,096	26,556	27,115	212,632	129,092
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets calculations required?	Yes	NO	NO	Yes	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_x, CO, and VOC; therefore, offset calculations will be required for this project.

Per Sections 4.7.1 and 4.7.3, the quantity of offsets in pounds per year is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

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

Where,

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

BE = Baseline Emissions, (lb/year); equal to PE1 (new emissions unit)

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

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

The amount of emissions to be offset is as follows:

	NO_x (lb/yr)	CO (lb/yr)	VOC (lb/yr)
PE2	5,957	13,775	4,095
BE	0	0	0
ICCE	0	0	0
Increase (lb/yr)	5,957	13,775	4,095

Vintage is proposing to use the following ERC certificates:

ERC Certificate	Originally Issued to:	Location Generated	Distance Offset Ratio
S-3065-1	Occidental of Elk Hills, Inc.	Sec 33, T30S, R24E	1.5: 1
S-3381-2	Occidental of Elk Hills, Inc.	Sec 35, T30S, R23E	1.5: 1

The amount of ERCs needed to offset the NOx and VOC increases from this project are calculated below:

	Q1	Q2	Q3	Q4
NOx offsets req'd (w/o DOR)	1,489	1,489	1,489	1,489
NOx offsets req'd (1:5:1 DOR)	2,234	2,234	2,234	2,234
NOx ERCs available (from S-3381-2)**	2,234	2,234	2,234	2,234
VOC offsets req'd (w/o DOR)	1,024	1,024	1,024	1,024
VOC offsets req'd (1:5:1 DOR)	1,536	1,536	1,536	1,536
VOC ERCs available from (S-3065-1)	69,169	77,848	80,424	75,737
** ERCs from this certificate have been reserved for other projects including the amount needed for this project.				

As shown above, Vintage has provided sufficient credits to offset the NOx and VOC increases from this project. Therefore, the conditions will be listed on the ATCs to ensure compliance.

CO Emission Offsets:

Per Section 4.6.1 of Rule 2201, emissions offsets are not required for CO emissions increases in attainment areas if the project does not jeopardize Ambient Air Quality Standards (AAQS). The District performed criteria pollutant modeling and the results indicate that the emissions from this project will not cause or significantly contribute to a violation of a State or National AAQS.

Proposed conditions:

- *Prior to operating equipment under this Authority to Construct, permittee shall surrender emissions reduction credits for the following increases in emissions: NOx: 1,489 lb/qtr and VOC: 1,024 lb/qtr. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201. [District Rule 2201]*
- *ERC Certificate Numbers S-3065-1, S-3381-2 or certificates split from these certificates shall be used to supply the required offsets, unless a revised*

offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Source

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

b. Major Modification

As demonstrated in VII.C.7, this project does constitute a Federal Major Modification; therefore, public noticing for Major Modification purposes is required.

c. PE > 100 lb/day

Applications which include a new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions unit associated with this project that have a daily emissions greater than 100 lb/day; therefore, public noticing is not required for this project for Potential to > 100 lb/day purposes.

d. New Stationary Source with SSPE Greater than Offset Thresholds

This is an existing facility; therefore, public noticing for new stationary source exceeding offset threshold purposes is not required.

e. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-

Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	84,096	78,139	5,957	20,000 lb/year	No
SO _x	26,556	24,434	2,122	20,000 lb/year	No
PM ₁₀	24,115	24,881	766	20,000 lb/year	No
CO	212,632	198,857	13,775	20,000 lb/year	No
VOC	129,092	124,997	4,095	20,000 lb/year	No

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

2. Public Notice Action

As discussed above, public noticing is required for this project for NO_x and VOC emissions exceeding Federal Major Modification threshold. 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)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, 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:

- Emission rates shall not exceed any of the following: NO_x (as NO₂): 0.008 lb/MMBtu or 7 ppmv @ 3% O₂; SO_x (as SO₂): 0.00285 lb/MMBtu; PM₁₀: 0.003 lb/MMBtu, CO: 0.0185 lb/MMBtu or 25 ppmv @ 3% O₂; or VOC: 0.0055 lb/MMBtu. [District Rule 4320]

E. Compliance Assurance

1. Source Testing

The unit in this project is 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*

MMBtu/hr. Source testing for NO_x and CO will be required within 60 days of initial operation and at least once every 12 months thereafter. Vintage proposed a PM₁₀ emission factor that is lower than that specified in AP-42 for external natural gas combustion. Previous source tests of similar steam generators fired on similar fuel resulted in PM₁₀ emissions of 0.001 lb/MMBtu. The proposed emission limit of 0.003 lb/MMBtu should be readily achievable; therefore, no PM₁₀ source test will be required. Additional source testing requirements will be discussed in the compliance review section of this evaluation.

2. Monitoring

As required by District Rules 4305, 4306, and 4320, this unit is subject to monitoring requirements. Monitoring requirements in accordance with District Rules 4305, 4306, and 4320 are addressed in the compliance review section of this evaluation for each rule.

3. Recordkeeping

As required by District Rules 4305, 4306, and 4320, this unit is subject to recordkeeping requirements. Recordkeeping requirements in accordance with District Rules 4305, 4306, and 4320 are addressed in the compliance review section of this evaluation for each rule. The following permit condition will be listed on permits as follows:

- *All records shall be maintained for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]*

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) 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 Technical Services Division of the SJVAPCD conducted the required analysis. Refer to Appendix C of this document for the AAQA summary sheet.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ¹	X	X	X	Pass
SO _x	Pass ²	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ³	Pass ³

*Results were taken from PSD spreadsheet.

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

²The project was compared to the 1-hour SO₂ National Ambient Air Quality Standard that became effective on August 23, 2010 using the District's approved procedures.

³The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

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

Rule 2520 Federally Mandated Operating Permits

Vintage is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule.

In accordance with Rule 2520, 3.20, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
 - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and

6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Vintage's Title V compliance certification form is included in Appendix C. The following permit conditions will be listed to ensure compliance:

- *{1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]*
- *{1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]*

Rule 4001 New Source Performance Standards (NSPS)

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

The subject steam generators have a rating of 85 MMBtu/hr and are fired on gaseous fuel. Subpart Dc has no standards for gas-fired steam generators. Therefore the subject steam generators are not affected facilities and subpart Dc does not apply.

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). As long as the equipment is operated properly, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Compliance is expected.

Rule 4102 Nuisance

Section 4.0 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 \leq one. According to the Technical Services Memo for this project (Appendix C), the total prioritization score is \leq 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.

RMR Summary			
Categories	NG Steam Generator (Unit 401-0)	Project Totals	Facility Totals
Prioritization Score	0.00	0.00	0.05
Acute Hazard Index	N/A ¹	N/A ¹	N/A ¹
Chronic Hazard Index	N/A ¹	N/A ¹	N/A ¹
Maximum Individual Cancer Risk (10⁻⁶)	N/A ¹	N/A ¹	N/A ¹
T-BACT Required?	No		
Special Permit Conditions?	No		

¹ Cancer risk, Acute and Chronic Hazard Indices were not calculated since the total prioritization score was less than 1.0.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix C of this report, the emissions increases for this project was determined to be less than significant.

Rule 4201 Particulate Matter Concentration

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

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
 PM₁₀ Emission Factor: 0.003 lb-PM₁₀/MMBtu
 Percentage of PM as PM₁₀ in Exhaust: 100%
 Exhaust Oxygen (O₂) Concentration: 3%

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

$$GL = \left(\frac{0.003 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left(\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)$$

$$GL = 0.0029 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

Therefore, compliance with District Rule 4201 requirements is expected.

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, 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.

The maximum emission rates in lb/hr for each of the steam generator in this project are as follows:

District Rule 4301 Limits (lb/hr)			
Unit	NO₂	Total PM	SO₂
S-1326-401-0	0.7	0.3	0.2
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 Steam Generators – Phase 2

The proposed steam generator is natural gas-fired with a maximum heat input of 85.0 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* and Rule 3420, *Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr*.

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

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

The proposed steam generator is natural gas-fired with a maximum heat input of 85.0 MMBtu/hr each. 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*.

In addition, the unit is also subject to District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr*

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

Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBTU/hr

This rule limits NOx, CO, SO2 and PM10 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 units in this project are all rated at greater than 5 MMBtu/hr heat input and are 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 5.2.1 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.

Rule 4320 NOx Emission Limits			
C. Oilfield Steam Generators	NOx Limit	Authority to Construct	Compliance Deadline
2. Units with a total rated heat input >20 MMBtu/hr	a) Standard Schedule 7 ppmv or 0.008 lb/MMBtu ; or	July 1, 2009	July 1, 2010
	b) Staged Enhanced Schedule Initial Limit 9 ppmv or 0.011 lb/MMBtu; and	July 1, 2011	July 1, 2012
	Final Limit 5 ppmv or 0.0062lb/MMBtu	January 1, 2013	January 1, 2014

For the subject steam generator, VPC is proposing to comply with Category C2 – standard schedule limit of 7 ppmv calculated at 0.008 lb/MMBtu.

- The proposed NOx emission factor is 7 ppmvd @ 3%O2 or (0.008 lb/MMBtu)
- The proposed CO emission factor is 25 ppmvd @ 3% O2 or 0.0185 lb/MMBtu.

Compliance with the rule emission requirements is expected.

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 SO₂ emissions by at least 95% by weight; or limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3 % O₂.

The steam generator will be fired on certified and non-certified natural gas. Vintage will have a fuel sulfur content limit of 1 gr/100 scf which is less than 5 gr S/100 scf. Therefore, compliance with this section of the rule is expected.

Section 5.5 Low-Use Unit

This section discusses the requirements of low-use units. VPC is not requesting low-use status; therefore, this section of the rule is not applicable to this project.

Section 5.7 Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 shall either install and maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NO_x, CO and O₂, or implement an APCO-approved alternate monitoring.

VPC has proposed to implement Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires periodic monitoring of NO_x, CO, and O₂ concentrations at least once a month using a portable analyzer. The following conditions will be placed in the ATC to ensure compliance with the requirements of this alternate monitoring plan:

- *{2395} The permittee shall monitor and record the stack concentration of NO_x, 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]*

- *If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, 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]*
- *All NO_x, CO, and O₂ 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_x, CO, and O₂ 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]*
- *The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320]*

Section 5.7.6 requires monitoring SO_x emissions. The following condition will be placed in the ATC to be in compliance with this rule requirement:

- *PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]*
- *If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320]*

- *If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320]*

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 listed on the ATC 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 ATCs 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 ATCs 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 ATC 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.

The condition on start-up and shutdown record keeping conditions shall be retained in the ATCs to ensure Aera's compliance with this section of the rule.

Section 6.2, Test Methods

Section 6.2 identifies test methods to be used when determining compliance with the rule. The following existing permit conditions will be retained on the ATC:

- *{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: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (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; SO_x – 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 appropriate ATC:

- *A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of initial startup of this unit. [District Rules 2201 and 4320]*
- *Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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 2201, 4305, 4306 and 4320]*
- *{110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]*

Rule 4801 Sulfur Compounds

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

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

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

With:

N = moles SO₂

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

P (Standard Pressure) = 14.7 psi

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

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

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

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is 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)

The California Environmental Quality Act (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 San Joaquin Valley Unified Air Pollution Control District (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.
- 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

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.

Project specific impacts on global climate change were evaluated consistent with the adopted District policy – *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The District's engineering evaluation (this document) demonstrates that the project includes Best Performance Standards (BPS) for each class and category of greenhouse gas emissions unit. 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 Authority to Construct S-1326-401 subject to the permit conditions on the attached draft Authority to Construct in Appendix D.

X. Billing Information

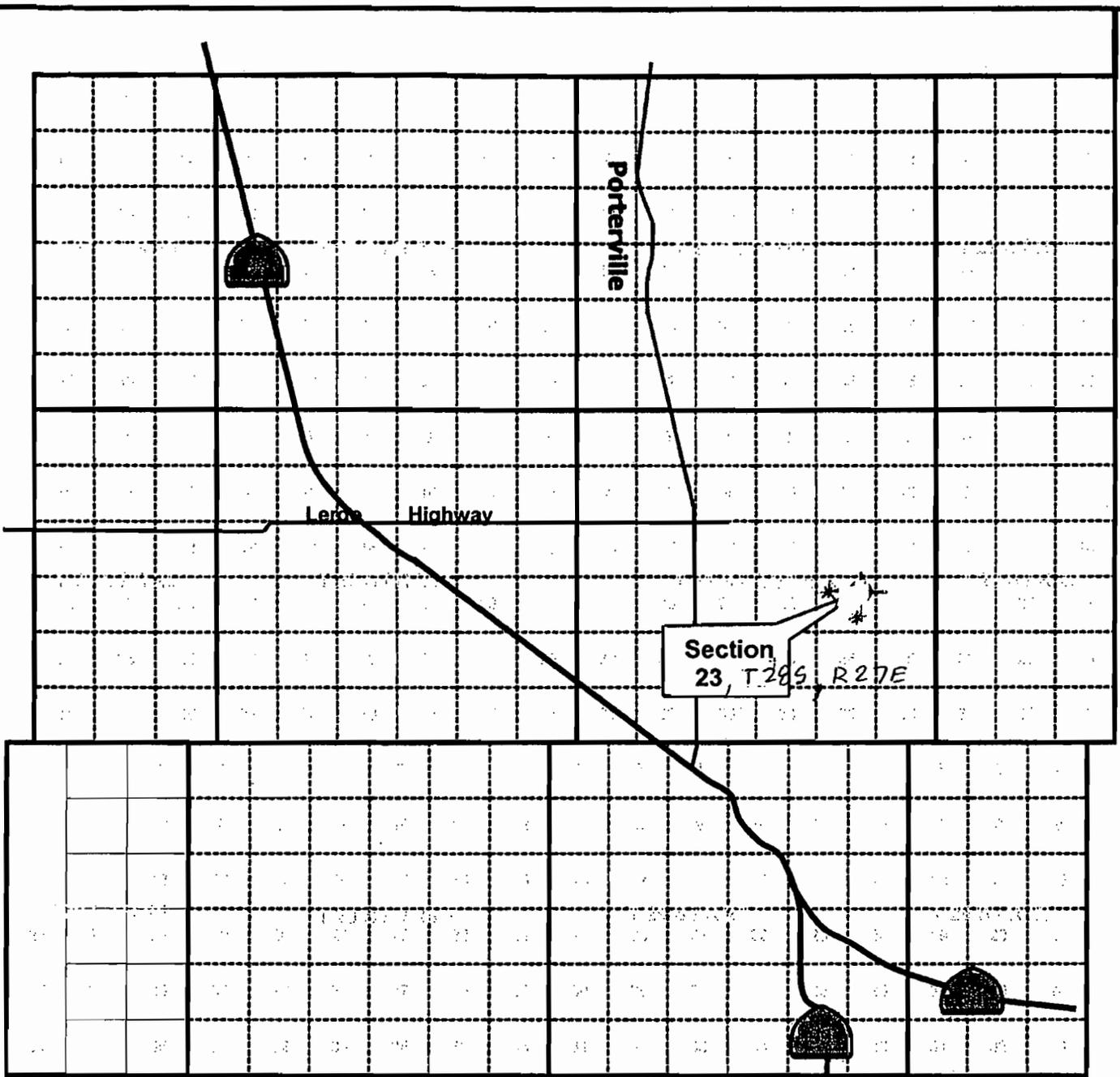
Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1326-401-0	3020-02-H	62.5 MMBtu/hr	\$1,030.00

Appendices

- A: Project Location Map
- B: BACT Guideline and Top-Down Analysis
- C: Risk Management Review
- D: Draft ATC & Emissions Profile
- E: Compliance Certifications

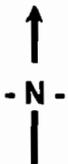
Appendix A

Project Location Map



OXY U. S. A. INC.

Prepared by:



SECTION 23 PRODUCTION OPERATION

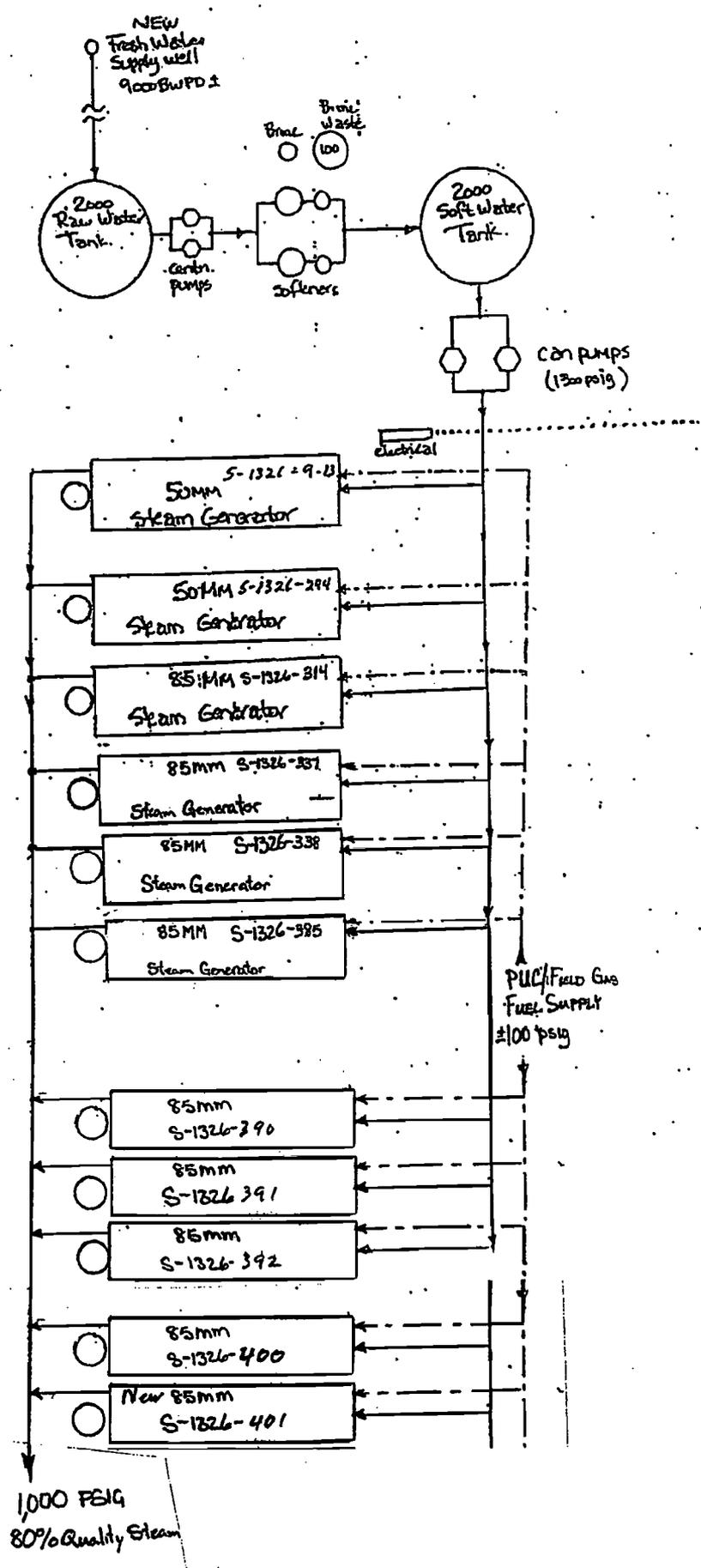


NE 23, T28S, R27E

May 2008

General Layout - Steam Generator Location - Sec 23

NO SCALE



Appendix B

BACT Guideline and Top-Down Analysis

Top Down BACT Analysis for NO_x Emissions:

Step 1 - Identify All Possible Control Technologies

The District adopted District Rule 4320 on October 16, 2008. The NO_x emission limits requirements in District Rule 4320 are lower than the limits in BACT Guideline 1.2.1 (Steam Generator \geq 5 MMBtu/hr, Oilfield); which has been rescinded. Therefore, a project specific BACT analysis will be performed to determine BACT for this project. District Rule 4320 includes a compliance option that limits oilfield steam generators with heat input ratings $>$ 20.0 MMBtu/hr to 7 ppm @ 3% O₂. This emission limit is Achieved in Practice control technology for the BACT analysis. District Rule 4320 also contains an enhanced schedule with initial and final limit options that allows applicants additional time to meet the requirements of the rule. The enhanced schedule NO_x emission initial limit requirement is 9 ppmv @ 3% O₂ and final limit of 5 ppmv @ 3% O₂. Since this is an enhanced option in the rule, the final limit of 5 ppmv @ 3% O₂ will be considered the Technologically Feasible control technology for the BACT analysis.

The following are possible control technologies:

1. 5 ppmvd @ 3% O₂ - Technologically Feasible
2. 7 ppmvd @ 3% O₂ - Achieved in Practice

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. 5 ppmvd @ 3% O₂ - Technologically Feasible
2. 7 ppmvd @ 3% O₂ - Achieved in Practice

Step 4 - Cost Effectiveness Analysis

The applicant has proposed a NO_x limit of 7 ppmvd @ 3% O₂, therefore a cost analysis for the 5 ppmvd with SCR (0.0062 lb/MMBTU) option is required.

SCR Cost Effective Analysis:

Assumptions:

- Industry standard (IS) is assumed to be a NO_x emission rate of 15 ppmv @3% O₂ in accordance with Rule 4306
- Unit's maximum emissions are defined by the burner size multiplied by the emissions rate and a maximum annual operating schedule of 8,760 hours

Calculations:

$$\begin{aligned}\text{Industry Std NO}_x \text{ Emissions} &= 85 \text{ MMBtu/hr} \times 0.018 \text{ lb/MMBtu} \times 8,760 \text{ hr/yr} \\ &= 13,403 \text{ lb/yr}\end{aligned}$$

$$\begin{aligned}\text{Feasible NOx Emissions} &= 85 \text{ MMBtu/hr} \times 0.0062 \text{ lb/MMBtu} \times 8,760 \text{ hr/yr} \\ &= 4,617 \text{ lb/yr}\end{aligned}$$

NOx reduction due to SCR:

$$\begin{aligned}\text{Total reduction} &= \text{Emissions}_{(15 \text{ ppmv})} - \text{Emissions}_{(5 \text{ ppmv})} \\ \text{Total reduction} &= 13,403 \text{ lb/yr} - 4,617 \text{ lb/yr} \\ \text{Total reduction} &= 8,786 \text{ lb/yr} = 4.39 \text{ ton/yr}\end{aligned}$$

SCR Capital Cost (PCL Construction, August 19, 2010): \$745,000.00 (includes all purchased equipment, taxes, freight and installation of SCR for a 85 MMBtu/hr unit) – detailed cost follow/attached.

Equivalent Annual Capital Cost (CC):

$$A = (P) \left[\frac{(i)(1+i)^n}{(1+i)^n - 1} \right] \text{ where:}$$

- A: Equivalent annual capital cost of the control equipment
- P: Present value of the control equipment
- i: Interest rate (District policy is to use 10%)
- n: Equipment life (District policy is to use 10 years)

$$A = (\$745,000) \left[\frac{(0.1)(1+0.1)^{10}}{(1+0.1)^{10} - 1} \right] = \frac{\$121,050}{\text{yr}}$$

Annual Direct Cost (ADC):

$$\text{Operation \& Maintenance} = \$125,000/\text{yr} \text{ (PCL quote)}$$

Annual Indirect Cost (AIC) = included (PCL quote)

$$\begin{aligned}\text{Total Annualized Cost} &= \text{CC} + \text{ADC} + \text{AIC} \\ &= \$121,050 + \$125,000 + \$0.00 \\ &= \$246,050/\text{yr}\end{aligned}$$

Cost Effectiveness:

$$\begin{aligned}\text{Cost effectiveness} &= \$246,050/4.39 \text{ ton/yr} \\ \text{Cost effectiveness} &= \$56,047/\text{ton}\end{aligned}$$

The cost effectiveness is greater than the \$24,500/ton cost effectiveness threshold of the District BACT policy. Therefore, the use of SCR with ammonia injection is not cost effective and is not required as BACT.

Step 5 – Select BACT for NOx

BACT for NOx emissions from the oilfield steam generator is 7 ppmv @ 3% O₂. The applicant has proposed to install the steam generators each with a NOx limit of 7 ppmvd @ 3% O₂; therefore, BACT for NOx emissions is satisfied.

Top Down BACT Analysis for VOC Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1 (5/24/2004), identifies achieved in practice and technologically feasible BACT for Steam Generator \geq 5 MMbtu/hr, at an oil field as follows:

1. Gaseous fuel - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Gaseous fuel - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology is identified and this technology is achieved in practice; therefore, a cost effectiveness analysis not necessary.

Step 5 - Select BACT for VOC

The use of gaseous fuel (natural gas) is selected as BACT for VOC emissions.

Top Down BACT Analysis for PM₁₀ and SOx Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 3rd quarter 2010, identifies achieved in practice and technologically feasible BACT for Steam Generator \geq 5 MMbtu/hr, at an oil field as follows:

1. Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO₂ scrubber and either

achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO₂ at stack O₂ - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO₂ scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO₂ at stack O₂ - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology is identified and this technology is achieved in practice; therefore, a cost effectiveness analysis not necessary.

Step 5 - Select BACT for SO_x and PM₁₀

The use of natural gas as a primary fuel with a sulfur content not to exceed 1 gr-S/100 scf with no back up fuel is selected as BACT for SO_x and PM₁₀ emissions.

Top Down BACT Analysis for CO Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 3rd quarter 2010, identifies achieved in practice and technologically feasible BACT for Steam Generator \geq 5 MMbtu/hr, at an oil field as follows:

1. 50 ppmvd @ 3% O₂ - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. 50 ppmvd @ 3% O₂ - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology is identified and this technology is achieved in practice; therefore, a cost effectiveness analysis not necessary.

Step 5 - Select BACT for CO

The applicant is proposing 25 ppmvd CO @ 3% O₂. This satisfies BACT for CO emissions.

District Intranet



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Per » **B A C T** » [Bact Guideline.asp?category Level1=1&category Level2=2&category Level3=1&last Update=5](#) » 24 :

[Back](#)

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Best Available Control Technology (BACT) Guideline 1.2.1

Last Update: 5/24/2004

Oil field Steam Generator (> or = 5 MMBtu/hr)

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	50 ppmvd @ 3% O2		
NOx	14 ppmvd @ 3% O2	1) 9 ppmvd @ 3% O2 (low NOx burner and/or SCR) 2) 12 ppmvd @ 3% O2	
PM10	natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emissions rate of 30 ppmvd SO2 at stack O2		
SOx	natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emissions rate of 30 ppmvd SO2 at stack O2		
VOC	Gaseous fuel		

Appendix C

Risk Management Review

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Dolores Gough, AQE – Permit Services
 From: Jennifer Hart, AQS – Technical Services
 Date: November 18, 2010
 Facility Name: Vintage Production California LLC
 Location: Heavy Oil Central
 Application #(s): S-1326-401-0
 Project #: S-1104728

A. RMR SUMMARY

RMR Summary			
Categories	NG Steam Generator (Unit 401-0)	Project Totals	Facility Totals
Prioritization Score	0.00	0.00	0.05
Acute Hazard Index	N/A ¹	N/A ¹	N/A ¹
Chronic Hazard Index	N/A ¹	N/A ¹	N/A ¹
Maximum Individual Cancer Risk (10 ⁻⁶)	N/A ¹	N/A ¹	N/A ¹
T-BACT Required?	No		
Special Permit Conditions?	No		

¹ Cancer risk, Acute and Chronic Hazard Indices were not calculated since the total prioritization score was less than 1.0.

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 401-0

No special conditions are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on November 4, 2010, to perform an Ambient Air Quality Analysis and a Risk Management Review for the installation of a 85 MMBtu/Hr natural gas-fired steam generator.

II. Analysis

Toxic emissions for this proposed unit were calculated using WSPA's emission factors for steam generators. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905, March 2, 2001), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for this proposed unit was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

Analysis Parameters Unit 1-0 or Unit 1-0,2-0			
Maximum Throughput (mmscf/hr)	0.085	Max Hours per Year	8,760
Closest Receptor (m)	1,280.16		

Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀; as well as a RMR. The emission rates used for criteria pollutant modeling were 1.57 lb/hr CO, 0.68 lb/hr NO_x, 0.24 lb/hr SO_x, and 0.26 lb/hr PM₁₀. The engineer supplied the maximum fuel rate for the IC engine used during the analysis.

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 _x	Pass ¹	X	X	X	Pass
SO _x	Pass ²	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass ³	Pass ³

*Results were taken from the attached PSD spreadsheet.

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

²The project was compared to the 1-hour SO₂ National Ambient Air Quality Standard that became effective on August 23, 2010 using the District's approved procedures.

³The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

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

The prioritization score is less than 1.0. **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 conditions 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.

Attachments:

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Facility toxic emissions summary
- D. Prioritization score
- E. AAQA Results
- F. NO₂ NAAQS Report
- G. AERMOD Non-Regulatory Option Checklist

Appendix D

Draft ATC and Emissions Profile

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1326-401-0

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
KERN COUNTY, CA

SECTION: 23 TOWNSHIP: 28S RANGE: 27E

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL AND/OR TVR GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA-FLAME 4231-85 GLE BURNER OR EQUIVALENT AND A FLUE GAS RECIRCULATION (FGR) 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. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the authorized equipment [District Rule 2010] Federally Enforceable Through Title V Permit
4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters [District Rule 2010] Federally Enforceable Through Title V Permit
5. This unit is approved for operation at the SE/4 and NW/4 of Section 23, T28S, R27E. [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

DRAFT

DAVID WARNER, Director of Permit Services

S-1326-401-0 : Dec 2 2010 10:31AM - GOU:HD : Joint Inspection NOT Required

6. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]
7. This unit shall be equipped with horizontal convection section with at least 235 square feet of bare tube surface area (or thermodynamically equivalent number of square feet of finned tube) per MMBtu/hr of heat input and variable frequency drive high efficiency electrical motors driving the blower and water pump. Documentation showing this unit is so equipped shall be retained on site. [CEQA]
8. Prior to operating equipment under this Authority to Construct, permittee shall surrender emissions reduction credits for the following increases in emissions: NOx: 1,489 lb/qtr and VOC: 1,024 lb/qtr. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201. [District Rule 2201] Federally Enforceable Through Title V Permit
9. ERC Certificate Numbers S-3065-1, S-3381-2 (or a certificate split from these certificates) 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
10. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
11. 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
12. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
13. Natural gas and/or TEOR and TVR gas combusted in this unit shall have a sulfur content no greater than 1 gr S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Permittee shall test annually the sulfur content of the fuel gas combusted in steam generator using ASTM method D1072, D3031, D4084, or D3246 and make test results readily available for District inspection. [District Rules 2520, 9.3.2 and 4320] Federally Enforceable Through Title V Permit
15. Emissions rates from unit shall not exceed any of the following limits: 7 ppmv NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.003 lb-PM10/MMBtu, 25 ppmv CO @ 3% O2 or 0.0185 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4301, 4305, 4306, 4320, and 40 CFR 60.43c(e)(1)] Federally Enforceable Through Title V Permit
16. A source test to demonstrate compliance with NOx and CO emission limits shall be performed within 60 days of initial startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
17. Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. 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. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. 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
20. 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

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CONDITIONS CONTINUE ON NEXT PAGE

21. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
22. 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, 5.5.5, 4306, 5.5.5, and 4320] Federally Enforceable Through Title V Permit
23. 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 Rule 1081, 4305, 4306, 4320, and 4351] Federally Enforceable Through Title V Permit
24. 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
25. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
27. All NOx, CO, and O2 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 NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

30. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
31. Permittee shall maintain records of fuel gas sulfur compound measurements. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
32. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
33. 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 and 4320] Federally Enforceable Through Title V Permit
34. This ATC shall be implemented concurrently with or subsequently to ATCs S-1326-9-20, S-1326-294-6, S-1326-314-4 and S-1326-400-0. [District Rule 2201] Federally Enforceable Through Title V Permit

DRAFT

Permit #: S-1326-401-0	Last Updated
Facility: VINTAGE PRODUCTION CALIFORNIA	12/02/2010 GOUGHD

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	5957.0	2122.0	2234.0	13775.0	4095.0
Daily Emis. Limit (lb/Day)	16.3	5.8	6.1	37.7	11.2
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	1489.0	531.0	559.0	3444.0	1024.0
Q2:	1489.0	531.0	559.0	3444.0	1024.0
Q3:	1489.0	531.0	559.0	3444.0	1024.0
Q4:	1489.0	531.0	559.0	3444.0	1024.0
Check if offsets are triggered but exemption applies	N	N	N	Y	N
Offset Ratio	1.5				1.5
Quarterly Offset Amounts (lb/Qtr)					
Q1:	2234.0				1536.0
Q2:	2234.0				1536.0
Q3:	2234.0				1536.0
Q4:	2234.0				1536.0

Appendix E

Compliance Certifications

CERTIFICATION

Vintage Production California LLC hereby certifies as follows:

1. Vintage Production California LLC owns or operates certain major stationary sources in the State of California. Such sources are comprised of a vast number of emission points. As used in this certification, the term "major stationary source" shall, with respect to Vintage Production California LLC stationary sources in the SJVUAPCD, have the meaning ascribed thereto in SJVUAPCD Rule 2201, Section 3.23, and shall, with respect to all of Vintage Production California LLC's other stationary sources in the State of California, have the meaning ascribed thereto in section 302(J) of the Clean Air Act (42 U.S.C. Section 7602 (J)).

2. Subject to paragraphs 3 and 4 below, all major stationary sources owned or operated by Vintage Production California LLC in the State of California are either in compliance, or on an approved schedule of compliance, with all applicable emission limitations and standards under the Clean Air Act and all of the State Implementation Plan approved by the Environmental Protection Agency.

3. This certification is made on information and belief and is based upon a review of Vintage Production California LLC's major stationary sources in the State of California by those employees of Vintage Production California LLC who have operational responsibility for compliance. In conducting such reviews, Vintage Production California LLC and its employees have acted in good faith and have exercised best efforts to identify any exceedance of the emission limitations and standards referred to in paragraph 2 thereof.

4. This certification shall speak as of the time and date of its execution.

CERTIFICATION

By: 

Date: 10/21/2010

Title: Operations Manager

Time: 11:15 AM

**San Joaquin Valley
Unified Air Pollution Control District**

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: Vintage Production California, LLC	FACILITY ID: S - 1326
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name:	
3. Agent to the Owner:	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

- Based on information and belief formed after reasonable inquiry, the source identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the source identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:



Signature of Responsible Official

10/21/2010

Date

William Hill

Name of Responsible Official (please print)

Operations Manager

Title of Responsible Official (please print)

Installation of a 85.0 MM Btu/hr natural gas fired steam generator.