



MAR 25 2010

Ms. Adean Valenzuela
Aera Energy, LLC
PO Box 11164
Bakersfield, CA 93389-1164

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1547
Project # 1100367**

Dear Ms. Valenzuela:

Enclosed for your review and comment is the District's analysis of an application for Authority to Construct for Aera Energy, LLC at the NW/4 of Section 35, Township 12N, Range 24W in Aera's Western Kern County Fields Heavy Oil stationary source, CA. Aera Energy, LLC proposes to retrofit a steam generator with a low NOx burner.

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: DT/cm

Enclosure

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

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



MAR 25 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-1547
Project # 1100367

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Aera Energy, LLC at the NW/4 of Section 35, Township 12N, Range 24W in Aera's Western Kern County Fields Heavy Oil stationary source, CA, which has been issued a Title V permit. Aera Energy, LLC is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Aera Energy, LLC proposes to retrofit a steam generator with a low NOx burner.

Enclosed is the engineering evaluation of this application, along with the current Title V permit, and proposed Authority to Construct # S-1547-778-20 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

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MAR 25 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-1547
Project # 1100367

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authority to Construct for Aera Energy, LLC at the NW/4 of Section 35, Township 12N, Range 24W in Aera's Western Kern County Fields Heavy Oil stationary source, CA. Aera Energy, LLC proposes to retrofit a steam generator with a low NOx burner.

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 Aera Energy, LLC for its oil production facility at the NW/4 of Section 35, Township 12N, Range 24W in Aera's Western Kern County Fields Heavy Oil stationary source, California. Aera Energy, LLC proposes to retrofit a steam generator with a low NOx burner.

The analysis of the regulatory basis for these proposed actions, Project #1100367, 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 93308-9725.**

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

Facility Name: Aera Energy, LLC
Mailing Address: PO Box 11164
Bakersfield, CA 93389-1164
Contact Person: Adean Valenzuela
Telephone: 661-665-5336
Fax: 661-665-5202
E-Mail: alvalenzuela@aeraenergy.com
Application #(s): S-1547-778-20
Project #: 1100367
Deemed Complete: 2/4/10

Date: 2/15/10
Engineer: David Torii
Lead Engineer: Rich Karrs

RWK 2-16-10

I. Proposal

Aera Energy, LLC (Aera) installed a Gideon 62.5 MMBtu/hr burner on steam generator S-1547-778 under a Rule 2021 experimental research exemption which was granted on 10/7/08. The research exemption was requested so Aera could evaluate the burner's NOx emission capabilities which would be used for planning strategies for Rule 4320 compliance. Operation under the research exemption is nearing the cumulative 180 days allowed by Rule 2021; consequently, the applicant is requesting an Authority to Construct (ATC) authorizing retrofitting/operation of Gideon burner. There is a possibility that the permittee will choose to comply with Rule 4320 by paying fees as allowed in section 5.3 of Rule 4320. In order to reduce the amount of fees that may be required the applicant requests that the NOx emission limit be lowered from the PTO's 15 ppmv at 3% O2 limit, to 12 ppmv at 3% O2.

Aera received their Title V Permit on 1/31/03. 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. Aera must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC issued with this project.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (9/21/06)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)

Rule 4305 Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306 Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
Rule 4320 Advanced Emission Reductions Options for Boilers, Steam Generators,
and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA
Guidelines

III. Project Location

The equipment is located South Midway in Aera's Heavy Oil Western stationary source, within the NW/4 of Section 35, Township 12N, Range 24W. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The steam generator produces steam for injection into heavy crude oil bearing strata via an injection well to reduce the viscosity of the crude oil, thereby facilitating petroleum production.

V. Equipment Listing

Current PTO (see current PTO in Appendix B):

S-1547-778-10: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED
STEAM GENERATOR WITH A COEN MODEL QLN-ULN LOW NOX
BURNER, FLUE GAS RECIRCULATION AND PIPING FROM TEOR WELL
VENT VAPOR RECOVERY SYSTEM S-1547-819, MOCO (#506) (SOUTH
MIDWAY)

Proposed ATC:

S-1547-778-20: MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/VAPOR
RECOVERY GAS FIRED STEAM GENERATOR WITH A COEN MODEL
QLN-ULN LOW NOX BURNER, FLUE GAS RECIRCULATION AND
PIPING FROM TEOR WELL VENT VAPOR RECOVERY SYSTEM S-
1547-819, MOCO (#506) (SOUTH MIDWAY): AUTHORIZE
RETROFIT/OPERATION WITH A GIDEON MODEL MGW-63V2 ULTRA
LOW NOX BURNER PREVIOUSLY INSTALLED UNDER RULE 2021
AND LOWER NOX LIMIT TO 12 PPMV AT 3% O2

Post Project Equipment Description:

S-1547-778-20: 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR WITH A GIDEON MODEL MGW-63V2 ULTRA LOW NOX BURNER, FLUE GAS RECIRCULATION AND PIPING FROM TEOR WELL VENT VAPOR RECOVERY SYSTEM S-1547-819, MOCO (#506) (SOUTH MIDWAY):

VI. Emission Control Technology Evaluation

Ultra 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 flue gas re-circulation (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
- There will be no change in current permitted emissions rates, daily and annual potential to emit for CO, VOC, SO_x or PM₁₀
- There is a decrease in the NO_x emission rate to 12 ppmv @ 3% O₂ (0.014 lb-NO_x/MMBtu)
- The daily potential to emit (PE) for NO_x will not decrease because the daily PE includes startup, shutdown and refractory curing emissions
- Annual pre-project and post-project potential to emit is calculated based on 8,760 hours of operation per year
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B)

B. Emission Factors

Pre-Project Emission Factors (EF1)

For this unit, the EF1 are listed in the table below.

Pollutant	Pre-Project Emission Factors (EF1)		Source
NO _x	0.018 lb-NO _x /MMBtu	15 ppmvd NOX @ 3%O ₂	Current Permit
SO _x	0.002 lb-SO _x /MMBtu		Current Permit
PM10	0.005 lb-PM10/MMBtu		Current Permit
CO	0.030 lb-CO/MMBtu	40 ppmvd CO @ 3%O ₂	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

Post-Project Emission Factors (EF2)

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

Pollutant	Post-Project Emission Factors (EF2)		Source
NO _x	0.0146 lb-NO _x /MMBtu	12 ppmvd NOX @ 3%O ₂	Applicant
SO _x	0.002 lb-SO _x /MMBtu		Current Permit
PM10	0.005 lb-PM10/MMBtu		Current Permit
CO	0.030 lb-CO/MMBtu	40 ppmvd CO @ 3%O ₂	Current Permit
VOC	0.003 lb-VOC/MMBtu		Current Permit

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The PE1 for each pollutant is calculated with the following equation:

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

Daily PE1			
	EF1 (lb/MMBtu)	Operating Schedule (hr/day)	PE1 (lb/day)
NOX	0.018	24	27.0
SOX	0.002	24	3.0
PM10	0.005	24	7.5
CO	0.030	24	45.0
VOC	0.003	24	4.5

Annual PE1			
	EF1 (lb/MMBtu)	Operating Schedule (hr/year)	PE1 (lb/year)
NOX	0.018	8760	9855
SOX	0.002	8760	1095
PM10	0.005	8760	2738
CO	0.030	8760	16425
VOC	0.003	8760	1643

2. Post Project Potential to Emit (PE2)

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

- PE2 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/day or hr/year)

Daily PE2			
	EF1 (lb/MMBtu)	Operating Schedule (hr/day)	PE2 (lb/day)
NOX	0.0146	24	21.9
SOX	0.002	24	3.0
PM10	0.005	24	7.5
CO	0.030	24	45.0
VOC	0.003	24	4.5

Annual PE2			
	EF1 (lb/MMBtu)	Operating Schedule (hr/year)	PE2 (lb/year)
NOX	0.0146	8760	7994
SOX	0.002	8760	1095
PM10	0.005	8760	2738
CO	0.030	8760	16425
VOC	0.003	8760	1643

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.

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

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

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.

Facility emissions are already above the Offset and Major Source Thresholds for all pollutants; therefore, SSPE2 calculations are not necessary.

5. Major Source Determination

Pursuant to Section 3.24 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. However, Section 3.24.2 states, "for the purposes of determining major source status, the SSPE2 shall not include 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."

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

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed on a pollutant-by-pollutant basis to determine the amount of offsets required, where necessary, when the SSPE1 is greater than the offset threshold. This project is exempt from offsets pursuant to Rule 2201, Section 4.6.8. Therefore, BE calculations are not required.

7. Major Modification

This facility is an existing major source for all air contaminants.

District Rule 2201 references the definition of major modification provided in 40 CFR 51.165 (v)(A) in effect on December 19, 2002, where major modification means 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.

Significant is defined under Part 51.165(x) as a net emissions increase in the potential of a source to emit any affected pollutant equal to or exceeding any applicable thresholds. For existing major sources in the San Joaquin Valley Air Basin, which is non-attainment for Ozone and PM₁₀, a major modification occurs if the Net Emissions Increases (NEI) is equal to or greater than one or more of the following threshold values when calculated on actual to PE basis:

VOC – 50,000 lb/year;
NO_x – 50,000 lb/year;
PM₁₀ – 30,000 lb/year; and
SO_x – 80,000 lb/year.

This project is considered to be part of Aera's Rule 4320 compliance project which was determined to result in a significant net emissions increase in previous Rule 4320 projects; consequently, this project is a major modification and public notice is required.

8. Federal Major Modification

District Rule 2201, Section 3.17 states that major modifications are also federal major modifications, unless they qualify for either a "Less-Than-Significant Emissions Increase" exclusion or a "Plantwide Applicability Limit" (PAL) exclusion.

A Less-Than-Significant Emissions Increase exclusion is for an emissions increase for the project, or a Net Emissions Increase for the project (as defined in 40 CFR 51.165 (a)(2)(ii)(B) through (D), and (F)), that is not significant for a given regulated NSR pollutant, and therefore is not a federal major modification for that pollutant.

- To determine the post-project projected actual emissions from existing units, the provisions of 40 CFR 51.165 (a)(1)(xxviii) shall be used.
- To determine the pre-project baseline actual emissions, the provisions of 40 CFR 51.165 (a)(1)(xxxv)(A) through (D) shall be used.
- If the project is determined not to be a federal major modification pursuant to the provisions of 40 CFR 51.165 (a)(2)(ii)(B), but there is a reasonable possibility that the project may result in a significant emissions increase, the owner or operator shall comply with all of the provisions of 40 CFR 51.165 (a)(6) and (a)(7).

- Emissions increases calculated pursuant to this section are significant if they exceed the significance thresholds specified in the table below.

Significant Threshold (lb/year)	
Pollutant	Threshold (lb/year)
VOC	50,000
NO _x	50,000
PM ₁₀	30,000
SO _x	80,000
PM _{2.5} *	20,000

* Although not specified in Rule 2201, this threshold applies under 51.165 per changes to Part 51 published in the Federal Register on May 16, 2008.

The Net Emissions Increases (NEI) will be calculated below to determine if this project has significant emission increases.

BAE = Baseline Actual Emissions. The actual emissions created by the project during the baseline period.

PAE = Projected Actual Emissions. The post-project projected emissions of the units in this project.

BPE = Baseline Potential Emissions. The portion of the unit's emissions following the project that an existing unit *could have accommodated* during the baseline period (as defined in 40 CFR 51.165 (a)(1)(xxviii)(B)-3), excluding any emissions unrelated to this particular project, including any increased utilization due to product demand growth.

$$\begin{aligned} \text{NEI} &= [\text{PAE} - (\text{BPE} - \text{BAE})] - \text{BAE} \\ &= \text{PAE} - \text{BPE} + \text{BAE} - \text{BAE} \\ &= \text{PAE} - \text{BPE} \end{aligned}$$

The subject modifications are solely for compliance with the emissions reduction requirements of District Rule 4320. No changes to the design capacity, fuel type and fuel usage rate are proposed and no increase in utilization is expected. Therefore, the projected actual emissions (PAE) cannot exceed the baseline actual emissions (BPE) and no significant emissions increases are expected.

$$\text{PAE} \leq \text{BPE}$$

And

$$\text{NEI} = \text{PAE} - \text{BPE} \leq 0$$

Since the BPE is equal to or greater than the PAE, the NEI for this project will be less than or equal to zero. Therefore, this project cannot exceed any Federal Major Modification threshold and no further discussion is necessary.

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. Detailed QNEC calculations are included in Appendix A.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis 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.

2. BACT Exemption

This project constitute a Major Modification; therefore, BACT is triggered for all emissions units associated with this project. However, the proposed modifications subject to the requirements of Rule 2201 are solely for compliance with Rule 4320, and are exempt from BACT, per Rule 2201 4.2.3, if the following criteria are satisfied.

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

There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself.

- There is no increase in the physical or operational design of the existing facility.

There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit.

- There is no increase in the permitted rating or permitted operating schedule of the permitted units.

There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of SJVUAPCD 2201 - 14 12/15/05 Significant Deterioration increment, or Air Quality Related Value in Class I areas; and

- There is no increase in emissions from the stationary source.

The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO_x, or 25 tons per year of VOC, or 15 tons per year of SO_x, or 15 tons per year of PM-10, or 50 tons per year of CO.

- There is no increase in permitted emissions for this project.

The project shall not constitute a Federal Major Modification.

- As shown in section VII.C.8, above, this project does not constitute a Federal Major Modification.

The facility is existing and the proposed modification will be performed solely for the purpose of compliance with the requirements of District Rule 4320. Therefore, the modifications proposed in this project are exempt from Best Available Control Technology for all air pollutants.

B. Offsets

1. Offset Applicability

The proposed modifications are solely for compliance with Rule 4320, and are exempt from offsets if the following criteria are satisfied. Rule 2201, Section 4.6.8 provides the following exemption from offsets.

Emission offsets shall not be required for the following:

- 4.6.8 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the

- 4.6.8 For existing facilities, the installation or modification of an emission control technique performed solely for the purpose of compliance with the requirements of District, State or Federal air pollution control laws, regulations, or orders, as approved by the APCO, shall be exempt from offset requirements for all air pollutants provided all of the following conditions are met:
- 4.6.8.1 There shall be no increase in the physical or operational design of the existing facility, except for those changes to the design needed for the installation or modification of the emission control technique itself;
 - 4.6.8.2 There shall be no increase in the permitted rating or permitted operating schedule of the permitted unit;
 - 4.6.8.3 There shall be no increase in emissions from the stationary source that will cause or contribute to any violation of a National Ambient Air Quality Standard, Prevention of Significant Deterioration increment, or Air Quality Related Value in Class I areas; and
 - 4.6.8.4 The project shall not result in an increase in permitted emissions or potential to emit of more than 25 tons per year of NO_x, or 25 tons per year of VOC, or 15 tons per year of SO_x, or 15 tons per year of PM-10, or 50 tons per year of CO.

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

C. Public Notification

1. Applicability

Public noticing is required for:

- a. 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 constitutes a 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 units associated with this project; therefore public noticing is not required for this project for Potential to Emit Purposes.

d. Offset Threshold

Public notification is required if the Pre-Project Stationary Source Potential to Emit (SSPE1) is increased from a level below the offset threshold to a level exceeding the emissions offset threshold, for any pollutant.

There is no increase in permitted emissions as a result of this project. Therefore, the SSPE is not increasing with this project and an offset threshold cannot be surpassed as a result of this project. A public notice will not be required for offset threshold purposes.

e. SSIPE > 20,000 lb/year

An SSIPE exceeding 20,000 pounds per year for any one pollutant triggers public notice, where $SSIPE = SSPE2 - SSPE1$.

There is no increase in permitted emissions as a result of this project. As a result, SSPE is not increasing with this project. Therefore, the SSIPE is zero for all pollutants and public notice will not be required for SSIPE purposes.

2. Public Notice Action

As discussed above, public notice will be required for this project.

D. Ambient Air Quality Analysis

Section 4.14 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.

Since this project does not increase criteria pollutant emissions, and since District modeling is performed on maximum potential to emit (rather than potential actual use), the proposed modification to reduce NO_x emissions can not cause a violation of an air quality standards. This project is not expected to cause or make worse a violation of an air quality standard.

E. 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.

The DELs for the unit are a combination of permitted emission factors and equipment rating or fuel use (BTU or scf per day). The the NOx lb/day is specified in terms of lb/day and reflects emissions during startup, shutdown, and refractory curing. The following conditions will be listed on the ATC:

Proposed Rule 2201 (DEL) Conditions:

- Emission rates, except during startup, shutdown, and refractory curing from the combustion of natural gas, shall not exceed any of the following: PM10: 0.005 lb/MMBTU or SOx (as SO2): 0.002 lb/MMBTu. [District Rules 2201, 2520, 4201, 4301, 4406, 4801 and Kern County Rules 424] Y
- Emission rates, except during startup, shutdown, and refractory curing shall not exceed any of the following: VOC: 0.003 lb/MMBTu, NOx (as NO2): 0.0146 lb/MMBTu or 20 ppmv @ 3% O2, or CO: 0.030 lb/MMBTu or 40 ppmv @ 3% O2. [District Rules 2201, 2520, 4301, 4305, 4306, 4405 and Kern County Rule 425] Y
- Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO2; sulfur - 200 pounds of SO2 per hour, or 2000 ppmv as SO2, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO2 - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406, 4801 and Kern County Rules 424 and 425] Y
- Emission rates shall not exceed any of the following: VOC: 4.3 lb/day, NOx (as NO2): 49.0 lb/day or 7994 lb/year, or CO: 43.2 lb/day [District Rule 2201] Y

E. Compliance Assurance

1. Source Testing

The unit 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 requirements will be discussed in the compliance review section of this evaluation.

2. Monitoring

As required by District Rules 4305, 4306 and 4320, the units are subject to monitoring requirements. Monitoring requirements, in accordance with District Rules will be discussed in the compliance review section of this evaluation.

3. Recordkeeping

As required by District Rules 4305, 4306 and 4320, the units are subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules will be discussed in the compliance review of this evaluation.

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

- {2983} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320]

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit 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/minor modification, prior to operating with the proposed modifications. Continued compliance with

this rule is expected. The facility may construct/operate under the ATC upon submittal of the the Title V administrative amendment/minor modification application.

District Rule 4001 New Source Performance Standards

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

40 CFR Part 60, Subpart A, section 14, defines the meaning of modification to which the the standards are applicable. §60.14, paragraph (e)(5) states that the following will not be considered as a modification: *"the addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or replaced by a system which the Administrator determines to be less environmentally beneficial"*.

No newly constructed or reconstructed units are proposed in this project, nor is the unit being modified (as defined above). Since the permittee is retrofitting the unit with an equivalent sized burner for compliance with District rules and regulations, the requirements of these sections do not apply to the unit.

Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringlemann 1 or equivalent to 20% opacity. The equipment in this project is expected to continue to comply with the opacity limit of this rule.

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.

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

District 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. As natural gas-fired combustion equipment emits negligible amounts of particulate matter, compliance with this rule is expected.

District 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 existing emission rates for the affected combustion equipment are less than the limits allowed by this rule and are unchanged with this application except for NO_x. However, NO_x emissions are decreasing; therefore continued compliance is expected.

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

This rule limits NO_x and CO emissions from boilers, steam generators, and process heaters rated greater than 5 MMBtu/hr. The subject units are currently in compliance with the applicable provisions of this rule. Source testing, monitoring and recordkeeping requirements of Rule 4320 are equal to or more stringent than the requirements of this rule; therefore, continued compliance is expected

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

This rule limits NO_x and CO emissions from boilers, steam generators, and process heaters rated greater than 5 MMBtu/hr. The subject units are currently in compliance with the applicable provisions of this rule, continued compliance is expected

District Rule 4320 Advance Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr

This rule limits NO_x, 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 NO_x emitted over the previous year.

The unit in this project is rated at greater than 5 MMBtu/hr heat input. The unit was previously issued ATCs for compliance with the unit's Table 1 NO_x options and has applied for ATCs for compliance with the PM₁₀ requirements. Presently, the permittee has not decided which compliance option to utilize. Compliance is expected.

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

This rule applies to boilers, steam generators, and process heaters at NO_x Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. The unit in this project is located west of I-5; therefore, the provisions of this rule do not apply.

District Rule 4405 Oxides of Nitrogen Emissions from Existing Steam Generators Used in Thermally Enhanced Oil Recovery – Central and Western Kern County Fields

This rule limits NOx emissions from existing steam generators used in thermally enhanced oil recovery operations prior to August 22, 1986. The steam generator in this project is subject to a NOx limit well below the 0.14 lb/MMBTU limit allowed by this rule for natural gas-fired units. Therefore, continued compliance is expected.

Rule 4406 Sulfur Compounds from Oil-Field Steam Generators – Kern County

This rule limits SOx emissions from existing steam generators used in oil field operations prior to September 12, 1979. Sulfur compound emissions (as S) from the steam generator in this project is limited to an average rate below the 0.11 lb/MMBTU limit for sulfur (as S) allowed by the rule. Continued compliance is expected.

District Rule 4801 Sulfur Compounds

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

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

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

With:

N = moles SO₂

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

P (Standard Pressure) = 14.7 psi

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

$$\frac{0.002 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1.4 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 1.4 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

Pursuant to California Health and Safety Code 42301.6, since this project will not result in an increase in emissions, a school notice is not required.

California Environmental Quality Act (CEQA)

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 Significance Determination

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

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authority to Construct S-1547-778-20 subject to the permit conditions on the attached draft Authority to Construct in Appendix C.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1547-778-20	3020-02-H	62.5 MMBtu/hr	\$1030

APPENDIX A Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

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

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

$$\begin{aligned} \text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 7994 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 1999 \text{ lb NOx/qtr} \end{aligned}$$

$$\begin{aligned} \text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 9855 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 2464 \text{ lb NOx/qtr} \end{aligned}$$

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	1999	2464	-465
SO _x	274	274	0
PM ₁₀	685	685	0
CO	4106	4106	0
VOC	411	411	0

Permit #: S-1547-778-20 Last Updated
Facility: AERA ENERGY LLC 02/15/2010 TORID

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	1999.0	1095.0	2738.0	16425.0	1644.0
Daily Emis. Limit (lb/Day)	49.0	3.0	7.5	45.0	4.5
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	-465.0	0.0	0.0	0.0	0.0
Q2:	-465.0	0.0	0.0	0.0	0.0
Q3:	-465.0	0.0	0.0	0.0	0.0
Q4:	-465.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

APPENDIX B
PTO S-1547-778-10

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1547-778-10

EXPIRATION DATE: 05/31/2007

SECTION: NW35 TOWNSHIP: 12N RANGE: 24W

EQUIPMENT DESCRIPTION:

62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR WITH A COEN MODEL QLN-ULN LOW NOX BURNER, FLUE GAS RECIRCULATION AND PIPING FROM TEOR WELL VENT VAPOR RECOVERY SYSTEM S-1547-819, MOCO (#506) (SOUTH MIDWAY)

PERMIT UNIT REQUIREMENTS

1. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
2. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
3. The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
4. Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or EPA Method 6B; or EPA Method 8; or ARB Methods 8 or 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculate emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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

7. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 4468, D 4084, D3246 or grab sample analysis by double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2; 4305, 6.2.1, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
8. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
9. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), 110 (Madera) 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
10. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), 4301 (Amended December 17, 1992), 4406 (Amended December 17, 1992, and Rule 4801 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
11. Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
12. This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
13. Steam generator shall be equipped with operational fuel gas and vapor recovery gas volumetric flow meters . [District NSR Rule] Federally Enforceable Through Title V Permit
14. Only natural gas or a combination of natural gas and TEOR well vent vapors from well vent vapor control system S-1547-819 shall be used as fuel in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Maximum heat input to steam generator shall not exceed 1,440 MMBTU/day. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Sulfur compound emissions (as SO₂) and PM₁₀ emissions from the combustion of well vent vapors from S-1547-819 in this steam generator and all other devices authorized to combust such vapors shall not exceed the limits established on S-1547-819. [District Rules 2201, 4201, 3.1 and 4301, 5.1, 5.2.1 and 5.2.3] Federally Enforceable Through Title V Permit
17. Permittee shall maintain daily records of quantity and higher heating value of natural gas and vapor recovery gas burned in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Emission rates, except during startup, shutdown, and refractory curing from the combustion of natural gas, shall not exceed any of the following: PM₁₀: 0.005 lb/MMBTU or SO_x (as SO₂): 0.002 lb/MMBTu. [District Rules 2201, 2520, 4201, 4301, 4406, 4801 and Kern County Rules 424] Federally Enforceable Through Title V Permit
19. Emission rates, except during startup, shutdown, and refractory curing shall not exceed any of the following: VOC: 0.003 lb/MMBTu, NO_x (as NO₂): 0.018 lb/MMBTu or 15 ppmv @ 3% O₂, or CO: 0.030 lb/MMBTu or 40 ppmv @ 3% O₂. [District Rules 2201, 2520, 4301, 4305, 4306, 4405 and Kern County Rule 425] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

20. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406, 4801 and Kern County Rules 424 and 425] Federally Enforceable Through Title V Permit
21. Emission rates shall not exceed any of the following: VOC: 4.3 lb/day, NO_x (as NO₂): 49.0 lb/day or 9461 lb/year, or CO: 43.2 lb/day [District Rule 2201] Federally Enforceable Through Title V Permit
22. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 30 ppmvd @ 3% O₂ or 0.036 lb/MMBtu. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
23. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4305 and 4306] Federally Enforceable Through Title V Permit
24. Duration of refractory curing shall not exceed 30 hours each per occurrence. Permittee shall notify the District in writing prior to refractory curing. [District Rule 2080] Federally Enforceable Through Title V Permit
25. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
26. If FGR system on unit is used intermittently, monitoring shall consist of use of a portable analyzer. If FGR system on unit is continuously used, monitoring shall consist of either use of a portable analyzer or monitoring of FGR rate based on parameters established during initial compliance source testing. If FGR system on unit is not used, monitoring shall consist of either use of a portable analyzer or monitoring of stack O₂ and burner mechanical adjustments. The alternate monitoring scheme selected for this unit shall be established prior to implementation of this Authority to Construct. [District Rule 4306] Federally Enforceable Through Title V Permit
27. If periodic monitoring of NO_x, CO, and O₂ concentrations is utilized, 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 emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
28. If periodic monitoring of NO_x, CO, and O₂ concentrations is utilized and the NO_x 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 and 4306] Federally Enforceable Through Title V Permit
29. If periodic monitoring of NO_x, CO, and O₂ concentrations is utilized, all alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

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

30. If periodic monitoring of NOx, CO, and O2 concentrations is utilized, the permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. If periodic determination of FGR rate by O2 measurement is utilized, the flue gas recirculation rate shall be determined at least on a weekly basis by measuring the stack O2% by volume (Os), and windbox O2% by volume (Ow) using the following equation: $FGR \text{ rate} = \frac{\{Ow - 20.9\}}{\{Os - 20.9\}} \times 100\%$. 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 week. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
32. If periodic determination of FGR rate by O2 measurement is utilized, the minimum flue gas recirculation rate shall be established by source testing this unit or other representative units per Rule 4305 and as approved by the District. The normal range/level shall be no lower than the minimum flue gas recirculation rate with which compliance with applicable NOx and CO emission limits has been demonstrated through source testing at a similar firing rate. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. If periodic determination of FGR rate by O2 measurement is utilized, and the flue gas recirculation rate is less than the normal range/level, the permittee shall return the flue gas recirculation rate to the normal range/level as soon as possible, but no longer than 1 hour of operation after detection. If the flue gas recirculation rate is not returned to the normal range/level within 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a source test within 60 days of the first exceedance, to demonstrate compliance with the applicable emission limits at the new flue gas recirculation rate. A District-approved portable analyzer may be used in lieu of a source test to demonstrate compliance. 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 and 4306] Federally Enforceable Through Title V Permit
34. If periodic determination of FGR rate by O2 measurement is utilized, the permittee shall maintain records of the date and time of oxygen concentration measurements, the measured oxygen concentrations, the calculated flue gas recirculation rate, and the firing rate at the time of the oxygen concentration measurements. The records shall also include a description of any corrective action taken to maintain the flue gas recirculation rate within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
35. If monitoring of burner mechanical adjustments and O2 concentration is utilized, the stack O2 concentration measurement and inspection of [list mechanical adjustments/settings] shall be conducted at least on a weekly basis. 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 week. Records must be maintained of the dates of non-operation to validate extended monitoring frequencies. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
36. If monitoring of burner mechanical adjustments and O2 concentration is utilized, the normal range/level of stack O2 concentration and visible mechanical burner settings shall be established by source testing this unit or other representative units per Rule 4305 and as approved by the District. The normal range/level shall be that for which compliance with applicable NOx and CO emission limits has been demonstrated through source testing at a similar firing rate. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
37. If monitoring of burner mechanical adjustments and O2 concentration is utilized, normal range or level for the stack O2 concentration and burner mechanical settings shall be re-established during each source test required by this permit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

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

38. If monitoring of burner mechanical adjustments and O2 concentration is utilized, and either the stack O2 concentration or visible mechanical burner settings are less than the normal range/level, the permittee shall return the stack O2 concentration and visible mechanical burner settings to the normal range/level as soon as possible, but no longer than 1 hour of operation after detection. If the stack O2 concentration and visible mechanical burner settings are not returned to the normal range/level within 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour, and conduct a source test within 60 days of the first exceedance, to demonstrate compliance with the applicable emission limits at the new stack O2 concentration and visible mechanical burner settings. A District-approved portable analyzer may be used in lieu of a source test to demonstrate compliance. 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 and 4306] Federally Enforceable Through Title V Permit
39. If monitoring of burner mechanical adjustments and O2 concentration is utilized, the permittee shall maintain records of the date and time of O2 measurements and burner adjustments, the measured O2 concentrations (% by volume) and firing rate at the time of O2 measurement, and the observed setting(s) for the burner. The records must also include a description of any corrective action taken to maintain the O2 concentration and the burner mechanical settings within the acceptable range. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
40. If periodic determination of FGR rate by O2 measurement or monitoring of burner mechanical adjustments and O2 concentration is utilized, during the 36-month source testing interval, the owner/operator shall have unit tuned at least twice each calendar year, from four to eight months apart, in which it operates, by a technician that is qualified, to the satisfaction of the APCO, in accordance with the procedure described in Rule 4304 (Equipment Tuning Procedure for Boilers, Steam Generators, and Process Heaters). Semi-annual tuning is not required if emissions are monitored monthly with a portable analyzer. [District Rule 4306] Federally Enforceable Through Title V Permit
41. If periodic determination of FGR rate by O2 measurement or monitoring of burner mechanical adjustments and O2 concentration is utilized, and the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year; this unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown. [District Rule 4306] Federally Enforceable Through Title V Permit
42. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
43. Whenever the unit is switched to operate with the flue gas recirculation (FGR) system in the closed position, compliance source testing for NOx and CO shall be conducted within 60 days of cessation of FGR operation date unless source testing with FGR system in the closed position has occurred within the previous 12 months. [District Rule 1070] Federally Enforceable Through Title V Permit
44. 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 4305 and 4306] Federally Enforceable Through Title V Permit
45. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
46. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit

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

47. 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. 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
48. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - ASTM D1072, D4468, D3246, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rule 1081, and 4305, 6.2] Federally Enforceable Through Title V Permit
49. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
50. 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, and 4306] Federally Enforceable Through Title V Permit
51. Formerly S-1511-135

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

APPENDIX C
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1547-778-20

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: NW35 TOWNSHIP: 12N RANGE: 24W

EQUIPMENT DESCRIPTION:

MODIFICATION OF 62.5 MMBTU/HR NATURAL GAS/VAPOR RECOVERY GAS FIRED STEAM GENERATOR WITH A COEN MODEL QLN-UJLN LOW NOX BURNER, FLUE GAS RECIRCULATION AND PIPING FROM TEOR WELL VENT VAPOR RECOVERY SYSTEM S-1547-819, MOCO (#506) (SOUTH MIDWAY); AUTHORIZE RETROFIT/OPERATION WITH A GIDEON MODEL MGW-63V2 LOW NOX BURNER PREVIOUSLY INSTALLED UNDER RULE 2021 AND LOWER NOX LIMIT TO 12 PPMV AT 3% O2

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] 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. All required source testing shall conform to the compliance testing procedures described in District Rule 1081 (Last Amended December 16, 1993). [District Rule 1081, and County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), and 110 (Madera)] Federally Enforceable Through Title V Permit
4. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] 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

DAVID WARNER, Director of Permit Services

S-1547-778-20 : Mar 23 2010 1:15PM - TORID : Joint Inspection NOT Required

5. {520} The operator shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rule 2520, 9.5.2] Federally Enforceable Through Title V Permit
6. {530} Sulfur emissions shall not exceed 0.11 lb of sulfur per million BTU of heat input, averaged over 3 - one hour periods. Compliance with this requirement may be demonstrated by firing the unit only on PUC or FERC regulated natural gas; multiplying the reported sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit; or by a combination of source testing for sulfur compounds and fuel analysis. Compliance may be demonstrated for this unit individually, or by showing that the total emissions of sulfur compounds from all steam generators located at the stationary source with ATC or PTO issued prior to September 12, 1979 does not exceed the emissions that would result if each unit was operating in compliance with the specified limit. [Kern County Rule 424 and District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. {557} When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
8. When complying with SO_x emission limits by testing of stack emissions, testing shall be performed not less than once every 12 months using EPA Method 6; or EPA Method 6B; or EPA Method 8; or ARB Methods 8 or 100; or, for units using gaseous fuel scrubbed for sulfur pre-combustion, a grab sample analysis by double GC for H₂S and mercaptans performed in the laboratory and EPA Method 19 to calculate emissions. Gaseous fuel fired units demonstrating compliance on two consecutive annual source tests shall be tested not less than once every thirty-six months; however, annual source testing shall resume if any test fails to show compliance. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
9. If the unit is fired on noncertified gaseous fuel and compliance with SO_x emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 4468, D 4084, D3246 or grab sample analysis by double GC for H₂S and mercaptans performed in the laboratory. [District Rule 2520, 9.4.2; 4305, 6.2.1, and 4351, 6.2.1] Federally Enforceable Through Title V Permit
10. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 2520, 9.4.2; 4305, 6.2.1; and 4351, 6.2.1] Federally Enforceable Through Title V Permit
11. {563} Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of County Rules 108 (Kings), 108.1 (Fresno, Merced, San Joaquin, Tulare, Kern, and Stanislaus), 110 (Madera) 402 (Madera), 404 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 405 (Madera), 408 (Fresno, Kern, Tulare, Kings, Stanislaus, Merced, and San Joaquin), 407.2 (Kern, Tulare, Kings, Stanislaus, and San Joaquin), and 408.2 (Merced). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
12. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements of SJVUAPCD Rules 4201 (Amended December 17, 1992), 4301 (Amended December 17, 1992), 4406 (Amended December 17, 1992, and Rule 4801 (Amended December 17, 1992). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
13. {565} Compliance with permit conditions in the Title V permit shall be deemed compliance with the requirements of 40 CFR 60, Subpart Dc (except 60.44c(g) and (h) and 60.48c). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
14. {1682} This unit has not been used to produce electricity for sale in 1985 or on or after November 15, 1990. Therefore, the requirements of 40 CFR 72.6(b) do not apply to this source. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
15. Steam generator shall be equipped with operational fuel gas and vapor recovery gas volumetric flow meters. [District NSR Rule] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

16. Only natural gas or a combination of natural gas and TEOR well vent vapors from well vent vapor control system S-1547-819 shall be used as fuel in this steam generator. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Maximum heat input to steam generator shall not exceed 1,440 MMBTU/day. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Sulfur compound emissions (as SO₂) and PM₁₀ emissions from the combustion of well vent vapors from S-1547-819 in this steam generator and all other devices authorized to combust such vapors shall not exceed the limits established on S-1547-819. [District Rules 2201, 4201, 3.1 and 4301, 5.1, 5.2.1 and 5.2.3] Federally Enforceable Through Title V Permit
19. Permittee shall maintain daily records of quantity and higher heating value of natural gas and vapor recovery gas burned in this steam generator. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Emission rates, except during startup, shutdown, and refractory curing from the combustion of natural gas, shall not exceed any of the following: PM₁₀: 0.005 lb/MMBTU or SO_x (as SO₂): 0.002 lb/MMBTU. [District Rules 2201, 2520, 4201, 4301, 4406, 4801 and Kern County Rules 424] Federally Enforceable Through Title V Permit
21. Emission rates, except during startup, shutdown, and refractory curing shall not exceed any of the following: VOC: 0.003 lb/MMBTU, NO_x (as NO₂): 0.0146 lb/MMBTU or 12 ppmv @ 3% O₂, or CO: 0.030 lb/MMBTU or 40 ppmv @ 3% O₂. [District Rules 2201, 2520, 4301, 4305, 4306, 4405 and Kern County Rule 425] Federally Enforceable Through Title V Permit
22. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBTU on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBTU. [District Rules 4101, 4102, 4301, 4405, 4406, 4801 and Kern County Rules 424 and 425] Federally Enforceable Through Title V Permit
23. Emission rates shall not exceed any of the following: VOC: 4.3 lb/day, NO_x (as NO₂): 49.0 lb/day or 7994 lb/year, or CO: 43.2 lb/day [District Rule 2201] Federally Enforceable Through Title V Permit
24. During a "shakedown" period not to exceed 60 calendar days from initial operation of the modifications authorized by this ATC, NO_x emission rate shall not exceed 30 ppmvd @ 3% O₂ or 0.036 lb/MMBTU. The shakedown period shall be concluded prior to the applicable Rule 4306 compliance deadline selected for this unit. Permittee shall maintain a record of the date of initial operation and shall make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
25. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rule 4305 and 4306] Federally Enforceable Through Title V Permit
26. Duration of refractory curing shall not exceed 30 hours each per occurrence. Permittee shall notify the District in writing prior to refractory curing. [District Rule 2080] Federally Enforceable Through Title V Permit
27. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4306] Federally Enforceable Through Title V Permit
28. 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 emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

29. If either the NO_x or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
30. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of: (1) the date and time of NO_x, CO, and O₂ measurements, (2) the O₂ concentration in percent 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 and 4306] Federally Enforceable Through Title V Permit
32. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
33. Whenever the unit is switched to operate with the flue gas recirculation (FGR) system in the closed position, compliance source testing for NO_x and CO shall be conducted within 60 days of cessation of FGR operation date unless source testing with FGR system in the closed position has occurred within the previous 12 months. [District Rule 1070] Federally Enforceable Through Title V Permit
34. Source testing to measure natural gas-combustion NO_x 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 4305 and 4306] Federally Enforceable Through Title V Permit
35. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
36. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305 and 4306] Federally Enforceable Through Title V Permit
37. 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. 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
38. 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 10B or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas hhv - ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rule 1081, and 4305, 6.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

39. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305 and 4306] Federally Enforceable Through Title V Permit
40. 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, and 4306] Federally Enforceable Through Title V Permit
41. Formerly S-1511-135

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