



OCT 23 2012

Shams Hasan
E&B Natural Resources Mgmt Corp
2701 Patton Way
Bakersfield, CA 93308

**Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1123364**

Dear Mr. Hasan:

Enclosed for your review and comment is the District's analysis of E&B Natural Resources Mgmt Corp's application for an Authority to Construct for an increase in CO limit of a 27 MMBtu/hr steam generator, at various unspecified locations within E&B' heavy oil production stationary source in the western Kern County fields.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project 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 regarding this matter, please contact Mr. Richard Edgehill of Permit Services at (661 392-5617).

Sincerely,

David Warner
Director of Permit Services

DW: RUE/cm

Enclosures



OCT 23 2012

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Authority to Construct
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Sincerely,



David Warner
Director of Permit Services

DW: RUE/cm

Enclosure

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

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to E&B Natural Resources Mgmt Corp for an increase in CO limit of a 27 MMBtu/hr steam generator, at various unspecified locations within E&B' heavy oil production stationary source in the western Kern County fields.

The analysis of the regulatory basis for this proposed action, Project #S-1123364, 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 this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Increase CO Limit for 27 MMBtu/hr steam generator

Facility Name: E&B Natural Resources Mgmt Corp Date: October 17, 2012
Mailing Address: 2701 Patton Way Engineer: Richard Edgehill
Bakersfield, CA 93308 Lead Engineer: Steve Leonard
Contact Person: Shams Hasan and Scott Faulkenburg (EnviroTech Consultants)
Telephone: (661) 377-0073 #15 (SF) (661) 345-8263 (SF, cell)
Fax: (661) 616-6179
E-Mail: sfaulkenburg@ix.netcom.com
Application #(s): S-1807-36-7
Project #: 1123364
Deemed Complete: August 29, 2012

I. Proposal

E&B Natural Resources Mgmt Corp (E&B) received an Authority to Construct (ATC S-1807-36-5) to install a low NOx burner on an existing 27 MMBtu/hr steam generator and lower the NOx emission limit from 15 ppmv @ 3% O₂ to 7 ppmv @ 3% O₂ for Rule 4320 compliance. The burner was replaced but applicant is not confident that the NOx limit of 7 ppmv NOx @ 3% O₂ can be met without exceeding the CO limit, 47 ppmv @ 3% O₂. Therefore, E&B has requested that the CO limit be increased to 400 ppmv @ 3% O₂. Unit S-1807-36 is currently dormant as authorized by ATC S-1807-36-6.

Additionally, applicant has stated (8-30-12 email) that the startup and shutdown DEL, based on 15 ppmv NOx @ 3% O₂ and included in the ATC S-1807-36-5 condition listed below, is not required.

Emission rates shall not exceed any of the following: NOx (as NO₂): 11.7 lb/day and 2010 lb/yr. [District Rule 2201] N

Therefore, the DEL for NOx on the proposed ATC is based on 7 ppmv @ 3% O₂.

Disposition of Outstanding ATCs

As the low NOx burner has already been installed under previously issued ATC S-1807-36-5, this application will be a modification of an existing unit. ATC S-1807-36-5 will be implemented concurrently with the proposed ATC and serves as the base document.

The ATC and current PTO S-1807-36-6 are included in **Attachment I**.

The facility is a major source for NOx and VOCs and is a Rule 2530 source.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
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 4304	Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters (10/19/95)
Rule 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)	
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines	

III. Project Location

The steam generator is authorized to operate at various unspecified locations in E&B's heavy oil western stationary source. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

E&B operates equipment for the production of crude oil and natural gas. In thermally enhanced oil recovery (TEOR), natural gas is combusted in steam generators to produce steam for injection into heavy crude oil bearing strata via injection wells to reduce the viscosity of the crude oil, thereby facilitating thermally enhanced oil production.

Upon reactivation, unit S-1807-36 will be used to produce steam for thermally enhanced oil recovery (TEOR) wells. E&B has requested to increase the CO emissions limit from 47 ppmv CO @ 3% O₂ to 400 ppmv CO @ 3% O₂.

V. Equipment Listing

Pre-Project Equipment Description:

ATC S-1807-36-5: MODIFICATION OF 27.0 MMBTU/HR STRUTHERS NATURAL GAS/FIELD GAS/TEOR GAS/PROPANE-FIRED STEAM GENERATOR WITH NORTH AMERICAN BURNER, PCL DIFFUSER PLATE, OXYGEN CONTROLLER, AND FGR - (DIS #21049-66) - APPROVED TO OPERATE AT VARIOUS LOCATIONS WITHIN E&B NATURAL RESOURCES

MANAGEMENT CORPORATION'S HEAVY OIL WESTERN STATIONARY
SOURCE: TUNE OR REPLACE BURNER WITH A GIDEON ULTRA
LOW-NOX BURNER (OR EQUIVALENT)

Proposed Modification:

ATC S-1807-36-7: MODIFICATION OF 27.0 MMBTU/HR STRUTHERS NATURAL GAS/FIELD GAS/TEOR GAS/PROPANE-FIRED STEAM GENERATOR WITH GIDEON MODEL MGW-31R ULTRA LOW NOX BURNER, PCL DIFFUSER PLATE, OXYGEN CONTROLLER, AND FGR - (DIS #21049-66) - APPROVED TO OPERATE AT VARIOUS LOCATIONS WITHIN E&B NATURAL RESOURCES MANAGEMENT CORPORATION'S HEAVY OIL WESTERN STATIONARY SOURCE: INCREASE CO EMISSIONS TO 400 PPMV@ 3% O₂

Post Project Equipment Description:

PTO S-1807-36-7: 27.0 MMBTU/HR STRUTHERS NATURAL GAS/FIELD GAS/TEOR GAS/PROPANE-FIRED STEAM GENERATOR WITH GIDEON MODEL MGW-31R ULTRA LOW NOX BURNER, PCL DIFFUSER PLATE, OXYGEN CONTROLLER, AND FGR - (DIS #21049-66) - APPROVED TO OPERATE AT VARIOUS LOCATIONS WITHIN E&B NATURAL RESOURCES MANAGEMENT CORPORATION'S HEAVY OIL WESTERN STATIONARY SOURCE

VI. Emission Control Technology Evaluation

No changes to the existing NO_x control equipment are proposed.

VII. General Calculations

A. Assumptions

- The unit is fired on PUC-regulated natural gas, LPG or TEOR gas (per applicant).
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- F-Factor for Natural Gas and TEOR gas: 8,710 dscf/MMBtu at 68°F (40 CFR 60)
- TEOR gas has composition and properties very close to natural gas; therefore, the heating value and F-Factor for TEOR gas and natural gas can reasonably be assumed to be the same.
- Propane (LPG) Heating Value: 91.5 MMBtu/103 gallons (AP-42 Section 1.5)
- F-Factor for Propane (LPG): 8,710 dscf/MMBtu at 68°F (40 CFR 60)
- The CO₂-based F-Factor for natural gas: 1,024.2 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix A, Method 19)

B. Emission Factors

Steam Generator S-1807-36			
Pollutant	Emission Factors		Source
NO _x	0.0085 lb-NO _x /MMBtu	7 ppmvd NO _x (@ 3%O ₂)	ATC S-1807-36-5
SO _x	0.0164 lb-SO _x /MMBtu		*
PM ₁₀	0.0076 lb-PM ₁₀ /MMBtu	7.6 lb/10 ⁶ scf	ATC S-1807-36-5
CO	0.035 lb-CO/MMBtu	47 ppmv CO (@ 3%O ₂)	ATC S-1807-36-5
	0.296 lb-CO/MMBtu	400 ppmv CO (@ 3%O ₂)	Proposed
VOC	0.0055 lb-VOC/MMBtu	5.5 lb/10 ⁶ scf	ATC S-1807-36-5

*Based on a heating value of 91,500 Btu/gal for propane (AP-42, Section 1.5, 10/96).

SO_x = 0.1(S), where S = sulfur content in gr/100 scf = 0.1 (15) = 1.5 lb/1000 gal => (1.5 lb/1000 gal ÷ 0.0915 MMBtu/gal) = 0.0164 lb/MMBtu where, maximum sulfur content of LPG is 15 gr/100 scf (CRC Handbook of Tables for Applied Engineering Science, 2nd Edition, page 390).

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

ATC S-1807-36-5

Pollutant	Daily PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE1 (lb/day)
NO _x	0.009	27	24	5.5
SO _x	0.01640	27	24	10.6
PM ₁₀	0.0076	27	24	4.9
CO	0.035	27	24	22.7
VOC	0.0055	27	24	3.6

Pollutant	Annual PE1			
	EF1 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE1 (lb/year)
NO _x	0.009	27	8,760	2,010
SO _x	0.01640	27	8,760	3,879
PM ₁₀	0.0076	27	8,760	1,798
CO	0.035	27	8,760	8,278
VOC	0.0055	27	8,760	1,301

2. Post Project Potential to Emit (PE2)

Pollutant	Daily PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/day)	Daily PE2 (lb/day)
NO _x	0.009	27	24	5.5
SO _x	0.01640	27	24	10.6
PM ₁₀	0.0076	27	24	4.9
CO	0.296	27	24	191.8
VOC	0.0055	27	24	3.6

Pollutant	Annual PE2			
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)
NO _x	0.009	27	8,760	2,010
SO _x	0.01640	27	8,760	3,879
PM ₁₀	0.0076	27	8,760	1,798
CO	0.296	27	8,760	70,010
VOC	0.0055	27	8,760	1,301

The emissions profiles are included in **Attachment II**.

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

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site. The facility has no ERCs.

Pre Project Stationary Source Potential to Emit [SSPE1] (lb/year)*					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
Pre Project SSPE (SSPE1)	75,342	25,063	21,796	49,143	776,332

*SSPE calculator

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site. The facility has no ERCs.

Post Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	75,342	25,063	21,796	49,143	776,332
PE1	2,010	3,879	1,798	8,278	1,301
PE2	2,010	3,879	1,798	70,010	1,301
PE2 – PE1	0	0	0	61,732	0
Post Project SSPE (SSPE2)	75,342	25,063	21,796	110,875	776,332

5. Major Source Determination

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. However, for the purposes of determining major source status, the SSPE2 shall not include the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.”

Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	75,342	25,063	21,796	49,143	776,332
SSPE2	75,342	25,063	21,796	110,875	776,332
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	Yes	No	No	No	Yes

As seen in the table above, the facility is an existing Major Source for NO_x and VOCs and is not becoming a Major Source 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 District Rule 2201, BE = PE1 for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

Clean Emissions Unit, Located at a Major Source

Pursuant to Rule 2201, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

This emissions unit is equipped with an ultra low NO_x burner achieving 7 ppmv @ 3% O₂ NO_x and is fired on gaseous fuel, which meets the requirements for achieved-in-practice BACT. Therefore, BE=PE1.

BE (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
S-1807-36-5	2,010	3,879	1,798	8,278	1,301

7. SB 288 Major Modification

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

Since this facility is not a major source for SO_x or PM₁₀, this project does not constitute an SB 288 major modification for these air contaminants.

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	2,010	50,000	No
VOC	1,301	50,000	No

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

8. Federal Major Modification

District Rule 2201, Section 3.17 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a Major Source for SO_x and PM₁₀ (140,000 lb/year) and PM_{2.5}, this project does not constitute a Federal Major Modification for these air contaminants.

NO_x and VOC

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

NO_x and VOC

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

$$\text{Emission Increase} = \text{PAE} - \text{BAE} - \text{UBC}$$

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

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

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

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

PAE is assumed to be PE2 as it was not provided by applicant. UBC is assumed to equal PE1 (legal operating limit) – BAE and PE2 = PE1 and therefore

$$\begin{aligned} \text{Emission Increase} &= \text{PE2} - \text{BAE} - (\text{PE1} - \text{BAE}) \\ &= \text{PE2} - \text{PE1} \\ &= 0 \end{aligned}$$

Therefore the emissions increases for NOx and VOC are equal to zero and the project is not a Federal Major Modification for NOx and VOC.

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 below.

S-1807-36 (steam generator)

QNEC			
Pollutant	PE2 (lb/yr)	PE1 (lb/yr)	QNEC (lb/qtr)
NO _x	2,010	2,010	0
SO _x	3,879	3,879	0
PM10	1,798	1,798	0
CO	70,010	8,278	15,433
VOC	1,301	1,301	0

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

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

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

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

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

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

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

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

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

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

HAPE = Historically Adjusted Potential to Emit, (lb/day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
 EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$AIPE = PE2 - (PE1 * (EF2 / EF1))$$

NO_x, SO_x, PM₁₀, VOC

$$PE2 = PE1, EF2 = EF1 \text{ therefore } AIPE = 0$$

CO

The facility SSPE is less than 200,000 lb CO/yr. Therefore BACT is not triggered for CO.

d. SB 288/Federal Major Modification

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

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	75,342	25,063	21,796	110,875	776,332
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets calculations required?	Yes	No	No	No	Yes

The quantity of offsets in pounds per year for NO_x and VOCs are calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

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

Where,

PE2 = Post Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

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

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BE from this unit are equal to the PE1 since the unit is a Clean Emissions Unit. Furthermore, PE2 = PE1 (BE) for both NOx and VOCs. Therefore offsets are not required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

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

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

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

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There

are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	75,342	75,342	20,000 lb/year	No
SO _x	25,063	25,063	54,750 lb/year	No
PM ₁₀	21,796	21,796	29,200 lb/year	No
CO	49,143	110,875	200,000 lb/year	No
VOC	776,332	776,332	20,000 lb/year	No

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	75,342	75,342	0	20,000 lb/year	No
SO _x	25,063	25,063	0	20,000 lb/year	No
PM ₁₀	21,796	21,796	0	20,000 lb/year	No
CO	110,875	49,143	61,732	20,000 lb/year	Yes
VOC	776,332	776,332	0	20,000 lb/year	No

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

2. Public Notice Action

As discussed above, this project will result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will be required for this project.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in

or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

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

Only PUC quality natural gas, field gas, liquefied petroleum gas (LPG), or TEOR gas shall be combusted in this unit. [District Rule 2201] N

The sulfur content of fuel combusted shall not exceed 5 grains-S per 100 scf. [District Rule 4320] N

Emissions from the unit shall, except during startup, shutdown or refractory curing, not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.0143 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 400 ppmvd CO @ 3% O₂ or 0.296 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] N

E. Compliance Assurance

1. Source Testing

Startup source testing will be required. However, Additionally, Rules 4305, 4306, and 4320 require NO_x and CO emission testing not less than once every 12 months and once every 36 months if two consecutive annual source tests demonstrate compliance.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

District Rules 4305, 4306, and 4320 require the owner of any unit equipped with NO_x reduction technology to either install and maintain continuous emissions monitoring equipment for NO_x, CO, and oxygen, as identified in Rule 1080 (Stack Monitoring), or install and maintain APCO-approved alternate monitoring plan. Since the unit is equipped with a low NO_x burner and FGR, this requirement applies.

The applicant proposed to utilize pre-approve alternate monitoring plan "A" (Periodic Monitoring NO_x, CO, and O₂ Emissions Concentrations) to meet the requirements of these rules. This monitoring also satisfies the monitoring requirements for Rule 2201. No additional monitoring is required.

3. Recordkeeping

The applicant will also be required to keep records of all of the parameters that are required by the Rule 4305, 4306, and 4320 alternate monitoring requirements.

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

The project requires public notice for CO emissions. Therefore, an AAQA is required for the purpose of determining whether the increase in CO emissions will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis and the results (**Attachment III**) from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Steam Generator	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X

As shown, the increase in CO emissions is not expected to cause or make worse a violation of an air quality standard.

Rule 4001 New Source Performance Standards (NSPS)

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).

The subject steam generator has a rating of 27 MMBtu/hr and is gas fired. Subpart Dc has no standards for gas-fired steam generators. Therefore the subject steam generator is not an affected facility 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). A condition is included on the ATC to ensure compliance with the opacity limit.

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

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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 HAP emissions associated with this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot. The unit is authorized to combust only natural gas. As long as the unit is operated properly, compliance is expected.

Rule 4301 Fuel Burning Equipment

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

Section 5.0 gives the requirements of the rule.

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

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

- 200 pound per hour of sulfur compounds, calculated as sulfur dioxide (SO₂)
- 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO₂)
- Ten pounds per hour of combustion contaminants as defined in Rule 1020 and derived from the fuel.

District Rule 4301 Limits			
Unit	NO₂	Total PM	SO₂
S-3282-5 (lb/hr)	0.0085 x 27 = 0.23	0.0076 x 27 = 0.21	0.0164 x 27 = 0.44
Rule Limit (lb/hr)	140	10	200

The particulate emissions from the steam generators will not exceed 0.1 gr/dscf at 12% CO₂ or 10 lb/hr. Further, the emissions of SO_x and NO_x will not exceed 200 lb/hr or 140 lb/hr, respectively.

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

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

Pursuant to District Rules 4305 and 4306, Section 6.3.1, the steam generator is not required to tune since it follows a District approved Alternate Monitoring scheme where the applicable emission limits are periodically monitored. Therefore, the unit is not subject to this rule.

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

The unit is natural gas-fired with a maximum heat input of 20.0 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*.

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

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

The unit is natural gas-fired with a maximum heat input of 20.0 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

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

Rule 4320 – Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr

Section 5.0 Requirements

Section 5.1 of the rule requires compliance with the NO_x and CO emissions limits listed in Table 1 of Section 5.2 or payment of an annual emissions fee to the District as specified in Section 5.3 and compliance with the control requirements specified in Section 5.4; or as stated in Section 5.1.3, comply with the applicable Low-use Unit requirements of Section 5.5.

Section 5.2 NO_x and CO Emission Limits

C. Oilfield Steam Generators

Rule 4320 Emissions Limits				
Category	Operated on gaseous fuel		Operated on liquid fuel	
	NO_x Limit	CO Limit	NO_x Limit	CO Limit
1. Units with a total rated heat input >20.0 MMBtu/hr	Standard Schedule 7 ppmv or 0.008 lb/MMBtu; or	400 ppmv @ 3% O ₂	40 ppmv or 0.052 lb/MMBtu	400 ppmv @ 3% O ₂
	Staged Enhanced Schedule Initial limit: 9 ppmv @ 3% O ₂ , 0.011 lb/MMBtu			
	Final limit: 5 ppmv @ 3% O ₂ , 0.0062 lb/MMBtu			

- the proposed NO_x emission factor is 7 ppmvd @ 3% O₂ (0.008 lb/MMBtu), and
- the proposed CO emission factor is no greater than 400 ppmvd @ 3% O₂ (0.3 lb/MMBtu).

Therefore, compliance with Section 5.1 of District Rule 4320 is expected.

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

The unit is currently in compliance with the PM₁₀ control requirements of Section 5.4, monitoring provisions of Section 5.7, compliance determination provisions of Section 5.8,

and testing and recordkeeping requirements of Section 6.0. Note that start-up source testing will be required for compliance with Section 6.3.

Continued compliance is expected.

Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as 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) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

$$\frac{0.0164 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 11.3 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 11.3 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;

- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) is exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District conducted a Risk Management Review and concludes that potential health impacts are less than significant.

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

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Pending a successful Public Noticing period, issue ATC S-1807-36-7 subject to the permit conditions on the attached draft ATC in **Attachment IV**.

X. BILLING INFORMATION

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1807-36-7	3020-02-H	27 MMBtu/hr	\$ 1030

Attachments

- I: ATC S-1807-36-5 and PTO S-1807-36-6
- II: Emissions Profile
- III: AAQA Modeling
- IV: Draft ATC

Attachment I
ATC S-1807-36-5 and PTO S-1807-36-6

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1807-36-6

EXPIRATION DATE: 05/31/2017

EQUIPMENT DESCRIPTION:

27.0 MMBTU/HR STRUTHERS NATURAL GAS/FIELD GAS/TEOR GAS/PROPANE-FIRED STEAM GENERATOR WITH GIDEON MODEL MGW-31R ULTRA LOW NOX BURNER, PCL DIFFUSER PLATE, OXYGEN CONTROLLER, AND FGR - (DIS #21049-66) - APPROVED TO OPERATE AT VARIOUS LOCATIONS WITHIN E&B NATURAL RESOURCES MANAGEMENT CORPORATION'S HEAVY OIL WESTERN STATIONARY SOURCE

PERMIT UNIT REQUIREMENTS

1. No modification to this unit shall be performed without an Authority to Construct for such modifications, except for changes specified in the conditions below. [District Rule 2010]
2. Pursuant to Rule 4320, beginning in 2010 the operator shall pay an annual emission fee to the District for NOx emissions from this unit for the previous calendar year. Payments are due by July 1 of each year. Payments shall continue annually until either the unit is permanently removed from service in the District or the operator demonstrates compliance with the applicable NOx emission limit listed in Rule 4320. [District Rule 4320]
3. Permittee shall maintain records of annual heat input (MMBtu) for this unit on a calendar year basis. Such records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070 and Rule 4320]
4. Upon prior written notice to the District, this unit may be designated as a dormant emissions unit or an active emissions unit. [District Rule 2080]
5. While dormant, the fuel line shall be physically disconnected from the unit. [District Rule 2080]
6. While dormant, normal source testing and monitoring shall not be required. [District Rule 2080]
7. Upon recommencing operation of this unit, normal source testing and monitoring shall resume. [District Rule 2080]
8. Any source testing required by this permit shall be performed within 60 days of recommencing operation of this unit, regardless of whether the unit remains active or is again designated as dormant. [District Rule 2080]
9. Records of all dates and times that this unit is designated as dormant or active, and copies of all corresponding notices to the District, shall be maintained, retained for a period of at least five years, and made available for District inspection upon request. [District Rule 1070]
10. If this unit has become dormant because it does not comply with District Rules, or if the unit becomes out of compliance with District Rules while it is dormant, operation of the unit is not authorized until an Authority to Construct permit is issued approving all necessary retrofits and permit changes required to comply with the respective District Rules. [District Rule 2010]
11. 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]
12. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
13. 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]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

14. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
15. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
16. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401]
17. Only PUC quality natural gas, field gas, liquefied petroleum gas (LPG), or TEOR gas shall be combusted in this unit. [District Rule 2201]
18. If the unit is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2201]
19. If the unit is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that 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 quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2201]
20. If the unit is not fired on PUC-regulated natural gas 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201]
21. The sulfur content of the fuel combusted shall not exceed 5 grains S per 100 scf. [District Rule 4320]
22. Except during start-up and shut-down, emissions from the unit shall not exceed any of the following limits: 15 ppmvd NO_x @ 3% O₂ or 0.018 lb-NO_x/MMBtu, 0.0164 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 47 ppmvd CO @ 3% O₂ or 0.035 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306]
23. If continuous operation oxygen analyzer/controller is utilized, excess O₂ shall be maintained between 0.5 and 3.0%. If not utilized, excess air shall be maintained at no less than 15%. [District Rule 2201]
24. 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, 4306 and 4320]
25. 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, 4306 and 4320]
26. 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]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

27. 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, 4306 and 4320]
28. Source testing to measure NO_x and CO emissions from this unit while fired on TEOR gas, natural gas, field gas, and LPG shall be conducted within 60 days of start-up. [District Rules 2201, 4305, 4306 and 4320]
29. Source testing to measure NO_x and CO emissions from this unit while fired on TEOR gas, natural gas, field gas, and LPG shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]
30. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
31. 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]
32. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306 and 4320]
33. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306 and 4320]
34. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4320]
35. 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]
36. 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]
37. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
38. Permittee shall comply with all 40 CFR Part 60 Subpart A notification, reporting, and recordkeeping requirements. [District Rule 4001]
39. 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]

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

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1807-36-5

ISSUANCE DATE: 10/12/2009

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES MGMT CORP

MAILING ADDRESS: 3000 JAMES ROAD
BAKERSFIELD, CA 93308

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 27.0 MMBTU/HR STRUTHERS NATURAL GAS/FIELD GAS/TEOR GAS/PROPANE-FIRED STEAM GENERATOR WITH NORTH AMERICAN BURNER, PCL DIFFUSER PLATE, OXYGEN CONTROLLER, AND FGR - (DIS #21049-66) - APPROVED TO OPERATE AT VARIOUS LOCATIONS WITHIN E&B NATURAL RESOURCES MANAGEMENT CORPORATION'S HEAVY OIL WESTERN STATIONARY SOURCE: TUNE OR REPLACE BURNER WITH A GIDEON ULTRA LOW-NOX BURNER (OR EQUIVALENT)

CONDITIONS

1. 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]
2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
3. 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]
4. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401]
7. The permittee shall notify the District of the compliance method chosen (replacement burner or tuning) and if applicable, the approved burner to be installed prior to implementation of this ATC. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

DAVID WARNER, Director of Permit Services
S-1807-36-5: Sep 1 2012 1:01PM - EDGEHLR : Joint Inspection NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

8. 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]
9. 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]
10. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]
11. Only PUC quality natural gas, field gas, liquefied petroleum gas (LPG), or TEOR gas shall be combusted in this unit. [District Rule 2201]
12. If the unit is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2201]
13. If the unit is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that 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 quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2201]
14. If the unit is not fired on PUC-regulated natural gas 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201]
15. The sulfur content of fuel combusted shall not exceed 5 grains-S per 100 scf. [District Rule 4320]
16. Emissions from the unit shall, except during startup, shutdown or refractory curing, not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.0143 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 47 ppmvd CO @ 3% O₂ or 0.035 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
17. Emission rates shall not exceed any of the following: NO_x (as NO₂): 11.7 lb/day and 2010 lb/yr. [District Rule 2201]
18. If continuous operation oxygen analyzer/controller is utilized, excess O₂ shall be maintained between 0.5 and 3.0%. If not utilized, excess air shall be maintained at no less than 15%. [District Rule 2201]
19. 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, 4306, 4306, and 4320]
20. 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, 4306, and 4320]

CONDITIONS CONTINUE ON NEXT PAGE

21. 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]
22. 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, 4306, and 4320]
23. Source testing to measure NO_x and CO emissions from this unit while fired on TEOR gas, natural gas, field gas, and LPG shall be conducted within 60 days of start-up. [District Rules 2201, 4305, 4306, and 4320]
24. Source testing to measure NO_x and CO emissions from this unit while fired on TEOR gas, natural gas, field gas, and LPG 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]
25. After the initial source test for Rule 4320, the permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070]
26. After the initial source test for Rule 4320, when designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4306 and 4320]
27. After the initial source test for Rule 4320, when designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4306 and 4320]
28. After the initial source test for Rule 4320, a source test to demonstrate compliance with the NO_x and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4306 and 4320]
29. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]
30. 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]
31. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320]
32. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]
33. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]
34. 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]
35. 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]
36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

CONDITIONS CONTINUE ON NEXT PAGE

37. Permittee shall comply with all 40 CFR Part 60 Subpart A notification, reporting, and recordkeeping requirements. [District Rule 4001]
38. 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]

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1807-36-3

EXPIRATION DATE: 05/31/2017

EQUIPMENT DESCRIPTION:

27.0 MMBTU/HR STRUTHERS NATURAL GAS/FIELD GAS/TEOR GAS/PROPANE-FIRED STEAM GENERATOR WITH GIDEON MODEL MGW-31R ULTRA LOW NOX BURNER, PCL DIFFUSER PLATE, OXYGEN CONTROLLER, AND FGR - (DIS #21049-66) - APPROVED TO OPERATE AT VARIOUS LOCATIONS WITHIN E&B NATURAL RESOURCES MANAGEMENT CORPORATION'S HEAVY OIL WESTERN STATIONARY SOURCE

PERMIT UNIT REQUIREMENTS

1. Facilities S-1807 and S-6826 are part of the same stationary source. [District Rule 2201]
2. To maintain status as a small producer, permittee's crude oil production shall average less than 6000 bbl/day from all operations within Kern County and permittee shall not engage in refining, transporting, or marketing of refined petroleum products. [District Rules 3020 & 4623]
3. The permittee shall not emit more than one half of the major source threshold based on a rolling 12-month summary of actual emissions. [District Rule 2530, 6.1]
4. The permittee shall maintain a record of the rolling 12-month summary of actual emissions from permitted operations. This record shall be kept on site and made available to the District upon request. [District Rule 2530, 6.1]
5. 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]
6. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
7. No air contaminant shall be 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]
8. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
9. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
10. All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401]
11. Only PUC quality natural gas, field gas, liquefied petroleum gas (LPG), or TEOR gas shall be combusted in this unit. [District Rule 2201]
12. If the unit is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2201]
13. If the unit is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that 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 quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

14. If the unit is not fired on PUC-regulated natural gas and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201]
15. Emissions from the unit shall not exceed any of the following limits: 15 ppmvd NOx @ 3% O2 or 0.018 lb-NOx/MMBtu, 0.0164 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 47 ppmvd CO @ 3% O2 or 0.035 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306]
16. Emission rate for units S-1807-1, '-2, '-34, '-35, '-36, and '-37 shall not exceed PM10: 45.0 lb/day, SOx (as SO2): 47.9 lb/day, NOx (as NO2): 225.4 lb/day, VOC: 7.0 lb/day, and CO: 70.5 lb/day. [District Rule 2201]
17. Total daily emissions of each air contaminant, and total daily fuel used, for each unit subject to the SLC and for each day of the month, shall be submitted to the District quarterly, if no SLC violations occurred in the previous six months. [District Rule 2201]
18. Reports of daily emissions and fuel usage, as required by this permit for units in the SLC, shall be submitted within 30 days after the end of the reporting period. [District Rule 2201]
19. The operator shall apply to revise each Permit to Operate subject to the SLC when any unit subject to the SLC has a District-authorized change in daily emission rate, or Permit to Operate is surrendered or sold. [District Rule 2201]
20. If continuous operation oxygen analyzer/controller is utilized, excess O2 shall be maintained between 0.5 and 3.0%. If not utilized, excess air shall be maintained at no less than 15%. [District Rule 2201]
21. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305 and 4306]
22. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4305 and 4306]
23. 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]
24. 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]
25. Source testing to measure NOx and CO emissions from this unit while fired on TEOR gas, natural gas, field gas, and LPG shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

26. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305 and 4306]
27. 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]
28. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305 and 4306]
29. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305 and 4306]
30. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305 and 4306]
31. 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]
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]
33. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
34. Should source testing indicate an emission factor higher than that approved, the operator shall comply with Rule 1100 and, if necessary, submit an application for Authority to Construct to incorporate the higher emission factor into the SLC. [District Rule 2201]
35. Permittee shall comply with all 40 CFR Part 60 Subpart A notification, reporting, and recordkeeping requirements. [District Rule 4001]
36. The permittee shall maintain records of fuel type, quantity, permitted emission factors and emissions for each unit for each day of operation, in the format approved by the District. [District Rule 2201]
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, and 4306]

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

Attachment II
Emissions Profile

Permit #: S-1807-36-7	Last Updated
Facility: E&B NATURAL RESOURCES MGMT CORP	09/01/2012 EDGEHILR

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	2010.0	3879.0	1798.0	70010.0	1301.0
Daily Emis. Limit (lb/Day)	5.5	10.6	4.9	191.8	3.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	15433.0	0.0
Q2:	0.0	0.0	0.0	15433.0	0.0
Q3:	0.0	0.0	0.0	15433.0	0.0
Q4:	0.0	0.0	0.0	15433.0	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:					

**Attachment III
AAQA Modeling**

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Richard Edgehill– Permit Services
 From: Trevor Joy – Technical Services
 Date: October 15, 2012
 Facility Name: E&B Natural Resources
 Location: Various locations Heavy Oil Western
 Application #(s): S-1807-36-7
 Project #: 1123364

A. RMR SUMMARY

RMR Summary			
Categories	Steam Generator (Unit 36-7)	Project Totals	Facility Totals
Prioritization Score	NA – CO Modeling Only	NA	>1
Acute Hazard Index			
Chronic Hazard Index			
Maximum Individual Cancer Risk (10^{-5})			
T-BACT Required?	No		
Special Permit Conditions?	Yes		

Proposed Permit Conditions

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

Unit # 36-7

{1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] N

B. RMR REPORT

I. Project Description

Technical Services received a request on September 24, 2012, to perform an Ambient Air Quality Analysis for a 27 MMBTU/Hr Steam Generator to increase the CO emissions allowed from 47 ppmv to 400 ppmv. No other modeling beside the CO modeling was required.

II. Analysis

Technical Services performed modeling for criteria pollutant CO. The emission rates used for criteria pollutant modeling were 8.0 lb/hr CO.

The following parameters were used for the review:

Analysis Parameters Unit 36-7			
Source Type	Point	Location Type	Rural
Stack Height (m)	5.5	Stack Inside Diameter (m)	0.4
Distance to property Boundary (m)	0*	Gas Exit Velocity (acfm)	3603
Gas Exit Temp (K)	644		

*Various location unit

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

III. Conclusion

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

IV. Attachments

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer

Attachment IV
Draft ATC S-1807-36-7

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1807-36-7

LEGAL OWNER OR OPERATOR: E&B NATURAL RESOURCES MGMT CORP
MAILING ADDRESS: 3000 JAMES ROAD
BAKERSFIELD, CA 93308

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 27.0 MMBTU/HR STRUTHERS NATURAL GAS/FIELD GAS/TEOR GAS/PROPANE-FIRED STEAM GENERATOR WITH GIDEON MODEL MGW-31R ULTRA LOW NOX BURNER, PCL DIFFUSER PLATE, OXYGEN CONTROLLER, AND FGR - (DIS #21049-66) - APPROVED TO OPERATE AT VARIOUS LOCATIONS WITHIN E&B NATURAL RESOURCES MANAGEMENT CORPORATION'S HEAVY OIL WESTERN STATIONARY SOURCE: INCREASE CO EMISSIONS TO 400 PPMV @3% O2

CONDITIONS

1. 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]
2. {1407} All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. {304} All wells producing from strata steamed by this unit shall be connected to a District-approved emissions control system, have District-approved closed casing vents or be District-approved uncontrolled cyclic wells. [District Rule 4401]
7. Only PUC quality natural gas, field gas, liquefied petroleum gas (LPG), or TEOR gas shall be combusted in this unit. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

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DAVID WARNER, Director of Permit Services

8-1807-36-7 : Oct 17 2012 3:18PM - EDGEHLR : Joint Inspection NOT Required

8. If the unit is fired on PUC-regulated natural gas, then the permittee shall maintain on file copies of all natural gas bills or fuel throughput records for a period of five years. [District Rule 2201]
9. If the unit is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that 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 quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rule 2201]
10. If the unit is not fired on PUC-regulated natural gas 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 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2201]
11. The sulfur content of fuel combusted shall not exceed 5 grains-S per 100 scf. [District Rule 4320]
12. Emissions from the unit shall, except during startup, shutdown or refractory curing, not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.0143 lb-SO_x/MMBtu, 0.0076 lb-PM₁₀/MMBtu, 400 ppmvd CO @ 3% O₂ or 0.296 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]
13. {280} If continuous operation oxygen analyzer/controller is utilized, excess O₂ shall be maintained between 0.5 and 3.0%. If not utilized, excess air shall be maintained at no less than 15%. [District Rule 2201]
14. 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, 4306, 4306, and 4320]
15. 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, 4306, and 4320]
16. 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]
17. 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, 4306, and 4320]
18. Source testing to measure NO_x and CO emissions from this unit while fired on TEOR gas, natural gas, field gas, and LPG shall be conducted within 60 days of start-up. [District Rules 2201, 4305, 4306, and 4320]
19. Source testing to measure NO_x and CO emissions from this unit while fired on TEOR gas, natural gas, field gas, and LPG 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]

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CONDITIONS CONTINUE ON NEXT PAGE

20. After the initial source test for Rule 4320, the permittee shall notify the District at least seven calendar days prior to the designation of this permit unit as a dormant emissions unit or an active emissions unit. [District Rule 1070]
21. After the initial source test for Rule 4320, when designated as a dormant emissions unit the fuel supply line shall be physically disconnected from the emissions unit. [District Rules 4306 and 4320]
22. After the initial source test for Rule 4320, when designated as a dormant emissions unit, the permittee shall not be required to perform source testing or monitoring requirements otherwise required by this permit. [District Rules 4306 and 4320]
23. After the initial source test for Rule 4320, a source test to demonstrate compliance with the NO_x and CO emission limits shall be performed within 60 days of recommencing operation of the dormant emissions unit. [District Rules 4306 and 4320]
24. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]
25. {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]
26. NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320]
27. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]
28. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]
29. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]
30. 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]
31. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
32. 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]
33. ATC shall be implemented concurrently with ATC S-1807-36-5. [District Rule 2201]

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