



May 18, 2020

Mr. Larry W. Alexander
San Pablo Bay Pipeline Company LLC
3760 Kilroy Airport Way, Suite 300
Long Beach, CA 90806

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
Facility Number: C-1234
Project Number: C-1193657

Dear Mr. Alexander:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The permit is to modify pipeline heater C-1234-2 by replacing its burner, installing flue gas recirculation (FGR), restricting fuel to PUC-quality natural gas and authorizing it to operate full-time.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. 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.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (559) 230-5900. Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet
Director of Permit Services

Enclosures

cc: Courtney Graham, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via EPS

Samir Sheikh

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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Facility Name:	San Pablo Bay Pipeline Company LLC	Date:	4/20/20
Mailing Address:	3760 Kilroy Airport Way, Suite 300 Long Beach, CA 90806	Engineer:	David Torii
		Lead Engineer:	Rich Karrs
Contact Person:	Larry W. Alexander		
Telephone:	562-285-4111		
Application #(s):	C-1234-2-6		
Project #:	1193657		
Deemed Complete:	1/15/20		

I. Proposal

San Pablo Bay Pipeline Company LLC (SPB) has requested an Authority to Construct (ATC) permit to modify pipeline heater C-1234-2 by replacing its burner, installing flue gas recirculation (FGR), restricting fuel to PUC-quality natural gas and authorizing it to operate full-time.

SPB has received their Title V Permit. This modification can be classified as a Title V significant modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. SPB must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (8/15/19)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (8/15/19)
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 2 (8/21/03)
Rule 4306	Boilers, Steam Generators, and Process Heaters – Phase 3 (10/16/08)
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 facility is located at 375090 Oil City Road in Coalinga. 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

Facility C-1234 is a crude oil pipeline station. Oil heaters C-1234-2 and '3 are authorized to heat crude oil to reduce its viscosity to facilitate pipeline transport. Note that unit C-1234-2 has been dormant for at least ten years (per emission inventory data).

V. Equipment Listing

Pre-Project Equipment Description (see PTO in Appendix B):

C-1234-2: DORMANT 25.5 MMBTU/HR NATIONAL OIL HEATER #2, WITH NORTH AMERICAN MODEL 5131HCRF BURNER

Proposed ATC:

C-1234-2-6: MODIFICATION OF DORMANT 25.5 MMBTU/HR NATIONAL OIL HEATER #2, WITH NORTH AMERICAN MODEL 5131HCRF BURNER: **RETROFIT WITH A 25 MMBTU/HR NORTH AMERICAN MODEL 4213 LOW NOX BURNER, INSTALL FLU GAS RECIRCULATION, RESTRICT TO FIRING ON PUC QUALITY NATURAL GAS AND REMOVE 30 DAY/YEAR OPERATING LIMIT**

Post-Project Equipment Description:

C-1234-2-6: 25.0 MMBTU/HR NATIONAL OIL HEATER #2, WITH NATURAL GAS-FIRED NORTH AMERICAN MODEL 4213 BURNER AND FGR

VI. Emission Control Technology Evaluation

Emissions from natural gas-fired burners include NO_x, CO, VOC, PM₁₀, and SO_x.

NO_x is the major pollutant of concern when burning natural gas. NO_x formation is either due to thermal fixation of atmospheric nitrogen in the combustion air (thermal NO_x) or due to conversion of chemically bound nitrogen in the fuel (fuel NO_x). Due to the low fuel nitrogen content of natural gas, nearly all NO_x emissions are thermal NO_x. Formation of thermal NO_x is affected by four furnace zone factors: (1) nitrogen concentration, (2) oxygen concentration, (3) peak temperature, and (4) time of exposure at peak temperature.

Flue gas recirculation (FGR) reduces NO_x emissions by recirculating a percentage of the exhaust gas back into the windbox. This reduces the oxygen concentration in the air-fuel mixture and regulates the combustion process, lowering the combustion temperature. The lowered availability of oxygen in conjunction with lowered combustion temperature reduces the formation of NO_x.

VII. General Calculations

A. Assumptions

Emissions are from fuel combustion only.

Pre-project:

Operating limits: 24 hours/day and 30 days/year (PTO)
 Fuel: Crude oil or natural gas (PTO)
 Oil consumption limit: 170 gal/hr (PTO)
 Natural gas consumption limit: 25,500 scf/hour (PTO)

Post-project:

Post-project operation: 8760 hr/yr (proposed)
 Fuel: PUC-quality natural gas only (proposed)

B. Emission Factors

Pre-Project Emission Factors		
Pollutant	lb/MMBtu (ppmv @ 3% O ₂)	Source
NO _x	0.018 (15)	Rule 4306
SO _x	200 lb/hr	Rule 4301 and PTO
PM ₁₀	10 lb/hr	Rules 4201, 4301 and PTO
CO	0.296 (400)	Rule 4306
VOC	1.04 lb/gal	AP-42, Table 1.3-3

Post-Project Emission Factors		
Pollutant	lb/MMBtu (ppmv @ 3% O ₂)	Source
NO _x	0.008 (7)	BACT Rule 4320 and proposed
SO _x	0.00285	District Policy APR 1720 and proposed
PM ₁₀	0.003	District Practice via FYI 328
CO	0.296 (400)	Rule 4320 and proposed
VOC	0.0055	AP-42 (07/98) Table 1.4-2 and proposed

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

$$(0.018 \text{ lb-NO}_x/\text{MMBtu})(25.5 \text{ MMBtu/hr})(24 \text{ hr/day}) = 11.0 \text{ lb-NO}_x/\text{day}$$

$$(0.018 \text{ lb-NO}_x/\text{MMBtu})(25.5 \text{ MMBtu/hr})(24 \text{ hr/day})(30 \text{ day/year}) = 330 \text{ lb-NO}_x/\text{year}$$

$$(200 \text{ lb-SO}_x/\text{hr})(24 \text{ hr/day}) = 4,800 \text{ lb-SO}_x/\text{day}$$

$$(200 \text{ lb-SO}_x/\text{hr})(24 \text{ hr/day})(30 \text{ day/year}) = 144,000 \text{ lb-SO}_x/\text{year}$$

$$(10 \text{ lb-PM}_{10}/\text{hr})(24 \text{ hr/day}) = 240 \text{ lb-PM}_{10}/\text{day}$$

$$(10 \text{ lb-PM}_{10}/\text{hr})(24 \text{ hr/day})(30 \text{ day/year}) = 7,200 \text{ lb-PM}_{10}/\text{year}$$

$$(0.7302 \text{ lb-CO/MMBtu})(25.5 \text{ MMBtu/hr})(24 \text{ hr/day}) = 446.9 \text{ lb-CO/day}$$

$$(0.7302 \text{ lb-CO/MMBtu})(25.5 \text{ MMBtu/hr})(24 \text{ hr/day})(30 \text{ day/year}) = 13,406 \text{ lb CO/year}$$

$$(1.04 \text{ lb-VOC/gal})(170 \text{ gal/hr})(24 \text{ hr/day}) = 4,243 \text{ lb-VOC/day}$$

$$(1.04 \text{ lb-VOC/gal})(170 \text{ gal/hr})(24 \text{ hr/day})(30 \text{ day/year}) = 127,296 \text{ lb VOC/year}$$

PE1		
Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	11.0	330
SO _x	4800	144,000
PM ₁₀	240	7,200
CO	181.2	5435
VOC	4243	127,296

2. Post-Project Potential to Emit (PE2)

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

$$\begin{aligned} \text{PE2}_{\text{NO}_x} &= (0.008 \text{ lb/MMBtu})(25.0 \text{ MMBtu/hr})(24 \text{ hr/day}) \\ &= 4.9 \text{ lb NO}_x/\text{day} \\ &= (0.008 \text{ lb/MMBtu})(25.0 \text{ MMBtu/hr})(24 \text{ hr/day})(365 \text{ day/year}) \\ &= 1.7 \text{ lb NO}_x/\text{year} \end{aligned}$$

PE2		
Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	4.8	1,752
SO _x	1.7	624
PM ₁₀	1.8	657
CO	177.6	64,824
VOC	3.3	1,205

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.

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

SSPE1 (lb/year)					
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC
C-1234-2	330	144,000	7,200	5435	127,296
C-1234-3	2102	749	1997	9724	
C-1234-4	0	0	0	0	
C-1234-5	0	0	0	0	
C-1234-6	0	0	0	0	
C-1234-7	0	0	0	0	
C-1234-10	288	19	20	62	
C-1234-11	660	44	47	142	
C-1234-12	0	0	0	0	
C-1234-13	0	0	0	0	
SSPE1	3380	144,812	9,264	15,363	NA

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.

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

SSPE2 (lb/year)					
Permit Unit	NO_x	SO_x	PM₁₀	CO	VOC
C-1234-2	1752	624	657	64,824	1205
C-1234-3	2102	749	1997	9724	
C-1234-4	0	0	0	0	
C-1234-5	0	0	0	0	
C-1234-6	0	0	0	0	
C-1234-7	0	0	0	0	
C-1234-10	288	19	20	62	
C-1234-11	660	44	47	142	
C-1234-12	0	0	0	0	
C-1234-13	0	0	0	0	
SSPE2	4802	1436	2721	74,752	NA

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

Note that facility C-1234 belongs to 40 CFR 51.165 source category petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels; therefore, fugitive (floating roof tank) emissions are included in the Major Source Calculation.

This source is an existing Major Source for VOC emissions and will remain a Major Source for VOC.

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1	3380	144,812	9,264	9,264	15,363	>20,000
SSPE2	4802	1436	2,721	2,721	74,752	>20,000
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	Yes

Note: PM2.5 assumed to be equal to PM10

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 100 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase	2	>100	72	8	5	5
PSD Major Source Thresholds	100	100	100	100	100	100
PSD Major Source?	No	No	No	No	No	No

As shown above, the facility is an existing PSD major source for at least one pollutant.

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

As shown in Section VII.C.5 above, the facility is a Major Source for VOC only.

Therefore BE = PE1 for NO_x, SO_x, CO and PM₁₀.

Per District emission inventory information the unit was dormant during the previous ten years; therefore the VOC HAE = 0

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 NO_x, SO_x, CO and PM₁₀, this project does not constitute an SB 288 major modification for NO_x, SO_x, CO and PM₁₀.

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

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
VOC	1,205	50,000	N

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

8. Federal Major Modification

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

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

Step 1

For 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

Per District emission inventory information the unit was dormant during the previous ten years; therefore the BAE = 0

$$\text{PAE} = 1,205 \text{ lb-VOC/year}$$

Additionally, the unit was non-compliant dormant per District rules and; therefore, could not operate. Consequently, there is no UBC.

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

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x	NA*	0	N
VOC	1,205	0	Y
PM ₁₀	NA*	30,000	N
PM _{2.5}	NA*	20,000	N
SO _x	NA*	80,000	N

*Only a Major Source for VOC

Since there is an increase in VOC emissions, this project constitutes a Federal Major Modification. Federal Offset quantities are calculated below.

Federal Offset Quantities:

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

VOC

Federal Offset Ratio

1.5

Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
C-1234-2-6	0	1,205	1,205
Net Emission Change (lb/year):			1,205
Federal Offset Quantity: (NEC * 1.5)			1,808

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

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

I. Project Location Relative to Class 1 Area

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be a existing PSD Major Source. Because the project is not located within 10 km (6.2 miles) of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Project Emission Increase – Significance Determination

a. Evaluation of Calculated Post-project Potential to Emit for New or Modified Emissions Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the post-project potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if the total potentials to emit from all new and modified units are below the applicable thresholds, no further PSD analysis is needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)					
	NO ₂	SO ₂	CO	PM	PM ₁₀
Total PE from New and Modified Units	9	0	32	1	1
PSD Significant Emission Increase Thresholds	40	40	100	25	15
PSD Significant Emission Increase?	n	n	n	n	n

As demonstrated above, because the post-project total potentials to emit from all new and modified emission units are below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance Determination

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

Pursuant to District Rule 2201, Section 4.1, 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 Adjusted Increase in Permitted Emissions (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

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

Unit C-1234-2 currently operates 24 hours/day; its annual operating limit restricts the unit from operating every day of the year. Increasing the annual operating limit from 30 days/year to 365 days/year will allow it to operate more days/year. Therefore, the AIPE calculation will assume its PE1 is zero. Therefore, $AIPE = PE2$

Pollutant	AIPE (lb/day)	BACT Triggered?
NO _x	4.8	Y
SO _x	1.7	N
PM ₁₀	1.8	N
CO	177.6	Y
VOC	3.3	y

As demonstrated above, the AIPE is greater than 2.0 lb/day for NO_x, CO and VOC. However, BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lb/year, as demonstrated in Section VII.C.5 above. Therefore BACT is triggered for NO_x, PM₁₀ and VOC.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute a Federal Major Modification for VOC emissions. Therefore BACT is triggered for VOC for all emissions units in the project for which there is an emission increase.

2. BACT Guideline

Please note that BACT Guideline 1.1.2, Boiler: > 20.0 MMBtu/hr, Natural gas fired, base-loaded or with small load swings has been rescinded.

3. Top-Down BACT Analysis

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

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

NO_x: 7 ppmv @3% O₂
VOC: Natural Gas Fired

B. Offsets**1. Offset Applicability**

Pursuant to District Rule 2201, Section 4.5, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals 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	PM₁₀	CO	VOC
SSPE2	4802	1436	2,721	74,752	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for VOC only. Therefore offset calculations will be required for this project.

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

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

Where,

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

BE = Baseline Emissions, (lb/year)

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 zero.

Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

$$\text{Offsets Required (lb/year)} = ([\text{PE2} - \text{BE}] + \text{ICCE}) \times \text{DOR}$$

$$\text{PE2 (VOC)} = 1205 \text{ lb/year}$$

$$\text{BE (VOC)} = 0 \text{ lb/year}$$

$$\text{ICCE} = 0 \text{ lb/year}$$

The project is a Federal Major Modification and therefore the correct offset ratio for VOC is 1.5:1.

Assuming an offset ratio of 1.5:1, the amount of VOC ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([1205 - 0] + 0) \times 1.5 \\ &= 1205 \times 1.5 \\ &= 1808 \text{ lb VOC/year} \end{aligned}$$

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

$$\begin{aligned} \text{Quarterly offsets required (lb/qtr)} &= (1808 \text{ lb VOC/year}) \div (4 \text{ quarters/year}) \\ &= 452 \text{ lb/qtr} \end{aligned}$$

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

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
452	452	452	452	1808

Per section 4.13.8 of Rule 2201, AER for VOC that occurred from April through November may be used to offset increases in VOC during any period of the year.

The applicant has stated that the facility has purchased the following amounts from ERC certificate C-1051-1 to offset the increases in VOC emissions associated with this project:

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total</u>
ERC #C-1051-1	500	910	500	90	2,000

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

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 452 lb, 2nd quarter – 452 lb, 3rd quarter – 452 lb, and 4th quarter – 452 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]
- ERC Certificate Number C-1051-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received

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

3. ERC Withdrawal Calculations

The applicant must identify the ERC Certificate(s) to be used to offset the increase of VOC emissions for the project. As indicated in previous section, the applicant is proposing to use ERC certificate #C-1051-1 to mitigate the increases of VOC emissions associated with this project. See **Appendix D** for detailed ERC Withdrawal Calculations.

C. Public Notification

1. Applicability

Pursuant to District Rule 2201, Section 5.4, 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,
- d. Any project with an SSPE of greater than 20,000 lb/year for any pollutant, and/or
- e. Any project which results in a Title V significant permit modification

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

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

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

b. PE > 100 lb/day

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

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	3380	4802	20,000 lb/year	N
SO _x	144,812	1436	54,750 lb/year	N
PM ₁₀	9264	2,721	29,200 lb/year	N
CO	15,363	74,752	200,000 lb/year	N
VOC	>20,000	>20,000	20,000 lb/year	N

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

d. SSPE > 20,000 lb/year

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

SSPE Public Notice Thresholds					
Pollutant	PE1 (lb/year)	PE2 (lb/year)	SSPE (lb/year)	SSPE Public Notice Threshold	Public Notice Required?
NO _x	330	1,752	1,422	20,000 lb/year	N
SO _x	144,000	624	-143,376	20,000 lb/year	N
PM ₁₀	7,200	657	-6,453	20,000 lb/year	N
CO	5435	64,824	59,389	20,000 lb/year	Y
VOC	127,296	1,205	-126,091	20,000 lb/year	N

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

e. Title V Significant Permit Modification

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

2. Public Notice Action

As discussed above, public noticing is required for this project for a CO emission increase excess of 20,000 lb/year and for triggering a Title V Significant Modification. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

The unit shall only be fired on PUC-quality natural gas. [District Rule 2201] Y

Emissions from this unit shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.003 lb-PM₁₀/MMBtu, 400 ppmvd CO @ 3% O₂ or 0.0296 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Y

E. Compliance Assurance

1. Source Testing

Source testing to measure NO_x and CO emissions from this unit shall be conducted within 60 days of start-up and 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 2201, 4305, 4306 and 4320] Y

2. Monitoring

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 during the shakedown period allowed by this permit. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Y

If either the NO_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, 4306 and 4320] Y

All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Y

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] Y

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] Y

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) are listed on the permit to operate:

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, 4306, and 4320] Y

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

Section 4.14 of District Rule 2201 requires that an AAQA be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to **Appendix E** of this document for the AAQA summary sheet.

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

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

G. Compliance Certification

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

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to modify an oil heater.

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

Rule 2410 Prevention of Significant Deterioration

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

Rule 2520 Federally Mandated Operating Permits

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

Minor permit modifications are not Title I modifications as defined in this rule. This project triggers a Federal Major Modification, as a result, the proposed project constitutes a Significant Modification to the Title V Permit.

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 Ringelmann 1 or equivalent to 20% opacity.

A permit condition will be listed on the permit as follows:

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]

Therefore, compliance with District Rule 4101 requirements is expected.

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (**Appendix E**), the total facility prioritization score including this project was less than or equal to one. Therefore, no further analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

Discussion of T-BACT

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

Rule 4201 Particulate Matter Concentration

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

F-Factor for Natural Gas: 8,710 dscf/MMBtu at 68 °F, equivalent to

$$\text{Corrected } F - \text{factor} = \left(\frac{8,710 \text{ dscf}}{\text{MMBtu}} \right) \times \left(\frac{60^\circ F + 459.6}{68^\circ F + 459.6} \right) = 8,578 \frac{\text{dscf}}{\text{MMBtu}} \text{ at } 60^\circ F$$

PM₁₀ Emission Factor: 0.003 lb-PM₁₀/MMBtu

Percentage of PM as PM₁₀ in Exhaust: 100%

Exhaust Oxygen (O₂) Concentration: 3%

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

$$\frac{\left(\frac{0.003 \text{ lb} \cdot \text{PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grains}}{\text{lb}} \right)}{\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17} = 0.002 \frac{\text{grains} \cdot \text{PM}}{\text{ft}^3}$$

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

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

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.

District Rule 4301 Limits			
Pollutant	NO₂	Total PM	SO₂
ATC C-1234-2-6 (lb/hr)	0.2	0.1	0.1
Rule Limit (lb/hr)	140	10	200

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

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

The unit is a natural gas-fired process heater with a maximum heat input of 25 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305, the unit is subject to District Rule 4305, Boilers, Steam Generators and Process Heaters – Phase 2.

In addition, the unit is also subject to District Rule 4306, Boilers, Steam Generators and Process Heaters – Phase 3 and District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater Than 5.0 MMBtu/hr.

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.

Therefore, compliance with District Rule 4305 requirements is expected and no further discussion is required.

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

The unit is a natural gas-fired process heater with a maximum heat input of 25 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the units are subject to District Rule 4306, Boilers, Steam Generators and Process Heaters – Phase 3.

In addition, the unit is also subject to District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater Than 5.0 MMBtu/hr.

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

Therefore, compliance with District Rule 4306 requirements is expected and no further discussion is required.

Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 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.

The oil heater is rated at 25 MMBtu/hr heat input. Therefore this rule applies.

Section 5.1 NO_x Emission Limits

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

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

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

The oil heater has a maximum heat input of 25 MMBtu/hr; therefore, the applicable emission limit category Section 5.2, Table 1, Category A from District Rule 4320 applies as follows:

B. Units with a total rated heat input > 20.0 MMBtu/hr, except for Categories C through G units	a) Standard Schedule 7 ppmv or 0.008 lb/MMBtu; or	July 1, 2009	July 1, 2010
	b) Enhanced Schedule 5 ppmv or 0.0062 lb/MMBtu	January 1, 2013	January 1, 2014

SPB has proposed to comply with Rule 4320 by limiting the burner to 7 ppm-NO_x @ 3% O₂ (or 0.008 lb-NO_x/MMBtu).

Section 5.4 Particulate Matter Control Requirements

5.4.1 To limit particulate matter emissions, an operator shall comply with one of the following requirements:

- 5.4.1.1 On and after the applicable NO_x Compliance Deadline specified in Section 5.2 Table 1, operators shall fire units exclusively on PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;
- 5.4.1.2 On and after the applicable NO_x Compliance Deadline specified in Section 5.2 Table 1, operators shall limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet; or
- 5.4.1.3 On and after the applicable NO_x Compliance Deadline specified in Section 5.2 Table 1, operators shall install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight; or limit exhaust SO₂ to less than or equal to 9 ppmv corrected to 3.0% O₂.

- 5.4.1.4 Notwithstanding the compliance deadlines indicated in Sections 5.4.1.1 through 5.4.1.3, refinery units, which require modification of refinery equipment to reduce sulfur emissions, shall be in compliance with the applicable requirement in Section 5.4.1 no later than July 1, 2013.

SPB has addressed the particulate matter requirement by proposing to fire the unit on fuel with a sulfur content to no more than one (1) grain of total sulfur per one hundred (100) standard cubic feet.

{4355} The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] N

Compliance with section 5.4 is expected.

Section 5.6 Startup and Shutdown Provisions

Section 5.3 states that on and after the full compliance schedule specified in Section 7.1, the applicable emission limits of Sections 5.1, 5.2.2 and 5.2.3 shall not apply during start-up or shutdown provided an operator complies with the requirements specified in Sections 5.3.1 through 5.3.4.

According to boiler manufacturers, modern burners will achieve their rated emissions within one to two minutes of startup and do not require a special shutdown procedure. Because of the short duration before achieving the rated emission factor following startup, the unit will be subject to the applicable emission limits of Sections 5.1, 5.2.2 and 5.2.3 while in operation.

Section 5.7 Monitoring Provisions

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

SPB proposes to use Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO_x, CO, and O₂ exhaust concentrations shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions will be incorporated into the ATCs to ensure compliance with the requirements of the proposed alternate monitoring plan:

{4063} The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]

{4064} 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]

{4065} 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]

{4066} The permittee shall maintain records of: (1) the date and time of NOX, CO, and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOX and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320]

Section 5.7.6 requires operators complying with Sections 5.4.1.1 or 5.4.1.2 to provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permits to Operate. Sulfur analysis shall be performed in accordance with the test methods in Section 6.2.

When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320]

The following condition will be listed on the ATC to ensure compliance with the reporting section of this requirement:

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]

Section 5.8 Compliance Determination

Section 5.8.1 requires that the operator of any unit shall have the option of complying with either the applicable heat input (lb/MMBtu), emission limits or the concentration (ppmv) emission limits specified in Section 5.2. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling).

Therefore, the following condition will be listed on the ATCs as follows:

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

Section 5.8.2 requires that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0.

Therefore, the following permit condition will be listed on the ATC as follows:

{2972} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306, and 4320]

Section 5.8.4 requires that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NO_x analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period.

Therefore, the following permit condition will be listed on the ATC as follows:

{4065} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]

Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the ATC as follows:

{2980} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320]

Section 6.1 Recordkeeping

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

A permit condition will be listed on the ATCs as follows:

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

Section 6.2, Test Methods

Section 6.2 identifies the following test methods as District-approved source testing methods for the pollutants listed:

Pollutant	Units	Test Method Required
NO _x	ppmv	EPA Method 7E or ARB Method 100
NO _x	lb/MMBtu	EPA Method 19
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O ₂	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4
Oxides of sulfur		EPA Method 6C, EPA Method 8, or ARB Method 100
Total Sulfur as Hydrogen Sulfide (H ₂ S) Content		EPA Method 11 or EPA Method 15, as appropriate.
Sulfur Content of Liquid Fuel		ASTM D 6920-03 or ASTM D 5453-99

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

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] Y

CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] Y

Section 6.3, Compliance Testing

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.1 and 5.2.3 not less than once every 12 months. Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to thirty-six months.

Source testing to measure NO_x and CO emissions from this unit shall be conducted within 60 days of start-up and 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 2201, 4305, 4306 and 4320] Y
The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Section 7.0, Compliance Schedule

Section 7.0 identifies the dates by which the operator shall submit an application for an ATC and the date by which the owner shall demonstrate compliance with this rule.

The unit will be in compliance with the emissions limits listed in Table 1, Section 5.2 of this rule, and periodic monitoring and source testing as required by District Rule 4320. Therefore,

requirements of the compliance schedule, as listed in Section 7.0 of District Rule 4320, are satisfied. No further discussion is required.

Conclusion

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

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

This rule applies to boilers, steam generators, and process heaters at NO_x Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. The facility is not a NO_x Major Source. Therefore, this rule does not apply.

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. As the combustion equipment associated with this project will be fired on PUC quality natural gas, compliance with the requirements of this rule is expected.

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

Greenhouse Gas (GHG) Significance Determination

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

On December 17, 2009, the District's Governing Board adopted a policy, APR 2005, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*, for addressing GHG emission impacts when the District is

Lead Agency under CEQA and approved the District's guidance document for use by other agencies when addressing GHG impacts as lead agencies under CEQA. Under this policy, the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change. Consistent with District Policy 2005, projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emission.

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing or mitigating GHG emissions from targeted industries. Facilities subject to the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. Any growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

Under District policy APR 2025, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation*, the District finds that the Cap-and-Trade is a regulation plan approved by ARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with District Policy 2005, projects complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.

The GHG emissions increases associated with this project result from the combustion of fossil fuel(s), other than jet fuel, delivered from suppliers subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing or former use. Furthermore, the District determined that the activity will not have a significant effect on the environment. Therefore, the District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the common sense exemption that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

Indemnification Agreement/Letter of Credit Determination

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

The criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful Public Noticing period, issue the ATC subject to the permit conditions on the attached draft ATC in **Appendix G**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
C-1234-2-6	3020-02 H	25 MMBtu/hr	\$1238

Appendixes

- A: Quarterly Net Emissions Change
- B: Current PTO
- C: BACT Analysis
- D: ERC Withdrawal Calculations
- E: HRA Summary
- F: Compliance Certification
- G: Draft ATC

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:

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

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

Quarterly NEC [QNEC]					
	PE2 (lb/yr)	PE2 (lb/qtr)	PE1 (lb/yr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	1,752	438	330	83	356
SO _x	624	156	144,000	36,000	-35,844
PM ₁₀	657	164	7,200	1,800	-1,636
CO	64,824	16,206	5,435	1,359	14,847
VOC	1,205	301	127,296	31,824	-31,523

APPENDIX B

Current PTO

San Joaquin Valley

Air Pollution Control District

PERMIT UNIT: C-1234-2-5

EXPIRATION DATE: 04/30/2022

EQUIPMENT DESCRIPTION:

DORMANT 25.5 MMBTU/HR NATIONAL OIL HEATER #2, WITH NORTH AMERICAN MODEL 5131HCRF BURNER

PERMIT UNIT REQUIREMENTS

1. No modification to this unit shall be performed without an Authority to Construct for such modification(s). [District Rule 2010] Federally Enforceable Through Title V Permit
2. The fuel supply line shall be physically disconnected from this unit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
3. This equipment shall not be operated for any reason until an Authority to Construct (ATC) permit is issued approving all necessary modifications required to comply with the applicable requirements of District Rule 4305, District Rule 4306, District Rule 4320, and all other applicable District regulations. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
4. 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] Federally Enforceable Through Title V Permit
5. Use of oil fired heaters permitted under C-1234-2 and C-1234-3 shall be limited to 30 days/year for maintenance of turbines permitted under C-1234-8 and C-1234-9. [District Rules 2201 and 4305, 5.2] Federally Enforceable Through Title V Permit
6. Crude oil consumption shall not exceed 170 gal/hour. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The sulfur content of the crude oil shall not exceed 1.1% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Natural gas consumption shall not exceed 25,500 scf/hour. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
10. Nitrogen Oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. For residual and crude oil fired units, NO_x emissions may be calculated using supplier certification of the nitrogen content and heating value, or using reference materials approved by the District. Hourly emissions shall be calculated using the heating value, maximum rated unit capacity, and the following formula: $\text{lb NO}_2/1000 \text{ gal} = 20.54 + 104.39 (N)$, where N is the weight % nitrogen in the fuel. [District Rules 2520, 9.3.2 and 4301, 5.2.2, 5.3, and 5.5] Federally Enforceable Through Title V Permit
11. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. If this unit is not fired on PUC or FERC regulated natural gas, then the hourly emissions shall be determined by calculating the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit. [District Rules 2520, 9.3.2 and 4301, 5.2.1] 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.

Facility Name: SAN PABLO BAY PIPELINE COMPANY LLC

Location: COALINGA PUMP STATION, 37509 OIL CITY RD, COALINGA, CA 93210

C-1234-2-5 : Apr 20 2020 9:51AM --TORID

12. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801 and Fresno County Rule 406] Federally Enforceable Through Title V Permit
13. If the unit is fired on natural gas, then the natural gas sulfur content shall be less than or equal to 3.3% by weight. [District Rule 4801 and Fresno County Rule 406] Federally Enforceable Through Title V Permit
14. The permittee shall monitor and record the monthly and cumulative annual fuel heat input of the unit in Btus. [District Rule 4305, 6.1.3] Federally Enforceable Through Title V Permit
15. The higher heating value (hhv) for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 240 or D 2382 for liquid hydrocarbon fuels; or ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rule 4305, 6.2.1] Federally Enforceable Through Title V Permit
16. If the unit is not fired on a PUC-regulated natural gas or fuel certified by a third party fuel supplier, then the sulfur content and higher heating value (hhv) 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 Rules 2520, 9.3.2 and Rule 4801; Fresno County Rule 407] Federally Enforceable Through Title V Permit
17. If the unit is fired on noncertified gaseous fuel, then the sulfur content of gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3246, D 4084, or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
18. The sulfur content of the liquid fuel being fired in the unit shall be determined using ASTM D 2880. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
19. If the unit is not fired on PUC-regulated natural gas, the permittee shall maintain records of fuel sulfur content. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
20. Copies of all fuel invoices, gas purchase contracts, natural gas bills, supplier certifications, and test results to determine compliance with the conditions of this permit 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
21. While firing on crude oil, the permittee shall inspect the heater exhaust stack weekly for excessive visible emissions. The inspection shall include verifying the equipment is performing normal, design functions, and is being operated according to standard procedures and per the manufacturer's recommendations. If the equipment is not performing according to design and procedures or if excessive visible emissions are observed from the exhaust stack, the permittee shall take corrective action within 24 hours. If excessive visible emission cannot be corrected within 24 hours, EPA Method 9, except for data reduction (Section 2.5), shall be conducted to determine compliance with the 20% facility-wide opacity limit. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2520, 9.4.2 and 4305, 6.1] Federally Enforceable Through Title V Permit

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

APPENDIX C

BACT Analysis

Top-Down BACT Analysis

1. BACT Analysis for NO_x Emissions:

a. Step 1 - List all control technologies

The District does not currently have an approved BACT Guideline for this source category. Previous District Guideline 1.1.2 – Boiler: > 20.0 MMBtu/hr, Natural gas fired, base-loaded or with small load swings has been rescinded. Therefore, a project-specific BACT analysis is required for the proposed modification of the 25 MMBtu/hr oil heater.

District Rule 4320 includes a compliance option that limits units with heat input ratings > 20 MMBtu/hr to 7 ppm @ 3% O₂. This emission limit is Achieved in Practice control technology for this BACT analysis. District Rule 4320 also contains an enhanced schedule option that allows applicants additional time to meet the requirements of the rule. The enhanced schedule NO_x emission limit requirement is 5 ppmv @ 3% O₂. Since this is an enhanced option in the rule, it will be considered the Technologically Feasible control technology for the BACT analysis.

The following are possible control technologies:

- 5 ppmvd @ 3% O₂ (Technologically Feasible)
- 7 ppmvd @ 3% O₂ (Achieved in Practice)

b. Step 2 - Eliminate technologically infeasible options

Note that a search of District source test results in the subject unit's source category found two units, out of a total of 23 units tested, that had achieved emissions of less than 5 ppmv-NO_x @ 3% O₂, but not on a consistent basis. Based on this, the District concludes that 5 ppmv-NO_x @ 3% O₂ is not Achieved in Practice. Note that none of the heaters tested were equipped with selective catalytic reduction (SCR).

Note that the subject oil heater is frequently cycled on-and-off depending on heating needs. Consequently, owing the unit's frequent on/off cycling, use of selective catalytic reduction to achieve 5 ppmv-NO_x @ 3% O₂ is not feasible. Therefore, the 5 ppmv @ 3% O₂ option is eliminated.

c. Step 3 - Rank remaining options by control effectiveness

- 7 ppmvd @ 3% O₂ (Achieved in Practice)

d. Step 4 - Cost Effectiveness Analysis

Pursuant to Section IX.D of District Policy APR 1305 – BACT Policy, a cost effectiveness analysis is required. The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District BACT Policy S 1305 Section IX.D.2, the cost effectiveness analysis is not required.

d. Step 5 - Select BACT

- 7 ppmvd @ 3% O₂

1. BACT Analysis for VOC Emissions:

a. Step 1 - List all control technologies

As stated above, the District BACT Guideline that applies to this source category has been rescinded; therefore, the project-specific BACT analysis for VOC from the unit will be based on the Achieved in Practice and Technologically Feasible BACT options identified below.

The following control technologies have been identified as BACT options for oil heaters with a heat input rating of 25 MMBtu/hr:

- 1) Natural Gas Fired (Achieved in Practice)

b. Step 2 - Eliminate technologically infeasible options

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

c. Step 3 - Rank remaining options by control effectiveness

- 1) Natural Gas Fired (Achieved in Practice)

d. Step 4 - Cost Effectiveness Analysis

Pursuant to Section IX.D of District Policy APR 1305 – BACT Policy, a cost effectiveness analysis is required for all control technologies. The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District BACT Policy S 1305 Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

Natural Gas Fired (Achieved in Practice)

APPENDIX D
ERC Withdrawal Calculations

Per section 4.13.8 of Rule 2201, AER for VOC that occurred from April through November may be used to offset increases in VOC during any period of the year.

VOC	1 st Quarter (lb)	2 nd Quarter (lb)	3 rd Quarter (lb)	4 th Quarter (lb)
ERC C-1051-1	500	910	500	90
Offsets Required (Includes distance offset ratio)	452	452	452	452
Amount Withdrawn	452	814	452	90
Amount Remaining	48	96	48	0
Credits reissued under ERC C-xxxx-1	48	96	48	0

APPENDIX E

HRA Summary

San Joaquin Valley Air Pollution Control District

Risk Management Review and Ambient Air Quality Analysis

To: Ramon Norman – Permit Services

From: Will Worthley – Technical Services

Date: January 30, 2020

Facility Name: SHELL PIPELINE COMPANY LP

Location: COALINGA PUMP STATION, 37509 OIL CITY RD, COALINGA

Application #(s): C-1234-2-6

Project #: C-1193657

Summary

RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
2-6	0.01	NA ¹	NA ¹	NA ¹	No	Yes
Project Totals	0.01	NA ¹	NA ¹	NA ¹		
Facility Totals	<1	0.00	0.00	0.00		

Notes:

- The project passed with a prioritization score less than 1; therefore, no further analysis was required.

AAQA

Pollutant	Air Quality Standard (State/Federal)				
	1 Hour	3 Hours	8 Hours	24 Hours	Annual
CO	Pass		Pass		
NO_x	Pass				Pass
SO_x	Pass	Pass		Pass	Pass
PM₁₀				Pass ³	Pass ³
PM_{2.5}				Pass ⁴	Pass ⁴

Notes:

- Results were taken from the attached AAQA Report.
- The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165(b)(2) unless otherwise noted below.
- Modeled PM₁₀ concentrations were below the District SIL for non-fugitive sources of 5 µg/m³ for the 24-hour average concentration and 1 µg/m³ for the annual concentration.
- Modeled PM_{2.5} concentrations were below the District SIL for non-fugitive sources of 1.2 µg/m³ for the 24-hour average concentration and 0.2 µg/m³ for the annual concentration.

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

Unit # 2-6

- 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.

Project Description

Technical Services received a request on January 21, 2020 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -2-6: MODIFICATION OF DORMANT 25.5 MMBTU/HR NATIONAL OIL CRUDE OIL AND NATURAL GAS-FIRED OIL HEATER WITH A NORTH AMERICAN MODEL 5131 HCRF BURNER (OIL HEATER #2): RETROFIT OIL HEATER WITH A 25 MMBTU/HR NORTH AMERICAN MODEL 4213 NATURAL GAS-FIRED LOW NOX BURNER WITH FLU GAS RECIRCULATION (FGR) TO ACHIEVE 7 PPMVD-NOX @ 3% O₂ FOR COMPLIANCE WITH RULE 4320, RETURN TO SERVICE, AND REMOVE ANNUAL LIMIT FOR DAYS OF OPERATION

RMR Report

Analysis

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than 1.0. If a preliminary analysis demonstrates that either the unit(s) or the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required

If a refined assessment is greater than one in a million but less than 20 in one million for carcinogenic impacts (Cancer Risk) and less than 1.0 for the Acute and Chronic hazard indices (Non-Carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For unit's that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented.

Toxic emissions for this project were calculated using the following methods:

- Toxic emission factors were derived from data in the 1992 Radian Corporation report to WSPA. Data was based on source tests in the San Joaquin Valley.

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed unit was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

Source Process Rates						
Unit ID	Process ID	Process Material	Process Units	Hourly Process Rate	Annual Process Rate	Receptor Distance (m)
2	1	NG/WG Usage	MMscf	0.025	219	527

AAQA Report

The District modeled the impact of the proposed project on the National Ambient Air Quality Standard (NAAQS) and/or California Ambient Air Quality Standard (CAAQS) in accordance with District Policy

APR-1925 (Policy for District Rule 2201 AAQA Modeling) and EPA's Guideline for Air Quality Modeling (Appendix W of 40 CFR Part 51). The District uses a progressive three level approach to perform AAQAs. The first level (Level 1) uses a very conservative approach. If this analysis indicates a likely exceedance of an AAQS or Significant Impact Level (SIL), the analysis proceeds to the second level (Level 2) which implements a more refined approach. For the 1-hour NO₂ standard, there is also a third level that can be implemented if the Level 2 analysis indicates a likely exceedance of an AAQS or SIL.

The modeling analyses predicts the maximum air quality impacts using the appropriate emissions for each standard's averaging period. Required model inputs for a refined AAQA include background ambient air quality data, land characteristics, meteorological inputs, a receptor grid, and source parameters including emissions. These inputs are described in the sections that follow.

Ambient air concentrations of criteria pollutants are recorded at monitoring stations throughout the San Joaquin Valley. Monitoring stations may not measure all necessary pollutants, so background data may need to be collected from multiple sources. The following stations were used for this evaluation:

Monitoring Stations				
Pollutant	Station Name	County	City	Measurement Year
CO	Tranquillity	Fresno	Fresno	2016
NOx	Fresno-Drummond	Fresno	Fresno	2016
PM10	SANTA ROSA RANCHIERIA	Kings	Lemoore	2016
PM2.5	Tranquillity	Fresno	Fresno	2016
SOx	Fresno - Garland	Fresno	Fresno	2016

Technical Services performed modeling for directly emitted criteria pollutants with the emission rates below:

Emission Rates (lbs/hour)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
2	1	0.21	0.07	7.39	0.08	0.08

Emission Rates (lbs/year)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
2	1	1,862	624	64,736	657	657

The AERMOD model was used to determine if emissions from the project would cause or contribute to an exceedance of any state or federal air quality standard. The parameters outlined below and meteorological data for 2004-2008 from Turk (rural dispersion coefficient selected) were used for the analysis:

The following parameters were used for the review:

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/ Horizontal/ Capped
2	NG Process Heater	12.19	450	2.18	1.02	Vertical

Conclusion

RMR

The cumulative prioritization score for the facility, including this project, is less than 1.0. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

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

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

AAQA

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS. The ambient air quality impacts from PM₁₀ emissions at the proposed dairy (modification) (does not) exceed the District's 24-hour or Annual interim threshold for fugitive dust sources.

Appendix F

Compliance Certification

RECEIVED

DEC 16 2019

Permits Services
SJVAPCD



Shell Pipeline Company LP
1801 Petrol Rd
Bakersfield CA 93308

December 9, 2019

Permit Services Department
SJVAPCD – Central Region Office
1990 E. Gettysburg Avenue
Fresno, California 93726-0244

Subject: Permit Application to Return Dormant Emission Unit (DEU) to Service; Shell Pipeline Company, Coalinga Facility C-1234-2-5

Dear Sir or Madam:

Please find attached a permit application to retrofit dormant Heater 2 (C-1234-2-5) for a return to service. Please find enclosed the following:

- ATC Application Form
- Process Heater Supplemental Form
- TV Form 008 and TV Form 009
- Site Map
- Permit application support document, including attachments.

In addition, below is a state-wide compliance certification in accordance with Rule 2201 Section 4.15.2 and a request for expedited permit processing.

State-Wide Compliance Certification

In accordance with Rule 2201 Section 4.15.2, all major stationary sources in California owned or operated by Shell, or by any entity controlling, controlled by, or under common control with Shell, and which are subject to emission limitations and standards under the Clean Air Act, are in compliance or on a schedule for compliance with all applicable emission limitations and standards. These sources include the following facilities:

Facility	Facility ID	City of Operation	Air Quality Management District
West Sacramento Terminal	00046	West Sacramento	Yolo-Solano Air Quality Management District
Martinez Terminal	11956	Martinez	Bay Area Air Quality Management District
Martinez Refinery	A0011	Martinez	Bay Area Air Quality Management District
Mormon Island Terminal	117560	Wilmington	South Coast Air Quality Management District
Signal Hill Terminal	116931	Signal Hill	South Coast Air Quality Management District
Van Nuys Terminal	800369	Van Nuys	South Coast Air Quality Management District
Colton Terminal	117225	Bloomington	South Coast Air Quality Management District

Facility	Facility ID	City of Operation	Air Quality Management District
Carson Terminal	800372	Carson	South Coast Air Quality Management District
Stockton Terminal	N-758	Stockton	San Joaquin Valley Air Pollution Control District
Coalinga Station	C-1234	Coalinga	San Joaquin Valley Air Pollution Control District
Carneras Facility	S-77	Taft	San Joaquin Valley Air Pollution Control District
Emidio Station	S-83	Mettler	San Joaquin Valley Air Pollution Control District
Bakersfield Pump Station	S-1413	Bakersfield	San Joaquin Valley Air Pollution Control District

Expedited Permit Processing

Shell has an urgent need to add additional heat capacity to its pipeline system to allow for efficient product transfer during the colder winter months. As such, Shell is requesting to expedite this application and overtime charges for this project are hereby authorized by Shell.

Draft ATC Review Period

As noted on the ATC/PTO Application Form, Shell requests a 10-day review period prior to ATC issuance.

Please contact our environmental advisor at (661) 391-2413 or Christopher.Sherman@shell.com if you have any questions. We are happy to provide Excel copies of emission calculations if it would aid in the processing of this application. Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Sincerely,



Darwin Lyons
Facilities Manager
Shell Pipeline Company LP

Enclosures

Appendix G

Draft ATC

*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-1234-2-6

LEGAL OWNER OR OPERATOR: SAN PABLO BAY PIPELINE COMPANY LLC
MAILING ADDRESS: 3760 KILROY AIRPORT WAY, SUITE 300
LONG BEACH, CA 90806

LOCATION: COALINGA PUMP STATION
37509 OIL CITY RD
COALINGA, CA 93210

EQUIPMENT DESCRIPTION:

MODIFICATION OF DORMANT 25.5 MMBTU/HR NATIONAL OIL HEATER #2, WITH NORTH AMERICAN MODEL 5131HCRF BURNER: RETROFIT WITH A 25 MMBTU/HR NORTH AMERICAN MODEL 4213 LOW NOX BURNER, INSTALL FLU GAS RECIRCULATION, RESTRICT TO FIRING ON PUC QUALITY NATURAL GAS AND REMOVE 30 DAY/YEAR OPERATING LIMIT

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 Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 452 lb, 2nd quarter - 452 lb, 3rd quarter - 452 lb, and 4th quarter - 452 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Number C-1051-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 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.

Samir Sheikh, Executive Director - APCO

Arnaud Marjollet, Director of Permit Services

C-1234-2-6 : Apr 20 2020 9:48AM -- TORID : Joint Inspection NOT Required

5. 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] Federally Enforceable Through Title V Permit
6. 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]
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] Federally Enforceable Through Title V Permit
8. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
9. The unit shall only be fired on PUC-quality natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Permittee shall determine sulfur content of combusted gas annually or shall demonstrate that the combusted gas is provided from a PUC or FERC regulated source. [District Rule 4320] Federally Enforceable Through Title V Permit
11. Emissions from this unit shall not exceed any of the following limits: 7 ppmvd NO_x @ 3% O₂ or 0.008 lb-NO_x/MMBtu, 0.00285 lb-SO_x/MMBtu, 0.003 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] Federally Enforceable Through Title V Permit
12. 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 during the shakedown period allowed by this permit. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
13. 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 the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
14. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
15. 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] Federally Enforceable Through Title V Permit
16. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

17. Source testing to measure NO_x and CO emissions from this unit shall be conducted within 60 days of start-up and 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 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
19. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
20. 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] Federally Enforceable Through Title V Permit
21. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
22. Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
24. 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
25. Nitrogen Oxide (NO_x) emissions shall not exceed 140 lb/hr, calculated as NO₂. [District Rules 4301, 5.2.2, 5.3, and 5.5] Federally Enforceable Through Title V Permit
26. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO₂. [District Rules 4301, 5.2.1] Federally Enforceable Through Title V Permit
27. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801 and Fresno County Rule 406] Federally Enforceable Through Title V Permit
28. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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