

January 11, 2023

Higinio Barraza
General Testing Services
1605 Glacier Way
Wasco, CA 93280

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: S-7581
Project Number: S-1213053

Dear Mr. Barraza:

Enclosed for your review and comment is the District's analysis of General Testing Services's application for an Authority to Construct for a portable well test flare that can be operated at various unspecified locations with the District.

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 period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Homero Ramirez of Permit Services at (661) 392-5616.

Sincerely,



Brian Clements
Director of Permit Services

BC:har

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email

Samir Sheikh
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Well Test Flare

Facility Name: General Testing Services
Mailing Address: 1605 Glacier Way
Wasco, CA 93280
Contact Person: Higinio Barraza
Telephone: (661) 746-1042
E-Mail: higinio@generaltestingservices.com
Application #(s): S-7581-8-0
Project #: S-1213053
Deemed Complete: October 20, 2021

Date: January 3, 2023
Engineer: Homero Ramirez
Lead Engineer: Steve Davidson

I. Proposal

General Testing Services has requested an Authority to Construct (ATC) permit for a 208 MMBtu/hr portable well test flare that can be operated at various unspecified locations within the District.

According to District Policy APR 1020 (Multiple Location Permit Policy), permits with various unspecified locations can only be issued for units that do not become part of another stationary source in order not to trigger offsetting requirements. The following condition from APR 1020 will be placed on the permit to reflect this requirement:

- This unit must not be located and operated at an existing facility or operation such that it becomes part of an existing stationary source as defined by District Rule 2201. [District Rule 2201]

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 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4311	Flares (12/17/20)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment

CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA
Guidelines

III. Project Location

The equipment will be located at various unspecified locations within the District. The equipment will not be located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

After drilling, and periodically during their productive lives, oil and gas wells are tested to establish their flow and pressure decline rates. The well test flares will incinerate the gases released from the well during testing.

V. Equipment Listing

S-7581-8-0: 208 MMBTU/HR PORTABLE SMOKELESS AIR-ASSISTED WELL-TEST FLARE WITH A MODEL 100-12-GTS TIP FOR USE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN SJVAPCD

VI. Emission Control Technology Evaluation

A well test flare is an emission control and safety device used to incinerate combustible gases that would otherwise be released during testing of an oil or gas production well. The combustible gases include a significant fraction of VOC along with measurable concentrations of various sulfur compounds such as hydrogen sulfide (H₂S). By incinerating these gases, VOC emissions are reduced by at least 99%, while sulfur compounds are expected to be entirely converted to SO_x.

Pursuant to Rule 2201, Section 4.1.1, Best Available Control Technology (BACT) is required for all criteria pollutants emitted by a new or modified emissions unit which results in an increase in emissions greater than 2 lbs/day, except for CO which must be greater than 2 lbs/day and have an SSPE2 greater or equal to 200,000 lb/yr.

“Emissions unit” is defined in Section 3.17 of Rule 2201 as “an identifiable operation or piece of process equipment such as a source operation which emits, may emit, or results in the emissions of any affected pollutant directly or as fugitive emissions.” In this case, the oil production well that produces the gas is the source operation, and the flare serves as an emission control device.

The well testing operation is expected to release a maximum of 5.0 MMscf of gas per day. The gas must be disposed of after flow measurement to prevent a safety hazard from the release of volatile organic compounds (VOC) and hydrogen sulfide (H₂S). H₂S is a known hazardous air pollutant (HAP). The flare is expected to control VOC emissions by at least 99% over uncontrolled

venting of the produced gas. H₂S in the produced gas is expected to be entirely converted to SO₂ during combustion.

Rule 1020, Section 3.46 excludes air pollution abatement operations from the definition of “source operation”. Since the well test flare is designed to control the VOC and H₂S emissions from the well, the flare is considered an air pollution abatement operation and is exempt from the definition of emissions unit. Therefore, the well drilling and testing operation may be subject to BACT, but the control device selected as BACT is not.

As will be shown in Section VII, Calculations, BACT is required for VOC emissions from the well testing operation. H₂S emissions are converted entirely to SO₂ during incineration.

VII. General Calculations

A. Assumptions

- The heating value of the flared gas is 1,000 Btu/scf.
- Maximum hourly flared gas flow rate: 0.208 MMscf/hr (208 MMBtu/hr)
- Maximum daily flared gas flow rate, 5.0 MMscf/day (5,000 MMBtu/day) (proposed by applicant)
- Maximum annual flared gas flow rate, 288 MMscf/yr (288,000 MMBtu/yr) (proposed by applicant)
- Propane pilot gas combustion emissions are based on a pilot fuel consumption rate of 5 scf/hr, which are insignificant and neglected.
- VOC content of flared gas is unknown, assume molecular weight of 20 lb/lb-mol (which is slightly heavier than methane) and 5% by wt VOCs.
- The flared natural gas will have a H₂S content less than 5 gr/100 scf, measured as sulfur (proposed by applicant).
- To streamline emission calculations, PM_{2.5} emissions are assumed to be equal to PM₁₀ emissions. Only if needed to determine if a project is a Federal major modification for PM_{2.5} will specific PM_{2.5} emission calculations be performed.

B. Emission Factors

The following emission factors will be used for the flares:

Flare Emission Factors		
Pollutant	lb/MMBtu	Source
NO _x	0.068	FYI 83 (AP-42, Industrial Flares, Table 13.5-1)
SO _x	0.0143	Mass Balance Equation ⁽¹⁾
PM ₁₀	0.008	FYI 83 (AP-42, Industrial Flares, Table 13.5-1)
CO	0.310	FYI 83 (AP-42, Industrial Flares, Table 13.5-1)
VOC	0.063	FYI 83 (AP-42, Industrial Flares, Table 13.5-1) ⁽²⁾

$$(1): \frac{5 \text{ gr} \cdot S}{100 \text{ dscf}} \left(\frac{\text{dscf}}{1,000 \text{ Btu}} \right) \frac{10^6 \text{ Btu}}{\text{MMBtu}} \left(\frac{1 \text{ lb}}{7,000 \text{ gr}} \right) \frac{64 \text{ lb} \cdot \text{SO}_2}{32 \text{ lb} \cdot S} = 0.0143 \frac{\text{lb} \cdot \text{SO}_2}{\text{MMBtu}}$$

$$(2): (1.2)(200)(\text{Wt \% VOCs})(\text{density gas})/\text{HHV per FYI-83. Assuming a flared gas with 5\% by wt VOCs, MW}_{\text{avg}} = 20 \text{ (slightly heavier than methane), and HHV} = 1000 \text{ Btu/ft}^3, \text{ the density gas} = 20 \text{ lb/lbmol}/379.5 \text{ ft}^3/\text{lbmol. Thus, EF flare} = (1.2)(200)(5)(20/379.5)/1000 = 0.063 \text{ lb-VOC/MMBtu.}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, PE1 = 0 for all pollutants.

2. Post-Project Potential to Emit (PE2)

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

Daily PE2

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

$$\begin{aligned} \text{PE2}_{\text{NO}_x} &= (0.068 \text{ lb/MMBtu}) * (1,000 \text{ MMBtu/ MMscf}) * (5.0 \text{ MMscf/day}) \\ &= 340.0 \text{ lb-NO}_x/\text{day} \end{aligned}$$

$$\begin{aligned} \text{PE2}_{\text{SO}_x} &= (0.0143 \text{ lb/MMBtu}) * (1,000 \text{ MMBtu/ MMscf}) * (5.0 \text{ MMscf/day}) \\ &= 71.5 \text{ lb-SO}_x/\text{day} \end{aligned}$$

$$\begin{aligned} \text{PE2}_{\text{PM}_{10}} &= (0.008 \text{ lb/MMBtu}) * (1,000 \text{ MMBtu/ MMscf}) * (5.0 \text{ MMscf/day}) \\ &= 40.0 \text{ lb-PM}_{10}/\text{day} \end{aligned}$$

$$\begin{aligned} \text{PE2}_{\text{CO}} &= (0.310 \text{ lb/MMBtu}) * (1,000 \text{ MMBtu/ MMscf}) * (5.0 \text{ MMscf/day}) \\ &= 1,550.0 \text{ lb-CO}/\text{day} \end{aligned}$$

$$\begin{aligned} PE2_{VOC} &= (0.063 \text{ lb/MMBtu}) * (1,000 \text{ MMBtu/ MMscf}) * (5.0 \text{ MMscf/day}) \\ &= 315.0 \text{ lb-VOC/day} \end{aligned}$$

Annual PE2

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

$$\begin{aligned} PE2_{NOx} &= (0.068 \text{ lb/MMBtu}) * (1,000 \text{ MMBtu/ MMscf}) * (288 \text{ MMscf/year}) \\ &= 19,584 \text{ lb-NO}_x\text{/year} \end{aligned}$$

$$\begin{aligned} PE2_{SOx} &= (0.0143 \text{ lb/MMBtu}) * (1,000 \text{ MMBtu/ MMscf}) * (288 \text{ MMscf/year}) \\ &= 4,118 \text{ lb-SO}_x\text{/year} \end{aligned}$$

$$\begin{aligned} PE2_{PM10} &= (0.008 \text{ lb/MMBtu}) * (1,000 \text{ MMBtu/ MMscf}) * (288 \text{ MMscf/year}) \\ &= 2,304 \text{ lb-PM}_{10}\text{/year} \end{aligned}$$

$$\begin{aligned} PE2_{CO} &= (0.310 \text{ lb/MMBtu}) * (1,000 \text{ MMBtu/ MMscf}) * (288 \text{ MMscf/year}) \\ &= 89,280 \text{ lb-CO/year} \end{aligned}$$

$$\begin{aligned} PE2_{VOC} &= (0.063 \text{ lb/MMBtu}) * (1,000 \text{ MMBtu/ MMscf}) * (288 \text{ MMscf/year}) \\ &= 18,144 \text{ lb-VOC/year} \end{aligned}$$

PE2		
Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	340.0	19,584
SO _x	71.5	4,118
PM ₁₀	40.0	2,304
CO	1,550.0	89,280
VOC	315.0	18,144

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.

Since the well test flare is not permitted to operate at an existing facility or operation such that it becomes part of an existing stationary source, each well test flare is its own stationary source and no other permitted equipment, including other well test flares, are

allowed to operate as part of a well test flare’s stationary source. Therefore, this is a new facility (stationary source); therefore, the SSPE1 values are equal to zero.

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
S-7581-8-0 (new)	19,584	4,118	2,304	89,280	18,144
SSPE2	19,584	4,118	2,304	89,280	18,144

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), pursuant to the Clean Air Act, Title 3, Section 302, US Codes 7602(j) and (z)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 70.2

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1	0	0	0	0	0	0
SSPE2	19,584	4,118	2,304	2,304	89,280	18,144
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	No

Note: PM2.5 assumed to be equal to PM10

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

Rule 2410 Major Source Determination:

As shown above, the facility is not an existing PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

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

Therefore BE = PE1.

7. SB 288 Major Modification

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

Since this facility is not a major source for any of the pollutants addressed in this project, this project does not constitute an SB 288 major modification and no further discussion is required.

8. Federal Major Modification / New Major Source

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.

As defined in 40 CFR 51.165, Section (a)(1)(v) and part D of Title I of the CAA, a Federal Major Modification is 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. The significant net emission increase threshold for each criteria pollutant is included in Rule 2201.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification and no further discussion is required.

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)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀

I. Project Emissions Increase - New Major Source Determination

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Total PE from New and Modified Units	9.8	9.1	2.1	44.6	1.2	1.2
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	No	No	No	No	No	No

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

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance 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 seen in Section VII.C.2 above, the applicant is proposing to install a new flare with a PE greater than 2 lb/day for NO_x, SO_x, PM₁₀, CO, and VOC. As discussed in Section VI above, the flare is a VOC control device (not emissions units) and therefore BACT is triggered only for VOC only.

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

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

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

1. BACT Guideline

All current BACT guidelines for flares have been rescinded, including former SJVAPCD BACT guideline 1.4.7 that applied to waste gas flares (oilfield well drilling and testing operations, < 50 MMscf/day). Therefore, a project-specific BACT analysis will be performed for this project.

2. 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 B), BACT has been satisfied with the following:

VOC: The use of an open flare with smokeless combustion and visible emissions less than 5% opacity.

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	PM ₁₀	CO	VOC
SSPE2	19,584	4,118	2,304	89,280	18,144
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	No	No	No	No	No

2. Quantity of District Offsets Required

As discussed above, the SSPE2 is not greater than the offset thresholds for all pollutants, therefore District offsets are not triggered. In addition, as demonstrated above, this project does not trigger Federal Major Modification or New Major Source requirements. In conclusion, offsets will not be required for this project and no further discussion is required.

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 SSIPE 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

As shown in Section VII.C.5 above, this existing minor source facility is not becoming a Major Source as a result of this project. Therefore, this facility is not a New Major Source and this project does not constitute an SB 288 or a Federal Major Modification. Consequently, public noticing for this project for New Major Source, Federal Major Modification, or SB 288 Major Modification purposes is not required.

b. PE > 100 lb/day

The PE2 for this new unit is compared to the daily PE Public Notice thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO _x	340.0	100 lb/day	Yes
SO _x	71.5	100 lb/day	No
PM ₁₀	40.0	100 lb/day	No
CO	1,850.0	100 lb/day	Yes
VOC	315.0	100 lb/day	Yes

Therefore, public noticing for PE > 100 lb/day purposes is required.

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	0	19,584	20,000 lb/year	No
SO _x	0	4,118	54,750 lb/year	No
PM ₁₀	0	2,304	29,200 lb/year	No
CO	0	89,280	200,000 lb/year	No
VOC	0	18,144	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

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

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	19,584	0	19,584	20,000 lb/year	No
SO _x	4,118	0	4,118	20,000 lb/year	No
PM ₁₀	2,304	0	2,304	20,000 lb/year	No
CO	89,280	0	89,280	20,000 lb/year	Yes
VOC	18,144	0	18,144	20,000 lb/year	No

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

e. Title V Significant Permit Modification

Since this facility does not have a Title V operating permit, this change is not a Title V significant Modification, and therefore public noticing is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for NO_x, CO, and VOC emissions in excess of 100 lb/day and for CO emissions in excess of 20,000 lb/year.

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:

- Daily and annual amounts of gas flared shall not exceed 5.0 MMscf/day and 288 MMscf/yr. [District Rule 2201]
- Visible emissions shall not exhibit Ringelmann 1/4 or greater or equivalent 5% opacity or greater for more than three minutes in any one hour. [District Rule 2201]
- Sulfur compound concentration of gas flared shall not exceed 5 gr/100 scf. [District Rule 2201]
- Emission rates shall not exceed any of the following: 0.008 lb-PM10/MMBtu, 0.068 lb-NOx/MMBtu (as NO₂), 0.063 lb-VOC/MMBtu, or 0.310 lb-CO/MMBtu. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

The following testing condition is included on the proposed ATC:

- Permittee shall document compliance with well gas sulfur compound concentration limit by performing sulfur content analysis of well gas upon startup at each new location of operation of flare. [District Rule 2201]

2. Monitoring

The following monitoring condition is included:

- Permittee shall inspect the flare in operation for visible emissions no less frequently than once every two weeks. If visible emissions are observed, corrective action shall be taken. If visible emissions persist, an EPA Method 9 test shall be performed within 72 hours. [District Rule 2201]

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:

- Permittee shall maintain accurate daily records indicating flare location, flared gas sulfur content at each location, and daily and annual rates of gas flared; and such records shall be made readily available for District inspection upon request for a minimum of 5 years. [District Rule 2201] N

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 C of this document for the AAQA summary sheet.

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

The proposed location is in a non-attainment area for the state's 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}.

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

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

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. However, no subparts of 40 CFR Part 60 apply to well test flares.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). Provided the flare is operating correctly, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Therefore, compliance is expected.

Rule 4102 Nuisance

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification of an existing source shall not result in an increase in cancer risk greater than the District’s significance level (20 in a million) and shall not result in acute and/or chronic risk indices greater than 1.

According to the Technical Services Memo for this project, the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The resulting prioritization score, acute hazard index, chronic hazard index, and cancer risk for this project is shown below.

Health Risk Assessment Summary	
	Worst Case Potential
Prioritization Score	201.73
Cancer Risk	0.123 in a million
Acute Hazard Index	0.00
Chronic Hazard Index	0.00
T-BACT Required?	No

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.

In accordance with District policy APR 1905, no further analysis is required, and compliance with District Rule 4102 requirements is expected.

See Appendix C: Health Risk Assessment Summary

The following permit conditions are required to ensure compliance with the assumptions made for the risk management review:

- 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]

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.

For natural gas the EPA F-factor (adjusted to 60°F) is 8710 dscf/MMBtu (40 CFR 60 Appendix B).

PM ₁₀ Emission Factor:	0.008 lb-PM ₁₀ /MMBtu
Percentage of PM as PM ₁₀ in Exhaust:	100%
Exhaust Oxygen (O ₂) Concentration:	3%

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

$$GL = \left(\frac{0.008 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left(\frac{8,710 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)$$

$$GL = 0.0055 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

Since 0.0055 grain/dscf is less than 0.1 grain/dscf, compliance with this rule is expected.

Rule 4311 Flares

This rule limits VOC, NO_x, and SO_x emissions from flares.

Section 4.3 exempts flares used for well testing, tank degassing, and pipeline degassing operations. Therefore, the facility is exempt from all requirements, no further discussion is required.

Rule 4801 Sulfur Compounds

Rule 4801 requires that 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: two-tenths (0.2) percent by volume calculated as sulfur dioxide (SO₂), on a dry basis averaged over 15 consecutive minutes.

Emission calculations were calculated using a fuel with a 5 gr/100 dscf sulfur content. The maximum SO_x ppmv are calculated to be:

$$\begin{aligned} \text{SO}_x &= (5 \text{ gr}/100 \text{ dscf-fuel})(1 \text{ lb}/7000 \text{ gr-S})(1 \text{ mol}/32 \text{ lb-S})(379.5 \text{ dscf-S}/1 \text{ mol-S})(1 \text{ dscf} \\ &\quad \text{fuel}/1000 \text{ Btu})(1 \times 10^6 \text{ Btu}/8710 \text{ dscf})(1 \times 10^6) \\ &= 9.7 \text{ ppmv} < 2,000 \text{ ppmv} \end{aligned}$$

Therefore, compliance with 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.

District CEQA Findings

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity consists of issuing a permit for a piece of transportable equipment to be used at various locations within the District. The District makes the following findings regarding this activity: 1) Issuance of the permit does not have a significant environmental impact. 2) Assessment of potential environmental effects resulting from the use of the transportable equipment on a development project is the responsibility of the Lead Agency approving the specific project, and will be

determined on a project specific basis. The District has determined that no additional findings are required.

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 NSR Public Noticing period, issue ATC S-7581-8-0 subject to the permit conditions on the attached draft ATC in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-7581-8-0	3020-02-H	208 MMBtu/hr	\$1,238

Appendixes

- A: Draft Authority to Construct
- B: Top-Down BACT Analysis
- C: HRA and AAQA Summary
- D: Quarterly Net Emissions Change

APPENDIX A
Draft Authority to Construct

*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-7581-8-0

LEGAL OWNER OR OPERATOR: GENERAL TESTING SERVICES

MAILING ADDRESS: 1605 GLACIER WAY
WASCO, CA 93280

LOCATION: VARIOUS UNSPECIFIED LOCATIONS, SJVAPCD

EQUIPMENT DESCRIPTION:

208 MMBTU/HR PORTABLE SMOKELESS AIR-ASSISTED WELL-TEST FLARE WITH A MODEL 100-12-GTS TIP FOR USE AT VARIOUS UNSPECIFIED LOCATIONS WITHIN SJVAPCD

CONDITIONS

1. The equipment shall not be located within 1000 ft. of any K-12 school. [CH&SC 42301.6]
2. Flare shall only be used to combust gas released during well testing. [District Rule 2201]
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the operation is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 2201]
5. This permit shall not authorize the utilization of any IC engine, or other combustion device requiring a separate permit, for powering the air assist to the flare. [District Rule 2201]
6. The unit must not be located and operated at an existing facility or operation such that it becomes part of an existing stationary source as defined by District Rule 2201. [District Rule 2201]
7. 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]
8. Flare shall be equipped with air assist which shall be utilized when needed to maintain visible emissions below Ringlemann 1/4 and 5% opacity. [District Rule 2201]
9. Gas line to flare shall be equipped with operational, volumetric flow rate indicator. [District Rule 2201]
10. Daily and annual amounts of gas flared shall not exceed 5.0 MMscf/day and 288 MMscf/yr. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

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

Samir Sheikh, Executive Director / APCCO

Brian Clements, Director of Permit Services

S-7581-8-0 : Jan 3 2023 3:12PM -- RAMIREZH : Joint Inspection NOT Required

11. Visible emissions shall not exhibit Ringelmann 1/4 or greater or equivalent 5% opacity or greater for more than three minutes in any one hour. [District Rule 2201]
12. Sulfur compound concentration of gas flared shall not exceed 5 gr/100 scf. [District Rule 2201]
13. Emission rates shall not exceed any of the following: 0.008 lb-PM10/MMBtu, 0.068 lb-NO_x/MMBtu (as NO₂), 0.063 lb-VOC/MMBtu, or 0.310 lb-CO/MMBtu. [District Rule 2201]
14. The flare shall be operated according to the manufacturer's specifications, a copy of which shall be maintained on site. [District Rule 2201]
15. Permittee shall inspect the flare in operation for visible emissions no less frequently than once every two weeks. If visible emissions are observed, corrective action shall be taken. If visible emissions persist, an EPA Method 9 test shall be performed within 72 hours. [District Rule 2201]
16. Permittee shall document compliance with well gas sulfur compound concentration limit by performing sulfur content analysis of well gas upon startup at each new location of operation of flare. [District Rule 2201]
17. The following test methods shall be used for well gas sulfur content: ASTM D3246 or double GC for H₂S and mercaptan. [District Rule 1081]
18. Permittee shall maintain accurate daily records indicating flare location, flared gas sulfur content at each location, and daily and annual rates of gas flared; and such records shall be made readily available for District inspection upon request for a minimum of 5 years. [District Rule 2201]

DRAFT

APPENDIX B
Top-Down BACT Analysis

Top Down BACT Analysis

BACT Analyses for VOCs:

All current BACT guidelines for flares have been rescinded, including former SJVAPCD BACT guideline 1.4.7 that applied to waste gas flares (oilfield well drilling and testing operations, < 50 MMscf/day). Therefore, a project-specific BACT analysis will be performed for this project.

a. Step 1 - Identify all control technologies

The following are potential control technologies that have identified for flares:

1. An open flare with smokeless combustion and visible emissions less than 5% opacity, except for a period or periods aggregating three minutes or less in any one hour (99% control efficiency)
2. Enclosed low-NOx flares capable of achieving 99% control of VOC emissions and NOx emissions of 15 ppmv @ 3% O2 (99% control efficiency and NOx emissions \leq 15 ppmv @ 3% O2).

b. Step 2 - Eliminate technologically infeasible options

Enclosed low-NOx flares capable of achieving 99% control of VOC emissions and NOx emissions of 15 ppmv @ 3% O2 are not technically feasible to control well drilling and testing operations due to:

- The highly variable nature of gas generated from a well drilling and testing operation are not suitable to combustion in an enclosed low NOx flare, as such flares require a steady flow of gas to operate properly, and
- Low NOx flares are not inherently portable, as the equipment requires a large foundation, and equipment to control the air flow into the flare, temperature controls, etc.

Therefore enclosed low NOx flares can be eliminated as possible controls.

c. Step 3 - Rank remaining options by control effectiveness

The remaining control option is:

1. Smokeless combustion with visible emissions less than 5% opacity, except for a period or periods aggregating three minutes or less in any one hour (99% control efficiency)

d. Step 4 - Cost effectiveness analysis

Because the applicant is proposing the one listed control technology listed Step 3 above, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT is satisfied with the proposed open flare with smokeless combustion and visible emissions less than 5% opacity, except for a period or periods aggregating three minutes or less in any one hour (99% control efficiency) is proposed.

APPENDIX C
HRA and AAQA Summary

San Joaquin Valley Air Pollution Control District

Risk Management Review and Ambient Air Quality Analysis

To: Adegoke Oba – Permit Services
 From: Will Worthley – Technical Services
 Date: October 27, 2021
 Facility Name: GENERAL TESTING SERVICES
 Location: VARIOUS UNSPECIFIED LOCATIONS, SJVAPCD,
 Application #(s): S-7581-8-0
 Project #: S-1213053

1. Summary

1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
8-0	201.73	0.00 ¹	0.00 ¹	1.23E-07 ¹	No	Yes
Project Totals	201.73	0.00	0.00	1.23E-07		
Facility Totals	>1	0.00	0.00	1.23E-07		

1. Unit was evaluated using LPG (pilot fuel) and NG/Waste Gas combustion and the worst case fuel was used for the unit's risk.

1.2 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
PM ₁₀				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 # 8-0

1. 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.

2. Project Description

Technical Services received a request on October 11, 2021 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -8-0: WELL TESTING OPERATION WITH PORTABLE 5.0 MMSCF/DAY FLARE WITH AIR-ASSIST, PROPANE PILOT, AUTOMATIC IGNITION SYSTEM, AND PHASE SEPARATOR(S) OPERATED AT VARIOUS UNSPECIFIED LOCATIONS, SJVUAPCD

3. RMR Report

3.1 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 emissions for this proposed unit were calculated using 2001 Ventura County's Air Pollution Control District emission factors for Natural Gas Fired external combustion and the District's approved conversion factors from Natural Gas to LPG.
- Toxic emissions for this proposed unit were calculated using 2001 Ventura County's Air Pollution Control District's emission factors for Natural Gas Fired external combustion and from a refinery gas composition analysis from the 2005 report FINAL REPORT Test of TDA's Direct Oxidation Process for Sulfur Recovery

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 facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 2013-2017 from Hanford (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

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
8	1	LPG Usage	1000/gal	4.47	3063.82
8	2	NG/WG Usage	Mmscf	0.42	288

1. Unit was evaluated using LPG (pilot fuel) and NG/Waste Gas combustion and the worst case fuel was used for the unit's risk.

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
8	LPG/NG/WG Fired Flare	14.81	922	62.84	3.71	Vertical

4. 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	Fresno - Garland	Fresno	Fresno	2018
NOx	Fresno - Garland	Fresno	Fresno	2018
PM10	Fresno - Garland	Fresno	Fresno	2018
PM2.5	Fresno - Garland	Fresno	Fresno	2018
SOx	Fresno - Garland	Fresno	Fresno	2018

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
8	1	14.10	3.00	77.00	1.7	1.7

Emission Rates (lbs/year)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
8	1	19,584	4,118	106,560	2,304	2,304

The AERMOD model was used to determine if emissions from the project would cause or contribute to an exceedance of any state of federal air quality standard. The parameters outlined below and meteorological data for 2013-2017 from Hanford (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
8	LPG/NG/WG Fired Flare	14.81	922	62.84	3.71	Vertical

5. Conclusion

5.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this project is less than 1.0 in a million. **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.

5.2 AAQA

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

6. Attachments

- A. Modeling request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. Facility Summary
- E. AAQA results

APPENDIX D
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post-Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

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

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

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	4,896	0	4,896
SO _x	1,029.5	0	1,029.5
PM ₁₀	576	0	576
CO	22,320	0	22,320
VOC	4,536	0	4,536