

March 14, 2023

Hunaid Shakoor
Tesla, Inc.
700 D'Arcy Parkway
Lathrop, CA 95330

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: N-10031
Project Number: N-1224361

Dear Mr. Shakoor:

Enclosed for your review and comment is the District's analysis of Tesla, Inc.'s application for an Authority to Construct for the 37.1 MMBtu/hr powder coating system consisting of various units, at 700 D'Arcy Parkway, Lathrop.

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. Kevin Perez of Permit Services at (209) 557-6458.

Sincerely,



Brian Clements
Director of Permit Services

BC:kp

Enclosures

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

Samir Sheikh
Executive Director/Air Pollution Control Officer

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

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-8000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (861) 392-5500 FAX: (861) 392-5585

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

Energy Storage Products Powder Coating Line

Facility Name: Tesla, Inc.

Date: March 14, 2023

Mailing Address: 700 D'Arcy Parkway
Lathrop, CA 95330

Engineer: Kevin Perez

Lead Engineer: James Harader

Contact Person: Hunaid Shakoor

Telephone: 408-329-2463

E-Mail: hshakoor@tesla.com

Application #: N-10031-1-1

Project #: N-1224361

Deemed Complete: November 3, 2022

I. Proposal

Tesla, Inc has submitted an ATC application to modify the size of the individual burners that will be installed for a proposed powder coating line (ATC N-10031-1-0). The following changes to the equipment are proposed:

- Change the 10.5 MMBtu/hr pretreatment stage burner to two 5.3 MMBtu/hr burners,
- Change the 10.5 MMBtu/hr dry off oven to three 3.5 MMBtu/hr dry off ovens,
- Change the 7.0 MMBtu/hr primer cure oven to two 3.5 MMBtu/hr primer cure ovens
- Change the 7.0 MMBtu/hr top coat cure oven to two 3.5 MMBtu/hr top coat cure ovens.

As a result of the proposed changes to the equipment that will be installed, ATC N-10031-1-0 cannot be implemented as original proposed and shall be deleted upon the implementation ATC N-10031-1-1, which is included in Appendix A. The powder coating line and associated ovens will be treated as new units in this project.

The following condition will be included on the permit:

- Authority to Construct N-10031-1-0 shall be deleted upon the implementation of this Authority to Construct. [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 4301	Fuel Burning Equipment (12/17/92)
Rule 4309	Dryers, Dehydrators, and Ovens (12/15/05)
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 700 D'Arcy Parkway in Lathrop. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The facility receives incoming battery modules from offsite sources and installs them, along with other key components, into energy storage products. The facility will simultaneously be fabricating and powder coating the product housing enclosures used in assembling the finished energy storage product.

The powder coating process consists of a pretreatment wash of the product enclosures equipped with two 5.3 MMBtu/hr burners for initial drying and a 0.4 MMBtu/hr zero discharge system burner. The product enclosures then go to the three 3.5 MMBtu/hr dry off ovens. The dry off ovens are followed by a cooling tunnel after which the primer coat is applied. The product enclosures then go through the two 3.5 MMBtu/hr primer cure ovens followed by another cooling tunnel. After cooling again, the top coat is applied and the enclosures go through the two 3.5 MMBtu/hr top coat cure ovens. The top coat cure ovens are followed by a 1.6 MMBtu/hr burn off oven. The facility may operate up 24 hour/day and 365 day/year

V. Equipment Listing

N-10031-1-1: 37.1 MMBTU/HR POWDER COATING SYSTEM CONSISTING OF A FOUR-STAGE PRETREATMENT WASHER EQUIPPED WITH TWO (2) 5.3 MMBTU/HR BURNERS AND A 0.4 MMBTU/HR ZERO DISCHARGE SYSTEM BURNER, THREE (3) 3.5 MMBTU/HR DRY OFF OVENS, TWO (2) 3.5 MMBTU/HR PRIMER CURE OVENS, TWO (2) 3.5 MMBTU/HR TOPCOAT CURE OVEN AND ONE (1) 1.6 MMBTU/HR BURN OFF OVEN

VI. Emission Control Technology Evaluation

The powder coating operation is equipped with low-NO_x burners. Low-NO_x burners reduce NO_x formation by producing lower flame temperatures (and longer flames) than conventional burners. Conventional burners thoroughly mix all the fuel and air in a single stage just prior to combustion, whereas low-NO_x burners delay the mixing of fuel and air by introducing the fuel (or sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO_x. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

The powder coating operations emit low levels of VOC by using coatings with a VOC content of 0.5% VOC by weight, or less. To reduce PM emissions, the exhaust from the powder coating booths is routed through a two-stage filtration system with a PM₁₀ control efficiency of 99% on the pre-filter and a PM₁₀ control efficiency of 99.9% on the after-filter.

VII. General Calculations

A. Assumptions

- 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.
- Because ATC N-10031-1-0 cannot be implemented, all equipment authorized by ATC N-10031-1-1 will be evaluated as a new emissions unit for Rule 2201 purposes.
- VOC emissions from the coatings will be calculated using a mass balance approach.
- The Higher Heating Value (HHV) of natural gas is 1,000 Btu/scf (corrected to 60 °F)
- F-factor for natural gas is 8,578 dscf/MMBtu @ 60 °F
- Transfer efficiency (TE) of powder coating is 65%, pre-filter control efficiency (CE_{Filter1}) is 99% and after-filter control efficiency (CE_{Filter2}) is 99.9%.

For the powder coating operation the applicant has proposed following throughputs:

Coating	Daily Usage (lb/day)
Primer	3,150
Top Coat	2,450

B. Emission Factors

Emission factors for natural gas combustion are stated in lb/MMBtu for all pollutants.

Natural Gas Combustion		
Pollutant	EF (lb/MMBtu)	Source
NO _x	0.048	Applicant Proposed
SO _x	0.00285	APR 1720
PM ₁₀	0.003	District Practice*
CO	0.286	Applicant proposed
VOC	0.0055	AP-42 Table 1.4-2

*Based on source test data from natural gas combustion equipment.

Emission factors for the powder coating operation are stated as VOC and PM₁₀ weight fractions.

$$\begin{aligned}
 EF_{PM10} &= 1 \text{ lb-PM}_{10}/\text{lb-coating} \times (1 - TE) \times (1 - CE_{Filter1}) \times (1 - CE_{Filter2}) \\
 &= 1 \text{ lb-PM}_{10}/\text{lb-coating} \times (1 - 0.65) \times (1 - 0.99) \times (1 - 0.999) \\
 &= 3.5 \times 10^{-6} \text{ lb-PM}_{10}/\text{lb-coating}
 \end{aligned}$$

Powder Coating		
Coating	EF (lb-VOC/lb-coating)	EF (lb-PM ₁₀ /lb-coating)
Primer	0.005	3.5E-06
Top Coat	0.005	3.5E-06

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)

Natural Gas Combustion

The potential to emit from natural gas combustion equipment in the powder coating system is calculated as follows, and summarized in the table below:

$$PE2_{Daily} = (\text{Emission Factor}) * (\text{Heat Input Rating}) * (24 \text{ hour/day})$$

$$PE2_{\text{Annual}} = (\text{Emission Factor}) * (\text{Heat Input Rating}) * (8,760 \text{ hour/year})$$

PE2 (lb/day, lb/year)					
Emission Unit	NO _x	SO _x	PM ₁₀	CO	VOC
(1) 5.3 MMBtu/hr Pretreatment Burner	6.1, 2,229	0.4, 132	0.4, 139	36.4, 13,287	0.7, 255
(2) 5.3 MMBtu/hr Pretreatment Burner	6.1, 2,229	0.4, 132	0.4, 139	36.4, 13,287	0.7, 255
(1) 0.4 MMBtu/hr Zero Discharge	0.5, 168	0.0, 10	0.0, 11	2.7, 1,002	0.1, 19
(1) 3.5 MMBtu/hr Dry Off Oven	4.0, 1,472	0.2, 87	0.3, 92	24.0, 8,769	0.5, 169
(2) 3.5 MMBtu/hr Dry Off Oven	4.0, 1,472	0.2, 87	0.3, 92	24.0, 8,769	0.5, 169
(3) 3.5 MMBtu/hr Dry Off Oven	4.0, 1,472	0.2, 87	0.3, 92	24.0, 8,769	0.5, 169
(1) 3.5 MMBtu/hr Primer Cure Oven	4.0, 1,472	0.2, 87	0.3, 92	24.0, 8,769	0.5, 169
(2) 3.5 MMBtu/hr Primer Cure Oven	4.0, 1,472	0.2, 87	0.3, 92	24.0, 8,769	0.5, 169
(1) 3.5 MMBtu/hr Top Coat Cure Oven	4.0, 1,472	0.2, 87	0.3, 92	24.0, 8,769	0.5, 169
(2) 3.5 MMBtu/hr Top Coat Cure Oven	4.0, 1,472	0.2, 87	0.3, 92	24.0, 8,769	0.5, 169
(1) 1.6 MMBtu/hr Burn Off Oven	1.8, 673	0.1, 40	0.1, 42	11.0, 4,009	0.2, 77
Total Combustion PE	42.5, 15,603	2.3, 923	3.0, 975	254.5, 92,950	5.2, 1,789

Powder Coating Operation

$$\begin{aligned} PE2_{\text{VOC}} &= (\text{Primer Usage} + \text{Top Coat Usage}) \times (\text{Emission Factor}) \\ &= (3,150 + 2,450 \text{ lb-coating/day}) \times (0.005 \text{ lb-VOC/lb-coating}) \\ &= 28.0 \text{ lb-VOC/day} \end{aligned}$$

$$\begin{aligned} &= (\text{Primer Usage} + \text{Top Coat Usage}) \times (\text{Emission Factor}) \times 365 \text{ day/year} \\ &= (3,150 + 2,450 \text{ lb-coating/day}) \times (0.005 \text{ lb-VOC/lb-coating}) \times 365 \text{ day/year} \\ &= 10,220 \text{ lb-VOC/year} \end{aligned}$$

$$\begin{aligned} PE2_{\text{PM}_{10}} &= (\text{Primer Usage} + \text{Top Coat Usage}) \times (\text{Emission Factor}) \\ &= (3,150 + 2,450 \text{ lb-coating/day}) \times (3.5\text{E-}06 \text{ lb-PM}_{10}\text{/lb-coating}) \\ &= 0.0 \text{ lb-PM}_{10}\text{/day} \end{aligned}$$

$$\begin{aligned} &= (\text{Primer Usage} + \text{Top Coat Usage}) \times (\text{Emission Factor}) \times 365 \text{ day/year} \\ &= (3,150 + 2,450 \text{ lb-coating/day}) \times (3.5\text{E-}06 \text{ lb-PM}_{10}\text{/lb-coating}) \times 365 \text{ day/year} \\ &= 7 \text{ lb-VOC/year} \end{aligned}$$

Total PE2

Total PE2		
Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	42.5	15,603
SO _x	2.3	923
PM ₁₀	3.0	982
CO	254.5	92,950
VOC	33.2	12,009

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.

This site includes a valid ATC, N-10031-2-0. The potential to emit for N-10031-2-0 was obtained from the engineering evaluation for project N-1212584.

SSPE1 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
ATC N-10031-2-0	0	0	0	0	6,862
SSPE1	0	0	0	0	6,862

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
ATC N-10031-1-1	15,603	923	982	92,950	12,009
ATC N-10031-2-0	0	0	0	0	6,862
SSPE2	15,603	923	982	92,950	18,871

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	PM₁₀	PM_{2.5}	CO	VOC
SSPE1	0	0	0	0	0	6,862
SSPE2	15,603	923	982	982	92,950	18,871
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:

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). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO₂	VOC	SO₂	CO	PM	PM₁₀
Estimated Facility PE before Project Increase	0	3.43	0	0	0	0
PSD Major Source Thresholds	250	250	250	250	250	250
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 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.

N-10031-1-1:

As stated in Section VII.A all emissions units under this permit are new emissions units, BE = PE1 = 0 for all pollutants.

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.

Per Section VII.C.5 above, this facility is not a major source for any of the pollutants addressed in this project. Therefore, this project does not constitute an SB 288 major modification and no further discussion is required.

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.

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.

Per Section VII.C.5, this facility is not a Major Source for any pollutants. Therefore, 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
- VOC

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

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)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO₂	VOC	SO₂	CO	PM	PM₁₀
Total PE from New and Modified Units	7.80	6.00	0.46	46.48	0.49	0.49
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 E.

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 shown in Section VII.C.2 above, the potential to emit for NO_x and CO is greater than 2.0 pounds per day for each 5.3 MMBtu/hr pretreatment washer burner, each dry off oven, each primer cure oven, and each top coat cure oven. BACT is triggered for NO_x for each of these units because the PEs are greater than 2 lb/day. However, BACT is not triggered for CO since the SSPE2 for CO is less than 200,000 lb/year, as demonstrated in Section VII.C.5 above. Additionally, the VOC emissions from the powder coating operation are greater than 2.0 pounds per day. BACT is triggered for VOC emissions from the powder coating process.

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 VII.A 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.

2. BACT Guideline

BACT Guideline 4.3.7, applies to powder coating operations with a curing oven. (See Appendix B)

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: Use of a natural gas-fired curing oven

VOC: Utilizing Low VOC content coating (< 1.5% by weight) and the use of a natural gas-fired curing oven

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	15,603	923	982	92,950	18,871
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 demonstrated 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

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. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not 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	15,603	20,000 lb/year	No
SO _x	0	923	54,750 lb/year	No
PM ₁₀	0	982	29,200 lb/year	No
CO	0	92,950	200,000 lb/year	No
VOC	6,862	18,871	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	15,603	0	15,603	20,000 lb/year	No
SO _x	923	0	923	20,000 lb/year	No
PM ₁₀	982	0	982	20,000 lb/year	No
CO	92,950	0	92,950	20,000 lb/year	Yes
VOC	18,871	6,862	12,009	20,000 lb/year	No

As demonstrated above, the SSIPE for CO is 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 because the SSIPE for CO emissions is greater than 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.

For natural gas combustion from the powder coating system, the DELs are stated in the form of emission factors on both a heat input basis (lb/MMBtu) and an exhaust concentration basis for NO_x and CO.

Proposed Rule 2201 (DEL) Conditions:

- Emission rates from each of the powder coating system units combusting natural gas shall not exceed any of the following limits: 4.3 ppmvd NO_x @ 19% O₂ (equivalent to 0.048 lb-NO_x/MMBtu); 0.00285 lb-SO_x/MMBtu; 0.003 lb-PM₁₀/MMBtu; 42 ppmvd CO @ 19% O₂ (equivalent to 0.286 lb-CO/MMBtu); or 0.0055 lb-VOC/MMBtu. [District Rules 2201 and 4309]

For the powder coating application operation, the DELs are stated in terms of the PM₁₀ and VOC emission factors (lb-pollutant/lb-coating) and the daily coating usage.

- PM₁₀ emissions from the powder coating application operation shall not exceed 0.0000035 pounds per pound of coating. [District Rule 2201]
- VOC emissions from the powder coating application operation shall not exceed 0.005 pounds per pound of coating. [District Rule 2201]
- The amount of powder coating used shall not exceed 5,600 pounds of coating (primer and top coat combined) in any one day. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

The District will require initial source testing within 60 days of startup for NO_x and CO emissions for each natural gas combustion unit in the powder coating system. In addition, units subject to District Rule 4309 will be required to test at least once every 24 month period after the initial source test.

The following conditions will be included in the permit:

- Source testing to measure NO_x and CO emissions from each unit combusting natural gas in the powder coating system shall be conducted within 60 days of initial start-up. [District Rule 2201]
- Source testing to measure NO_x and CO emissions from each 5.3 MMBtu/hr burner on the pretreatment washer shall be conducted within 60 days of initial start-up and at least once every 24 months thereafter. [District Rules 2201 and 4309]

2. Monitoring

District Rule 4309 requires the operator of any unit subject to the applicable emissions limits to monitor emissions by installing and maintaining an APCO-approved CEMS system for NO_x and oxygen or an alternate emissions monitoring method.

The applicant has proposed to monitor NO_x, CO and O₂ concentrations using portable analyzer on a monthly basis. The proposed monitoring method satisfies the requirements of Rule 2201 as well as Rule 4309.

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:

- The permittee shall maintain a daily record of amount powder coating used (primer and top coat combined) in pounds of coating. [District Rule 2201]
- All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

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 D 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

Per Section VII.C.5, this facility's potential emissions do not exceed any major source thresholds of Rule 2201. Therefore, 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 energy storage products manufacturing operations.

Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to energy storage products manufacturing operations.

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). As the combustion equipment in Powder Coating System is fired solely on natural gas and the powder coating operation is served by a filtration system capable of >99% control for particulate matter emissions, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Compliance is expected with this rule.

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	0.35
Cancer Risk	9.38E-09
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 D: Health Risk Assessment Summary

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

- The exhaust stacks 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.

Natural gas combustion:

F-factor for natural gas = 8,578 dscf/MMBtu

$EF_{PM_{10}} = 0.003 \text{ lb/MMBtu}$

Assuming 100% of PM is PM_{10} ,

$$\begin{aligned} \text{PM Conc. (gr/scf)} &= (0.003 \text{ lb/MMBtu}) \times (7,000 \text{ gr/lb}) \div (8,578 \text{ dscf/MMBtu}) \\ &= 0.002 \text{ gr/dscf} \end{aligned}$$

Powder Coating Application

$$\text{PM Conc. (gr/scf)} = \frac{(\text{PM emission rate}) \times (7,000 \text{ gr/lb})}{(\text{Air flow rate}) \times (60 \text{ min/hr}) \times (24 \text{ hr/day})}$$

PM_{10} emission rate = 0.02 lb/day. Assuming 100% of PM is PM_{10}

Exhaust Gas Flow = 6,200 scfm

$$\begin{aligned} \text{PM Conc. (gr/scf)} &= [(0.02 \text{ lb-PM/day}) \times (7,000 \text{ gr/lb})] \div [(6,200 \text{ ft}^3/\text{min}) \times (60 \text{ min/hr}) \times (24 \text{ hr/day})] \\ \text{PM Conc.} &= 0.00002 \text{ gr/scf} \end{aligned}$$

The PM emissions concentration is expected to be below 0.1 gr/scf for both natural gas combustion and the powder coating application. Compliance is expected with this rule.

Rule 4301 Fuel Burning Equipment

This rule applies to any fuel burning equipment except for air pollution control equipment which uses a combustion process to destroy air contaminants.

Section 5.0 outlines the following emission limits:

- Combustion contaminants (TSP) - Not to exceed 0.1 gr/dscf @ 12% CO₂ and 10 lb/hr
- SO_x emissions - Not to exceed 200 lb/hr
- NO_x emissions – Not to exceed 140 lb/hr

For the largest units in the powder coating system (the 5.3 MMBtu/hr pretreatment burners), the NO_x, SO_x, and PM emission rates are summarized below

NO_x emissions = 0.25 lb/hr

SO_x emissions = 0.02 lb/hr

PM emissions = 0.02 lb/hr (assuming 100% of PM is PM₁₀)

$$PM \left(\frac{\text{gr}}{\text{dscf}} \right) = \frac{\left(0.003 \frac{\text{lb-PM}}{\text{MMBtu}} \right) \left(7,000 \frac{\text{gr-PM}}{\text{lb-PM}} \right)}{\left(1,024.2 \frac{\text{dscf-CO}_2}{\text{MMBtu}} \right) \left(\frac{100}{12} \right)} = 0.0025 \frac{\text{gr-PM}}{\text{dscf}}$$

Since potential emissions from the powder coating units are below the limits for each pollutant, compliance is expected with this rule.

Rule 4309 Dryers, Dehydrators, and Ovens

The purpose of this rule is to limit emissions of oxides of nitrogen (NO_x) and carbon monoxide (CO) from dryers, dehydrators, and ovens.

Section 2.0 - Applicability

This rule applies to any dryer, dehydrator, and oven that the total rated heat input for the unit is rated 5 MMBtu/hr or greater.

Only the two 5.3 MMBtu/hr burners on the pretreatment washer have are subject to this rule. The ensuing discussion of the requirements of District Rule 4309 is limited to these two units unless otherwise stated.

Section 5.0 - Requirements

Pursuant to Section 5.2 of this rule, NO_x and CO emissions shall not exceed the following limits:

NO _x Limit (ppmv)	4.3
CO Limit (ppmv)	42

The following conditions will be included in the permit to ensure compliance with the NO_x and CO limits:

- Emission rates from each of the powder coating system units combusting natural gas shall not exceed any of the following limits: 4.3 ppmvd NO_x @ 19% O₂ (equivalent to 0.048 lb-NO_x/MMBtu); 0.00285 lb-SO_x/MMBtu; 0.003 lb-PM₁₀/MMBtu; 42 ppmvd CO @ 19% O₂ (equivalent to 0.286 lb-CO/MMBtu); or 0.0055 lb-VOC/MMBtu. [District Rules 2201 and 4309]

Section 5.3 states that the emission limits from Section 5.2 shall not apply during start-up or shutdown.

The applicant has not proposed start-up or shutdown time for these units. This section is not applicable

Section 5.4.1 states that except for dehydrators, the operator of any unit subject to the applicable emission limits in Sections 4.3.2, or 5.2 shall monitor emissions using one of the techniques specified in Sections 5.4.1.1 or 5.4.1.2.

Section 5.4.1.1 states the first technique as the installation and maintenance of an APCO-approved CEMS for NO_x, and oxygen that meets the following requirements: 1) 40 CFR Part 51, and 2) 40 CFR Parts 60.7 and 60.13 (except subsection h), and 3) 40 CFR Part 60 Appendix B (Performance Specifications), and 4) 40 CFR Part 60 Appendix F (Quality Assurance Procedures), and 5) The applicable provisions of District Rule 1080 (Stack Monitoring). 6) The APCO shall only approve CEMS that meets the requirements of Sections 5.4.1.1.1 through 5.4.1.1.5 of this rule.

Section 5.4.1.2 states the second technique as the installation and maintenance of an alternate emissions monitoring method that meets the requirements as follow: 1) the APCO shall not approve an alternative monitoring system unless it is documented that continued operation within ranges of specified emissions-related performance indicators or operational characteristics provides a reasonable assurance of compliance with applicable emission limits, 2) the approved alternate emission monitoring system shall monitor operational characteristics necessary to assure compliance with the emission limit. Operational characteristics shall be one or more of the following: a) Periodic NO_x exhaust emission concentrations, b) Periodic exhaust oxygen concentration, c) Flow rate of reducing agent added to exhaust, d) Catalyst inlet and exhaust temperature, e) Catalyst inlet and exhaust oxygen concentration, f) Periodic flue gas recirculation rate, g) Other surrogate operating parameter(s) that demonstrate compliance with the emission limit.

The following conditions will be included on the permit:

- For each 5.3 MMBtu/hr burner on the pretreatment washer, the permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]
- {3742} If either the NO_x or CO concentrations corrected to 19% O₂ (or no correction if measured above 19% 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 Rule 4309]

Section 5.5.1 states that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the PTO. Section 5.5.2 states that except for as provided in Section 5.5.3, 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 condition will be included on the permit to ensure compliance:

- 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 District Rule 4309. [District Rule 4309]

Section 5.5.5 states that for emissions monitoring pursuant to Section 5.4.1.2.2.1, 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 condition will be included on the permit to ensure compliance:

- {3743} 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 Rule 4309]

Section 6.1.2 states that operators using an alternate emissions monitoring system shall maintain the following records on a periodic basis: 1) Total hours of operation, 2) Type and quantity of fuel used during operations, 3) Measurement for each surrogate parameter, 4) Range of allowed values for each surrogate parameter, and 5) The period for recordkeeping shall be specified in the PTO conditions. Therefore, the following condition will be included on the permit to ensure compliance:

- Permittee shall maintain records of monthly natural gas consumption for the 5.3 MMBtu/hr burners on the pretreatment washer. [District Rule 4309]
- Permittee shall maintain records which demonstrate the 5.3 MMBtu/hr burners on the pretreatment washer are fired exclusively on PUC quality natural gas. [District Rule 4309]
- {3744} 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 19% O₂ (or no correction if measured above 19% 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 Rule 4309]

Section 6.1.6 states the records and manufacturer's specifications required by this section shall meet all of the following requirements: 1) The records shall be maintained for five calendar years, 2) The records shall be made available on-site during normal business hours, and 3) The records shall be submitted to the APCO upon request. Therefore, the following condition will be included on the permit to ensure compliance:

- 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, 2201 and 4309]

Section 6.2 lists the test methods required by the rule. In lieu of the test methods listed below the facility can utilize alternative APCO and US EPA approved test methods. Therefore, the following conditions will be included on the permit to ensure compliance:

- {3718} NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]

- {3719} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
- {3720} Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]

Section 6.3.2 requires that each unit subject to the applicable emission limits shall be initially source tested to determine compliance with the applicable NO_x and CO limits within 60 days of startup and thereafter each unit is tested at least once every 24 months. The following condition will be included on the permit to ensure compliance:

- Source testing to measure NO_x and CO emissions from each 5.3 MMBtu/hr burner on the pretreatment washer shall be conducted within 60 days of initial start-up and at least once every 24 months thereafter. [District Rules 2201 and 4309]

Section 6.3.5 states that the APCO shall be notified according to the provisions of Rule 1081 (Source Sampling). Therefore, the following conditions will be included on the permit to ensure compliance:

- {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
- {3721} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Section 6.3.7 states that all test results for NO_x and CO shall be reported in ppmv, corrected to dry stack conditions and adjusted using the oxygen correction factor. Therefore, the following condition will be included on the permit to ensure compliance:

- {3722} All test results for NO_x and CO shall be reported in ppmv @ 19% O₂ (or no correction if measured above 19% O₂), corrected to dry stack conditions. [District Rule 4309]

Compliance with the requirements of this rule is expected.

Rule 4801 Sulfur Compounds

Section 3.1 states that a person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding a concentration of two-tenths (0.2) percent by volume calculated as sulfur dioxide (SO₂) at the point of discharge on a dry basis averaged over 15 consecutive minutes.

$$\frac{(2,000 \text{ ppmvd}) \left(8,578 \frac{\text{dscf}}{\text{MMBtu}} \right) \left(64 \frac{\text{lb-SO}_x}{\text{lb-mol}} \right)}{\left(379.5 \frac{\text{dscf}}{\text{lb-mol}} \right) (10^6)} \cong 2.9 \frac{\text{lb-SO}_x}{\text{MMBtu}}$$

Because the SO_x emission factors for both the boiler and the spray dryer are less than 2.9 lb/MMBtu compliance is expected with this rule.

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 another agency has prepared an environmental review document for the project. The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating greenhouse gas emissions. The District has determined that the applicant is responsible for implementing greenhouse gas mitigation measures, if any, imposed by the Lead Agency.

District CEQA Findings

The City of Lathrop (City) is the public agency having principal responsibility for approving the Project. As such, the City served as the Lead Agency for the Project. The City determined the project to be exempt from CEQA according to CEQA Guidelines §15301 (Existing Facilities). Consistent with CEQA Guidelines §15062, a Notice of Exemption was prepared and adopted by the City.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381).

The District’s engineering evaluation of the project (this document) demonstrates that compliance with District rules and permit conditions would reduce Stationary Source emissions from the project to levels below the District’s thresholds of significance for criteria pollutants. Thus, the District concludes that through a combination of project design elements and permit conditions, project specific stationary source emissions will be reduced to less than significant levels. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

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 N-10031-1-1 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
N-10031-1-1	3020-02-H	37.1 MMBtu/hr	\$1,238

Appendices

- A: Draft ATC
- B: BACT Guideline
- C: BACT Analysis
- D: AAQA/HRA Summary
- E: Quarterly Net Emissions Change

APPENDIX A
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-10031-1-1

LEGAL OWNER OR OPERATOR: TESLA, INC.
MAILING ADDRESS: 700 D'ARCY PARKWAY
LATHROP, CA 95330

LOCATION: 700 D'ARCY PARKWAY
LATHROP, CA 95330

EQUIPMENT DESCRIPTION:

37.1 MMBTU/HR POWDER COATING SYSTEM CONSISTING OF A FOUR-STAGE PRETREATMENT WASHER EQUIPPED WITH TWO (2) 5.3 MMBTU/HR BURNERS AND A 0.4 MMBTU/HR ZERO DISCHARGE SYSTEM BURNER, THREE (3) 3.5 MMBTU/HR DRY OFF OVENS, TWO (2) 3.5 MMBTU/HR PRIMER CURE OVENS, TWO (2) 3.5 MMBTU/HR TOPCOAT CURE OVEN AND ONE (1) 1.6 MMBTU/HR BURN OFF OVEN

CONDITIONS

1. Authority to Construct N-10031-1-0 shall be deleted upon the implementation of this Authority to Construct. [District Rule 2201]
2. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
5. The exhaust stacks 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]
6. Emission rates from each of the powder coating system units combusting natural gas shall not exceed any of the following limits: 4.3 ppmvd NO_x @ 19% O₂ (equivalent to 0.048 lb-NO_x/MMBtu); 0.00285 lb-SO_x/MMBtu; 0.003 lb-PM₁₀/MMBtu; 42 ppmvd CO @ 19% O₂ (equivalent to 0.286 lb-CO/MMBtu); or 0.0055 lb-VOC/MMBtu. [District Rules 2201 and 4309]
7. PM₁₀ emissions from the powder coating application operation shall not exceed 0.0000035 pounds per pound of coating. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 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

Brian Clements, Director of Permit Services

N-10031-1-1: Mar 14 2023 2:10PM -- PEREZK : Joint Inspection NOT Required

8. VOC emissions from the powder coating application operation shall not exceed 0.005 pounds per pound of coating. [District Rule 2201]
9. The amount of powder coating used shall not exceed 5,600 pounds of coating (primer and top coat combined) in any one day. [District Rule 2201]
10. Source testing to measure NO_x and CO emissions from each unit combusting natural gas in the powder coating system shall be conducted within 60 days of initial start-up. [District Rule 2201]
11. Source testing to measure NO_x and CO emissions from each 5.3 MMBtu/hr burner on the pretreatment washer shall be conducted within 60 days of initial start-up and at least once every 24 months thereafter. [District Rules 2201 and 4309]
12. {3722} All test results for NO_x and CO shall be reported in ppmv @ 19% O₂ (or no correction if measured above 19% O₂), corrected to dry stack conditions. [District Rule 4309]
13. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
14. {3721} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
15. {3715} 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 Rule 4309]
16. {3718} NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
17. {3719} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
18. {3720} Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]
19. For each 5.3 MMBtu/hr burner on the pretreatment washer, the permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309]
20. {3742} If either the NO_x or CO concentrations corrected to 19% O₂ (or no correction if measured above 19% 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 Rule 4309]
21. {3713} 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 4309. [District Rule 4309]

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CONDITIONS CONTINUE ON NEXT PAGE

22. {3743} 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 Rule 4309]
23. {3744} 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 19% O₂ (or no correction if measured above 19% 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 Rule 4309]
24. Permittee shall maintain records of monthly natural gas consumption for the 5.3 MMBtu/hr burners on the pretreatment washer. [District Rule 4309]
25. Permittee shall maintain records which demonstrate the 5.3 MMBtu/hr burners on the pretreatment washer are fired exclusively on PUC quality natural gas. [District Rule 4309]
26. The permittee shall maintain a daily record of amount powder coating used (primer and top coat combined) in pounds of coating. [District Rule 2201]
27. 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, 2201, and 4309]

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APPENDIX B
BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 4.3.7*

Last Update: 5/1/2020

Powder Coating Operation with Curing Oven

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Low VOC content coating with < 1.5% by weight, and use natural gas-fired curing oven	1) Thermal or Catalytic Incineration 2) Carbon Adsorption	
SOX	Use natural gas-fired curing oven		
PM10	Enclosed booth with 99% control efficiency, and use natural gas-fired curing oven		
NOX	Use natural gas-fired curing oven		
CO	Use natural gas-fired curing oven		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a State Implementation Plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

APPENDIX C

BACT Analysis

Top-Down BACT Analysis

For NO_x

Step 1: Identify All Possible Control Technologies

BACT Guideline 4.3.7 lists the following control technologies to reduce NO_x emissions:

Achieved-In-Practice (AIP):

Use a natural gas-fired curing oven.

Technologically Feasible:

None

Alternate Basic Equipment:

None

Step 2: Eliminate Technologically Infeasible Options

All control technologies in step 1 are technologically feasible.

Step 3: Rank Remaining Control Technologies by Control Effectiveness

1. Use a natural gas-fired curing oven.

Step 4: Cost Effectiveness Analysis

Option 1: Use a natural gas-fired curing oven

Based on the proposal this option is already implemented and will result in no supplemental cost to the project.

Step 5: Select BACT

BACT for NO_x emissions from the powder coating system burners is using a natural gas-fired curing oven.

For VOC from Powder Coating

Step 1: Identify All Possible Control Technologies

BACT Guideline 4.3.7 lists the following control technologies to reduce VOC emissions:

Achieved-In-Practice (AIP):

Low VOC content coating with < 1.5% by weight and use of natural gas-fired curing oven

Technologically Feasible:

- 1) Thermal or Catalytic incineration.
- 2) Carbon adsorption.

Alternate Basic Equipment:

None

Step 2: Eliminate Technologically Infeasible Options

All control options listed in step 1 are technologically feasible.

Step 3: Rank Remaining Control Technologies by Control Effectiveness

1. Thermal or Catalytic incineration.
2. Carbon adsorption.
3. Low VOC content coating with < 1.5% by weight and use of natural gas-fired curing oven

Step 4: Cost Effectiveness Analysis

Option 1: Thermal/Catalytic Incineration (100% Capture)

The exhaust flow rate of the curing ovens is proposed at 5,713 scfm at 400°F. The cost of a thermal recuperative incinerator with 98% control efficiency that corresponds to this exhaust volume is estimated at \$185,542 per Figure 2.4 of chapter 2 section 3.2 of EPA's Office of Air Quality Planning and Standards (OAQPS) document EPA/452/B-02-001.

The direct and indirect costs, shown in the following table, are taken from EPA's Office of Air Quality Planning and Standards (OAQPS) document EPA/452/B-02-001, page 42; OAQPS numbers are based on 1999 dollar value.

Cost Item	Cost, \$
Direct Costs	
Purchased equipment costs	
FBCI cost, A	185,542
Sales tax, 8.63%A	16,012
Freight, 0.05A	9,277
Purchased equipment cost, B	<u>\$210,831</u>
Direct installation costs	
Foundations & supports, 0.08B	16,867
Handling & erection, 0.14B	29,516
Electrical, 0.04B	8,433
Piping, 0.02B	4,217
Insulation for duct work, 0.01B	2,108
Painting, 0.01B	2,108
Direct installation costs	<u>\$63,249</u>
Site preparation	--
Total Direct	<u>\$63,249</u>
Indirect Costs (installation)	
Engineering, 0.1B	21,083
Construction & field expenses, 0.05B	10,542
Contractor fees, 0.1B	21,083
Start-up, 0.02B	4,217
¹ Performance test, 0.01B	--
Contingencies, 0.03B	6,325
Total Indirect Costs	<u>\$63,249</u>
Total Capital Investment (TCI)	<u>\$337,330</u>

The total capital investment is annualized over 10 years assuming 4% interest. The following formula is used to determine the annualized cost:

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

Amortization Factor = $0.04 \times (1.04)^{10} \div (1.04^{10} - 1) = 0.123$ per District policy, amortizing over 10 years at 4%

Therefore,

Annualized Capital Investment = $\$337,330 \times 0.123 = \mathbf{\$41,590/year}$

Fuel Cost

Fuel Cost = $[(Q \times C_{pAir} \times \Delta T \times (1 - HR) \times O] - \{VOC \times HC\} \times (\text{Natural gas cost})$

Where,

¹ A performance test price is not included because it would have been required even if a company voluntarily proposes to install an RTO.

Q: Airflow rate 5,713 CFM
 C_{pAir} : Specific heat of air (0.0194 Btu/scf - °F)
 ΔT : Change in temperature required 830 °F
HR: Heat recovery (0.7)
O: Operational time, 374,400 min/yr (60 min/hr x 6,240 hr/yr (minimum))
VOC: Total amount of VOC 10,220 lb/yr
HC: Heat content of the VOCs in the contaminated air stream. The heat content of MEK, which is 13,729 Btu/lb, will be assumed.

Natural gas cost: \$14.92/MMBtu (average) for the past 12-months per U.S. Energy Information Administration⁽²⁾.

Fuel Cost = **\$146,494/year**

Total Cost
Total Cost = \$41,590/yr + \$146,494/yr
= \$188,084/yr

This technology is expected to reduce an overall of 98% of VOC emissions. Thus,

Controlled VOC emissions = 10,220 lb-VOC/year x 1 tons-VOC/2,000 lb-VOC x 0.98

Cost of VOC reduction = \$188,084/year ÷ 5.0 ton-VOC/year
= \$36,807/ton-VOC

The cost of reductions, not including maintenance costs and other overheads (e.g., property taxes, insurance, administrative costs), is more than the cost effectiveness threshold of \$23,600/ton. Therefore, use of a thermal recuperative incinerator is not required for this project. Note that the equipment cost of a thermal oxidizer is expected to be greater that of a catalytic oxidizer.

Option 2: Carbon Adsorption (100% Capture)

Assuming the carbon would be able to capture 20% of its weight in VOC, the annual carbon requirement would be 51,100 pounds (10,220/0.2).

Per Carbon Bulk Sales (Carbon Bulk Sales, March 22, 2022), the cost of carbon replacement for a paint spray booth is \$3.45/lb for 4x8 activated carbon. Thus,

Carbon cost = 51,100 lb-carbon/year x \$3.45/lb-carbon
= **\$176,295/year**

This technology is expected to reduce an overall of 95% of VOC emissions. Thus,

Controlled VOC emissions = 10,220 lb-VOC/yr x 1 tons-VOC/2,000 lb-VOC x 0.95
= 5.0 ton-VOC/yr

² <https://www.eia.gov/dnav/ng/hist/n3035ca3m.htm>

$$\begin{aligned}\text{Cost of VOC reduction} &= \$176,295/\text{year} \div 5.0 \text{ ton-VOC/year} \\ &= \$35,259/\text{ton-VOC}\end{aligned}$$

The cost of reductions, not including equipment costs, installation costs, maintenance costs and other overheads (e.g., property taxes, insurance, administrative costs), is more than the cost effectiveness threshold of \$23,600/ton. Therefore, use of this technology is not required for this project.

Option 3: Low VOC content coating with < 1.5% by weight and use of natural gas-fired curing oven

Based on the proposal this option is already implemented and will result in no supplemental cost to the operation.

Step 5: Select BACT

BACT is utilizing Low VOC content coating with < 1.5% by weight and use of natural gas-fired curing oven. The applicant has proposed to comply with this BACT requirement.

APPENDIX D
HRA and AAQA Summary

San Joaquin Valley Air Pollution Control District

Risk Management Review and Ambient Air Quality Analysis

To: Mungi Hong – Permit Services
 From: Kyle J Melching – Technical Services
 Date: January 18, 2023
 Facility Name: TESLA, INC.
 Location: 700 D'ARCY PARKWAY, LATHROP
 Application #(s): N-10031-1-1
 Project #: N-1224361

1. Summary

1.1 Risk Management Review (RMR)

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
1	0.35	0.00	0.00	9.38E-09	No	Yes
Project Totals	0.35	0.00	0.00	9.38E-09		
Facility Totals	>1	0.02	0.02	3.41E-08		

1.2 Ambient Air Quality Analysis (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
PM2.5				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 PM2.5 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 # 1-1

- The exhaust stacks 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 (revised) request to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -1-1: MODIFICATION OF 37 MMBTU/HR POWDER COATING SYSTEM CONSISTING OF ONE (1) 10.5 MMBTU/HR FOUR-STAGE PRETREATMENT WASHER WITH A 0.4 MMBTU/HR ZERO DISCHARGE SYSTEM BURNER, ONE (1) 10.5 MMBTU/HR DRY OFF OVEN, ONE (1) 7.0 MMBTU/HR PRIMER CURE OVEN, ONE (1) 7.0 MMBTU/HR TOPCOAT CURE OVEN AND ONE (1) 1.6 MMBTU/HR BURN OFF OVEN: UPDATE HEAT INPUT RATING OF BURNERS ON THE POWDER COATING LINE
- The revision requires an AAQA.

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 units', 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 a 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 units that exceed a cancer risk of one in a million, Toxic Best Available Control Technology (TBACT) must be implemented.

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

- Natural gas usage rates for the proposed operation were provided by the Permit Engineer. These usage rates were speciated into toxic air contaminants using emission factors derived from the table, "Natural Gas Fired External Combustion Equipment", in the 2001 report, Ventura County Air Pollution Control District AB 2588 Combustion Emission Factors.

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 Stockton (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
1	1	Natural Gas	mmscf	0.11	86.9

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
1	(2) 5.3 MMBtu/hr Pretreatment Burner	11.89	700	6.29	0.25	Vertical
1	(2) 5.3 MMBtu/hr Pretreatment Burner	11.89	700	6.29	0.25	Vertical
1	(2) 5.3 MMBtu/hr Pretreatment Burner	11.89	700	6.29	0.25	Vertical

*The natural gas exhaust through three separate exhaust stacks.

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	HAZELTON-HD, STOCKTON	San Joaquin	Stockton	2021
NOx	HAZELTON-HD, STOCKTON	San Joaquin	Stockton	2021
PM10	Manteca	San Joaquin	Manteca	2021
PM10	Manteca	San Joaquin	Manteca	2021
PM2.5	Manteca	San Joaquin	Manteca	2021
PM2.5	Manteca	San Joaquin	Manteca	2021
SOx	Fresno - Garland	Fresno	Fresno	2021

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
1	1	0.00	0.00	0.03	0.00	0.00

Emission Rates (lbs/year)						
Unit ID	Process	NOx	SOx	CO	PM10	PM2.5
1	1	43	2	256	2	2

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 Stockton (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
1	(2) 5.3 MMBtu/hr Pretreatment Burner	11.89	700	6.29	0.25	Vertical
1	(2) 5.3 MMBtu/hr Pretreatment Burner	11.89	700	6.29	0.25	Vertical
1	(2) 5.3 MMBtu/hr Pretreatment Burner	11.89	700	6.29	0.25	Vertical

*The natural gas exhaust through three separate exhaust stacks.

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 E
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:

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

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

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	3,901	0	3,901
SO _x	231	0	231
PM ₁₀	246	0	246
CO	23,238	0	23,238
VOC	3,002	0	3,002