

June 19, 2026

Travis Curtis
Advanced IPM
1482 Stone Point Drive
Roseville, CA 95611

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: C-10220
Project Number: C-1233702

Dear Mr. Curtis:

Enclosed for your review and comment is the District's analysis of Advanced IPM's application for an Authority to Construct for a commodity fumigation operation consisting of shipping containers and tarped stacks and utilizing phosphine gas, methyl bromide, and sulfuranyl fluoride, at 13510 Avenue 18 1/2 in Chowchilla, CA.

The notice of preliminary decision for this project has been posted on the District's website (<https://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 Ms. Marissa Mak of Permit Services at (661) 392-5605.

Sincerely,



Brian Clements
Director of Permit Services

BC:MM

Enclosures

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

Samir Sheikh
Executive Director/Air Pollution Control Officer

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4800 Enterprise Way
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San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Commodity Fumigation Operation

Facility Name: Advanced IPM
Mailing Address: 1482 Stone Point Drive
Roseville, CA 95611
Contact Person: Travis Curtis
Telephone: 209-329-0184
E-Mail: tcurtis@advancedipm.com
Application #(s): C-10220-1-0
Project #: C-1233702
Deemed Complete: June 17, 2026

Date: June 19, 2026
Engineer: Marissa Mak
Lead Engineer: Nick Peirce

I. Proposal

Advanced IPM has requested an Authority to Construct (ATC) permit for a commodity fumigation operation consisting of shipping containers and tarped stacks and utilizing phosphine gas (Eco2Fume, magnesium phosphide, and aluminum phosphide), methyl bromide, and sulfuryl fluoride (ProFume) as fumigants.

This fumigation operation requires the use of a variety of fumigants in order to suit the different needs of every commodity and their different treatment requirements. Therefore, while EPA has slowly phased out the use of methyl bromide, they have allowed certain uses to be exempt from the phase out. This includes: critical uses in which a lack of methyl bromide availability would result in a significant market disruption or there is no technically and economically feasible alternatives or substitutes are available; quarantine fumigation which prevents the introduction of specific quarantine pests into a defined geographical area; and preshipment fumigation conducted within 21 days of export to meet the official requirements of the importing or exporting country. As such, Advanced IPM fumigation operation will be allowed to include the use of methyl bromide in order to meet these treatment requirements.

The draft ATC is included in Appendix A.

II. Applicable Rules

| | |
|-----------|---|
| Rule 2201 | New and Modified Stationary Source Review Rule (4/20/23) |
| Rule 2410 | Prevention of Significant Deterioration (6/16/11) |
| Rule 2520 | Federally Mandated Operating Permits (6/20/24) |
| 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 (4/16/26) |

Rule 4102 Nuisance (12/17/92)
CH&SC 41700 General Limitations
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 13510 Avenue 18 ½ in Chowchilla, CA. The operation 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

Advanced IPM provides fumigation commodity services. At this facility, the operation will be fumigating commodities such as dry nuts for pest control. The containers are staged based on the fumigant required. This would either be portable shipping containers such as Sea Van containers or tarped stacks. Fumigants would include phosphine gas (either in the form of Eco2Fume, magnesium phosphide or aluminum phosphide), methyl bromide, and sulfuryl fluoride (commercially sold as ProFume). A visual inspection of the containers, seals, fumigant intake valves, and hoses is conducted before introducing fumigants. During and after fumigant introduction, potential leak points are monitored with certified fumigant clearance and monitoring devices. At the completion of the fumigation and once the fumigants have acclimated, additional final readings are taken before commencing aeration. The containment seal is broken and exhaust fans are attached for aeration. The containers are only returned to customers once it has been cleared of all fumigants.

V. Equipment Listing

C-10220-1-0: COMMODITY FUMIGATION OPERATION CONSISTING OF SHIPPING CONTAINERS AND TARPED STACKS AND UTILIZING PHOSPHINE GAS (ECO2FUME, MAGNESIUM PHOSPHIDE, OR ALUMINUM PHOSPHIDE), METHYL BROMIDE AND SULFURYL FLUORIDE (PROFUME)

VI. Emission Control Technology Evaluation

Emissions are due to the pollutants emitted from the fumigants. Pollutants include: phosphine gas (PH₃) emitted from Eco2Fume, magnesium phosphide, and aluminum phosphide; ammonia (NH₃) emitted from magnesium phosphide and aluminum phosphide; VOC emitted from methyl bromide; and sulfuryl fluoride, SO₂F₂, emitted from ProFume.

No emission control technologies will be used in conjunction with the proposed fumigation operations. As previously stated, precautions are taken throughout the operation to prevent emissions of the fumigants including a visual inspection and the use of monitoring devices.

VII. General Calculations

A. Assumptions

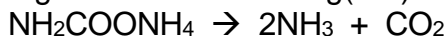
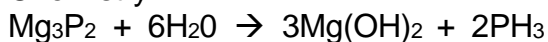
- Operating schedule: 18 hours/day, 7 days/week, 52 weeks/year (per applicant).
- Fumigant usage per applicant:
 - Eco2Fume, magnesium phosphide, and aluminum phosphide will have a shared maximum usage of 1,200 grams/day (2.6 lb/day).
 - Maximum usage of methyl bromide will be 200 lb/day and 4,275 lb/year.
 - Maximum ProFume (sulfuryl fluoride, SO_2F_2) usage rates will be 150 lb/day and 54,750 lb/year.
- Eco2Fume has a composition of 97.8% Carbon Dioxide and 2.2% Phosphine by weight.
- Magnesium Phosphide has a composition of 66% Magnesium Phosphide (Mg_3P_2) and 34% Ammonium Carbamate ($\text{NH}_2\text{COONH}_4$).
- Aluminum Phosphide has a composition of 55% Aluminum Phosphide (AIP) and 45% Ammonium Carbamate ($\text{NH}_2\text{COONH}_4$).
- Per applicant, the amount of each phosphide fumigant used depends on the pest type, temperature, and duration of the fumigation. Therefore, Eco2Fume, magnesium phosphide, and aluminum phosphide will have a shared maximum usage of 1,200 grams/day.
- All three phosphide fumigants emit PH_3 . Therefore, for the most conservative calculation, PH_3 emissions will be based on the emission factor of magnesium phosphide, the largest of the PH_3 emission factor.
- Both magnesium phosphide and aluminum phosphide emit NH_3 . Therefore, for the most conservative calculation, NH_3 emissions calculations will be based on the emission factor of aluminum phosphide, the largest of the NH_3 emission factor.
- There is no readily available and reliable data concerning the amount of methyl bromide absorbed by the fumigated produce. However, methyl bromide is a VOC per District rules. Thus, it is assumed that all of the methyl bromide used is emitted to the atmosphere.
- ProFume has a fumigant composition of 100% SO_2F_2 (sulfuryl fluoride) by weight.
- SO_2F_2 is not an affected pollutant as defined in District Rule 2201 because it does not have an Ambient Air Quality Standard and is not known to be a precursor to a pollutant with an Ambient Air Quality Standard. Therefore, sulfuryl fluoride is not subject to the requirements of District Rule 2201 (including DEL, BACT, and offsets). However, sulfuryl fluoride is an air contaminant and is subject to permits per Rule 2010. Therefore, its emissions are still calculated for the purposes of the health risk assessment (HRA).

B. Emission Factors

| Emission Factors | | |
|---------------------|--------------------------------|--------------------------|
| Fumigant | Pollutant | lb-pollutant/lb-fumigant |
| Eco2Fume | Phosphine (PH ₃) | 0.022 |
| Magnesium Phosphide | Phosphine (PH ₃) | 0.345 |
| | Ammonia (NH ₃) | 0.148 |
| Aluminum Phosphide | Phosphine (PH ₃) | 0.323 |
| | Ammonia (NH ₃) | 0.196 |
| Methyl Bromide | VOC | 1.0 |
| Profume | SO ₂ F ₂ | 1.0 |

- 1.0 Magnesium Phosphide contains 66% Magnesium Phosphide (Mg₃P₂) and 34% Ammonium Carbamate (NH₂COONH₄)

1.0.1 Chemistry:



1.0.2 Phosphine Gas Created:

$$1\text{Lb Magnesium Phosphide} \times 66\% \text{ Mg}_3\text{P}_2 = 0.66\text{lb Mg}_3\text{P}_2 / \text{lb Magtoxin}$$

$$\text{Percent } 2\text{PH}_3 \text{ in Mg}_3\text{P}_2 = 2\text{PH}_3 / \text{Mg}_3\text{P}_2: (68/130) = 52.31\% 2\text{PH}_3$$

$$0.66\text{lb AIP} / \text{lb Magnesium Phosphide} \times 52.31\% 2\text{PH}_3 = \mathbf{0.345 \text{ lb-PH}_3 / \text{Lb Magnesium Phosphide}}$$

1.0.3 Ammonia Gas Created:

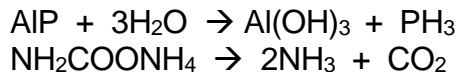
$$1\text{Lb Magnesium Phosphide} \times 34\% \text{ NH}_2\text{COONH}_4 = 0.34\text{lb NH}_2\text{COONH}_4 / \text{Lb Magtoxin}$$

$$\text{Percent } 2\text{NH}_3 \text{ in NH}_2\text{COONH}_4 = 2\text{NH}_3 / \text{NH}_2\text{COONH}_4: (34.06/78.07) = 43.63\% 2\text{NH}_3$$

$$0.34\text{lb NH}_2\text{COONH}_4 / \text{Lb Magnesium Phosphide} \times 43.63\% 2\text{NH}_3 = \mathbf{0.148 \text{ lb-NH}_3 / \text{Lb Magnesium Phosphide}}$$

2.0 Aluminum Phosphide contains 55% Aluminum Phosphide (AIP) and 45% Ammonium Carbamate ($\text{NH}_2\text{COONH}_4$).

2.0.1 Chemistry:



Molecular Weights:

| | |
|-------------------------------------|-------|
| MW of AIP: | 57.96 |
| MW of PH_3 : | 34.0 |
| MW of $\text{NH}_2\text{COONH}_4$: | 78.07 |
| MW of NH_3 : | 17.03 |

2.0.2 Phosphine Gas Created:

1Lb Fumitoxin X 55% AIP = 0.55lb AIP/ lb Aluminum Phosphide

Percent PH_3 in AIP = PH_3 / AIP : $(34.0/57.96) = 58.7\% \text{PH}_3$

0.55lb AIP / lb Fumitoxin X 58.7% PH_3 = **0.323 lb- PH_3 /lb** Aluminum Phosphide

2.0.3 Ammonia Gas Created:

1Lb Aluminum Phosphide X 45% $\text{NH}_2\text{COONH}_4$ = 0.45lb $\text{NH}_2\text{COONH}_4$ /lb Aluminum Phosphide

Percent 2NH_3 in $\text{NH}_2\text{COONH}_4$ = $2\text{NH}_3 / \text{NH}_2\text{COONH}_4$: $(34.06/78.07) = 43.63\% 2\text{NH}_3$

0.45 lb $\text{NH}_2\text{COONH}_4$ /lb Aluminum Phosphide X 43.63% 2NH_3 = **0.196 lb- NH_3 /lb** Aluminum Phosphide

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 fumigation operation is calculated as follows, and summarized in the table below:

Daily PE2 = fumigant usage (lb/day) x emission factor (lb-pollutant/lb-fumigant)

Annual PE2 = fumigant usage (lb/year) x emission factor (lb-pollutant/lb-fumigant)

| Daily PE2 | | | |
|--------------------------------|-------------------------------------|---|-----------------------------|
| Pollutant | Fumigant Usage (lb-fumigant/day) | Emission factor (lb-pollutant/lb-fumigant) | Daily Emissions (lb/day) |
| VOC | 200 | 1.0 | 200 |
| PH ₃ | 2.6 | 0.345 | 0.9 |
| NH ₃ | 2.6 | 0.196 | 0.5 |
| SO ₂ F ₂ | 150 | 1.0 | 150 |

| Annual PE2 | | | |
|--------------------------------|--------------------------------------|---|-------------------------------|
| Pollutant | Fumigant Usage (lb-fumigant/year) | Emission factor (lb-pollutant/lb-fumigant) | Annual Emissions (lb/year) |
| VOC | 4,275 | 1.0 | 4,275 |
| PH ₃ | 949 | 0.345 | 327 |
| NH ₃ | 949 | 0.196 | 186 |
| SO ₂ F ₂ | 54,750 | 1.0 | 54,750 |

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 this is a new facility, there are no valid ATCs, PTOs, or ERCs at the Stationary Source; therefore, the SSPE1 is 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 | NOx | SOx | PM10 | CO | VOC |
| C-10220-1-0 | 0 | 0 | 0 | 0 | 4,275 |
| SSPE2 | 0 | 0 | 0 | 0 | 4,275 |

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 51.165

| Rule 2201 Major Source Determination (lb/year) | | | | | | |
|---|--------|---------|---------|---------|---------|--------|
| | NOx | SOx | PM10 | PM2.5 | CO | VOC |
| SSPE1 | 0 | 0 | 0 | 0 | 0 | 0 |
| SSPE2 | 0 | 0 | 0 | 0 | 0 | 4,275 |
| 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 (Prevention of Significant Deterioration) 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) | | | | | | |
|---|-----------------|-----|-----------------|-----|-----|------|
| | NO ₂ | VOC | SO ₂ | CO | PM* | PM10 |
| Estimated Facility PE before Project Increase | 0 | 0 | 0 | 0 | 0 | 0 |
| PSD Major Source Thresholds | 250 | 250 | 250 | 250 | 250 | 250 |
| PSD Major Source? | No | No | No | No | No | No |

*PM assumed to be equal to PM10.

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 Quarterly Net Emissions Change (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.

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

7. Senate Bill 288 Major Modification

A Senate Bill (SB) 288 Major Modification is a federal major modification under 40 CFR 51.165 as it existed on December 19, 2002. 40 CFR Part 51.165 (12/19/02) defines a Major Modification as any physical change in or change in the method of operation of *an existing 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. Thus, 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.

New Major Source

As demonstrated above, this facility is not becoming a Major Source as a result of this project, therefore, this facility is not a New Major Source pursuant to Section 3.30 of District Rule 2201.

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.

This project is not an existing PSD Major source and does not emit any pollutants which must be addressed in the PSD applicability determination for sources located in the SJV. Therefore, no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

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

VIII. Compliance Determination

Rule 2010 Permits Required

Pursuant to Section 2.0, the provisions of this rule apply to any person who plans to or does operate, construct, alter, or replace any source operation which may emit air contaminants or may reduce the emission of air contaminants.

Section 3.0 requires that any person building, altering or replacing any operation, article, machine, equipment, or other contrivance, the use of which may cause the issuance of air

contaminants or the use of which may eliminate or reduce or control the issuance of air contaminants, shall first obtain an ATC permit.

Since phosphine, ammonia, and sulfuryl fluoride are air contaminants, their use is subject to permit requirements.

The following condition will be placed on the ATC permit as a mechanism to ensure compliance with the requirements of this rule:

- *No fumigant other than phosphine gas (in the form of Eco2Fume, magnesium phosphide or aluminum phosphide), methyl bromide, or sulfuryl fluoride (ProFume) shall be used. [District Rules 2010 and 2201]*

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 2.0 pounds per day, or the relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding 2.0 pounds per day,
- b. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding 2.0 pounds per day, and/or
- c. 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 or relocated emissions units – PE > 2.0 lb/day

As seen in Section VII.C.2 above, the applicant is proposing a fumigation operation with a PE greater than 2.0 lb/day for VOC. BACT is triggered for VOC only since the PE is greater than 2.0 lb/day.

b. Modification of emissions units – AIPE > 2.0 lb/day

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

c. 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

There is currently no existing BACT Guideline for methyl bromide fumigation operations. Therefore, a project-specific BACT analysis was conducted. See Appendix B.

3. Top-Down BACT Analysis

Pursuant to the attached project-specific BACT Analysis (see Appendix B), BACT has been satisfied with the following:

VOC: The use of air-tight fumigation methods and minimized use of fumigant

Therefore, the following conditions will be listed on the ATC to ensure compliance with the BACT requirements:

- *Fumigation shall be conducted only using air-tight methods. [District Rule 2201]*
- *Permittee shall minimize the use of all fumigants (i.e. use no more than product specifications recommend). [District Rule 2201]*

B. Offsets

1. District Emission Offset Requirements

a. District Offset Applicability

Pursuant to District Rule 2201, Section 4.5, District 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 District Rule 2201.

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

| Offset Determination (lb/year) | | | | | |
|--------------------------------|--------|--------|--------|---------|--------|
| | NOx | SOx | PM10 | CO | VOC |
| SSPE2 | 0 | 0 | 0 | 0 | 4,275 |
| Offset Thresholds | 20,000 | 54,750 | 29,200 | 200,000 | 20,000 |
| Offsets Triggered? | No | No | No | No | No |

b. District Offset Quantity (DOQ) Required

As shown above, the SSPE2 is not greater than the offset thresholds for all pollutants, therefore District offsets are not triggered. In conclusion, offsets will not be required for this project and no further discussion is required.

2. Federal Emission Offset Requirements**a. Federal Offset Applicability**

Pursuant to District Rule 2201, Section 4.8, federal offset requirements shall be triggered on a pollutant-by-pollutant basis and shall be required if the project is a New Major Source or a Federal Major Modification.

As demonstrated in section VII.C.8 above, this project is not a New Major Source or a Federal Major Modification for any pollutant addressed in this project. Thus, federal offsets are not triggered for this project.

b. Federal Offset Quantity (FOQ) Required

As discussed above, this project does not trigger Federal Major Modification or New Major Source requirements; therefore, in conclusion, federal offsets will not be required for this project and no further discussion is required.

3. Federal Offset Equivalency Demonstration

Section 7.0 of District Rule 2201 provides the requirements for the District to demonstrate on an individual ATC issuance basis that the number of creditable emission reductions collected by the District equals or exceeds the amount of creditable emission reductions that would otherwise be required as offsets under a federal non-attainment NSR program meeting the applicable requirements of 40 CFR 51.165 and the CAA.

As demonstrated above, this project does not require federal offsets; therefore, a federal offset equivalency demonstration is not 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,
- e. Any project at a minor source which results in an SSPE exceeding 80% of the major source threshold for any pollutant, and/or

f. 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, the SSPE2 of this new facility is not greater than the Major Source threshold for any pollutant. Therefore, this new facility is not a New Major Source and 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? |
| NOx | 0 | 100 lb/day | No |
| SOx | 0 | 100 lb/day | No |
| PM10 | 0 | 100 lb/day | No |
| CO | 0 | 100 lb/day | No |
| VOC | 200 | 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 (lb/year) | | | | | |
|------------------------------------|------------|------------|-------------|-----------|------------|
| | NOx | SOx | PM10 | CO | VOC |
| SSPE1 | 0 | 0 | 0 | 0 | 0 |
| SSPE2 | 0 | 0 | 0 | 0 | 4,275 |
| Offset Threshold | 20,000 | 54,750 | 29,200 | 200,000 | 20,000 |
| Public Notice Required? | No | No | No | No | 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 under Rule 2201. According to District Rule 2201, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

| SSIPE Public Notice Thresholds (lb/year) | | | | | |
|---|------------|------------|-------------|-----------|------------|
| | NOx | SOx | PM10 | CO | VOC |
| SSPE2 | 0 | 0 | 0 | 0 | 4,275 |
| SSPE1 | 0 | 0 | 0 | 0 | 0 |
| SSIPE | 0 | 0 | 0 | 0 | 4,275 |
| SSIPE Public Notice Threshold | 20,000 | 20,000 | 20,000 | 20,000 | 20,000 |
| Public Notice Required? | No | No | No | No | No |

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore, public noticing for SSIPE purposes is not required.

e. Minor Sources with SSPE Exceeding 80% of Major Source Threshold

Public notification is required for any project for new and/or modified stationary sources at minor source facilities that results in a SSPE exceeding 80% of the major source threshold.

As shown in Section VII.C.5 above, the facility is not a Major Source for VOC. The following table compares the SSPE1 with the SSPE2 in order to determine if 80% of any major source thresholds for VOC have been surpassed with this project. Pursuant to Section 5.4.6 of District Rule 2201, the increase in stationary source potential to emit should be consistent with Sections 3.28.1, 3.28.2, and 3.28.3 of Rule 2201. Section 3.28.1 omits fugitive emissions from the SSPE unless the source is included in one of the source categories listed in 40 CFR 51.165(a)(1)(iv)(C). Section 3.28.2 omits ERCs which have been banked since September 19, 1991 for actual emission reductions that have occurred at the source, but have not been used on-site. Finally Section 3.28.3 omits emissions resulting directly from nonroad engines as defined in Section 216 of Part A of the Clean Air Act.

| 80% of Major Source Thresholds (lb/year) | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|
| | NOx | SOx | PM10 | CO | VOC |
| SSPE1 | 0 | 0 | 0 | 0 | 0 |
| SSPE2 | 0 | 0 | 0 | 0 | 4,275 |
| 80% of Major Source Threshold | 16,000 | 112,000 | 112,000 | 160,000 | 16,000 |
| Public Notice Required? | No | No | No | No | No |

As demonstrated above, the SSPE2 did not surpass 80% of the major source threshold for any pollutant; therefore, public noticing for this purpose is not required.

f. 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 VOC emissions in excess of 100.0 lb/day. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions:

- *The fumigation process shall not operate for more than 18 hours per day. [District Rule 4102]*
- *The commodity containers and tarped stacks shall be sealed air-tight during the fumigation process. [District Rule 2201]*
- *No fumigant other than phosphine gas (in the form of ECO2FUME, magnesium phosphide, or aluminum phosphide), methyl bromide, or sulfuryl fluoride (ProFume) shall be used. [District Rules 2010 and 2201]*

- *The amount of methyl bromide (CH₃Br) used per fumigation cycle shall not exceed the manufacturer recommendation. [District Rule 2201]*
- *Emissions from this fumigation operation shall not exceed 200 lb-VOC/day, equivalent to the use of 200 lb-methyl bromide/day. [District Rule 2201]*

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

2. Monitoring

No monitoring is required to demonstrate compliance with 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 daily and annual records of the type and quantity of fumigant(s) used. These records shall be maintained, retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070 and 2201]*

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

Section 4.15 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. VOC is the pollutant that triggered public notice; however, as stated in the Health Risk Assessment Summary (Appendix C), it does not have an AAQA standard. Therefore, an AAQA was not performed.

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)

New Source Performance Standards (NSPS) (Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR)) are federal air pollution control standards authorized by Section 111 of the Clean Air Act and promulgated by US EPA. By default, US EPA retains authority to administer and enforce NSPS unless US EPA delegates this authority to a state or local agency. District Rule 4001 incorporates those NSPS that US EPA has delegated to the District. In addition, for sources with Title V permits, the District acts as the administrator for all NSPS, regardless of the delegation status of the specific NSPS in Rule 4001.

However, no NSPS apply to commodity fumigation operations; therefore, no further discussion of NSPS is required.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) (Part 61 and Part 63, Chapter 1, Subchapter C, Title 40, Code of Federal Regulations (CFR)) are federal standards for the control of hazardous air pollutants (HAP) authorized by Section 112 of the Clean Air Act and promulgated by US EPA. By default, US EPA retains authority to administer and enforce NESHAP unless US EPA delegates this authority to a state or local agency. District Rule 4002 incorporates those NESHAP that US EPA has delegated to the District. In addition, for sources with Title V permits, the District acts as the administrator for all NESHAP, regardless of the delegation status of the specific NESHAP in Rule 4002.

However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to commodity fumigation operations; therefore, no further discussion of NESHAP is required.

Rule 4101 Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. Therefore, the following condition will be listed on ATC permits as a mechanism to ensure compliance:

- *{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]*

Rule 4102 Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of these operations,

provided the equipment is well maintained. The following condition will be listed on the ATC as a mechanism to ensure compliance:

- *{98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]*
- *The fumigants used in this operation shall not exceed the following: 0.022 lb-phosphine/lb-Eco2Fume, 0.345 lb-phosphine/lb-magnesium phosphide, 0.148 lb-ammonia/lb-magnesium phosphide, 0.323 lb-phosphine/lb-aluminum phosphide, 0.196 lb-ammonia/lb-aluminum phosphide, and 1.0 lb-VOC/lb-methyl bromide. [District Rule 4102]*
- *The combined usage of Eco2Fume, magnesium phosphide, and aluminum phosphide shall not exceed 1,200 grams/day or 949 lb/year. [District Rule 4102]*

California Health & Safety Code 41700 (General Limitations)

CH&SC Section 41700 states that except as otherwise provided in CH&SC Section 41705, a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property.

The District's health Risk Management Review (RMR) program and policies assist with demonstrating compliance with the aforementioned CH&SC requirements. One of the RMR program goals is to minimize the increase that new and modified stationary sources add to the existing toxic load and any potentially significant public health impacts associated with the release of those airborne toxic emissions. In order to achieve this goal, the District performs a Health Risk Assessment (HRA) to evaluate the health risk of any proposed stationary source ATC permitting project with a potential increase in air toxics emissions. Projects that may cause an increase in hourly, daily, or annual potential to emit of air toxics or projects that could increase the public exposure to air toxics undergo this analysis to ensure the possible adverse health risk on nearby residents or businesses, including the cumulative health risk from past projects dating back to the adoption of the program, does not exceed specified significance levels.

The District's risk management policies are [APR 1905 \(Risk Management Policy for Permitting New and Modified Sources\)](#) and [APR 1906 \(Framework for Performing Health Risk Assessments\)](#). Under District policy, significance levels are established for cancer risk (20 lifetime cases per million population) and acute and chronic risks (hazard index not greater than 1.0). The hazard index represents a ratio of the modeled air toxics concentration(s) at the most impacted receptor divided by the reference exposure level (REL), below which no adverse health effects are expected, even for sensitive individuals). The policy also requires Best Available Control Technology for toxics (TBACT) for emission units that have the potential to cause a greater than *de minimis* increase in cancer risk (equal to or greater than 1.0 case per million population).

The potential health risk from the proposed project is below all established significance thresholds; therefore, the project is approvable under District RMR Policies. See Health Risk

Assessment Summary attached as Appendix C to this application review for further detail.

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

- *A REL for Sulfuryl Fluoride has not yet been developed by OEHHA. However, once a REL becomes approved and established for this substance, the facility shall comply with AB2588 requirements for sulfuryl fluoride. [District Rule 4102]*

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)

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC C-10220-1-0 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 |
| C-10220-1-0 | 3020-01-A | 13 hp | \$107 |

XI. Appendices

- A: Draft ATC
- B: Project-specific BACT Analysis
- C: Health Risk Assessment Summary
- D: Quarterly Net Emissions Change

APPENDIX A
Draft ATC

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: C-10220-1-0

LEGAL OWNER OR OPERATOR: ADVANCED IPM
MAILING ADDRESS: 1482 STONE POINT DR.
ROSEVILLE, CA 95611

LOCATION: 13510 AVE 18 1/2 AVE.
CHOWCHILLA, CA 93610

EQUIPMENT DESCRIPTION:

COMMODITY FUMIGATION OPERATION CONSISTING OF SHIPPING CONTAINERS AND TARPED STACKS AND UTILIZING PHOSPHINE GAS (ECO2FUME), METHYL BROMIDE AND SULFURYL FLUORIDE (PROFUME)

CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
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. A Reference Exposure Level (REL) for Sulfuryl Fluoride has not yet been developed by OEHHA. However, once a REL becomes approved and established for this substance, the facility shall comply with AB2588 requirements for sulfuryl fluoride. [District Rule 4102]
4. Operation shall not operate for more than 18 hours per day. [District Rule 4102]
5. The fumigation chambers shall be sealed air-tight during the fumigation process. [District Rule 2201]
6. No fumigant other than phosphine gas (in the form of ECO2FUME, magnesium phosphide, or aluminum phosphide), methyl bromide, or sulfuryl fluoride (ProFume) shall be used. [District Rules 2010 and 2201]
7. The amount of methyl bromide (CH3Br) used per fumigation cycle shall not exceed the manufacturer recommendation. [District Rule 2201]
8. Fumigation shall be conducted only using air-tight methods. [District Rule 2201]
9. Permittee shall minimize the use of all fumigants (i.e. use no more than product specifications recommend). [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (559) 230-5950 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

C-10220-1-0 : 6/19/2026 1:03:32 PM -- MAKM : Joint Inspection NOT Required

10. Emissions from this fumigation operation shall not exceed 200 lb-VOC/day, equivalent to the use of 200 lb-methyl bromide/day. [District Rule 2201]
11. The fumigants used in this operation shall not exceed the following: 0.022 lb-phosphine/lb-Eco2Fume, 0.345 lb-phosphine/lb-magnesium phosphide, 0.148 lb-ammonia/lb-magnesium phosphide, 0.323 lb-phosphine/lb-aluminum phosphide, 0.196 lb-ammonia/lb-aluminum phosphide, and 1.0 lb-VOC/lb-methyl bromide. [District Rule 4102]
12. The combined usage of Eco2Fume, magnesium phosphide, and aluminum phosphide shall not exceed 1,200 grams/day or 949 lb/year [District Rule 4102]
13. Permittee shall maintain daily and annual records of the type and quantity of fumigant(s) used. These records shall be maintained, retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070 and 2201]

DRAFT

APPENDIX B
Project Specific BACT analysis

Top-Down BACT Analysis for VOC Emissions from the Methyl Bromide Fumigation Operation

The District BACT clearinghouse BACT Guideline 5.4.12 is applicable to a Methyl Bromide Fumigation Chamber < 100,000 lb-CH₃Br¹/year. However, this BACT guideline is currently rescinded; therefore, a project-specific BACT analysis will be performed for this project.

Step 1: Identify All Possible Control Technologies

The following BACT Clearinghouses were reviewed to determine what control technologies have been considered for methyl bromide fumigation operations:

- EPA RACT/BACT/LAER clearinghouse
- CARB BACT clearinghouse
- South Coast AQMD (SCAQMD) BACT clearinghouse
- Bay Area AQMD (BAAQMD) BACT clearinghouse
- Sacramento Metro AQMD (SMAQMD) BACT clearinghouse
- San Diego APCD (SDAPCD) BACT clearinghouse
- San Joaquin Valley APCD (SJVAPCD) BACT clearinghouse

In addition, rules and regulations of the following agencies were reviewed to determine VOC emission standards or controls required for methyl bromide fumigation operations.

- EPA
- ARB
- SCAQMD
- BAAQMD
- SMAQMD
- SDAPCD
- SJVAPCD

Finally, the District also conducted a survey of permits for methyl bromide fumigations located in SJVAPCD. The purpose of the survey is to determine what VOC emissions control standards are currently being achieved-in-practice.

Survey of BACT Clearinghouses/Guidelines:

In a search of the above referenced BACT clearinghouses, only South Coast AQMD had a BACT guideline applying to methyl bromide fumigation operations. The guideline is listed on the South Coast AQMD website under *Guidelines, Part B: LAER/BACT Determinations for Major Polluting Facilities, Section II, Other LAER/BACT Determinations*.²

According to the determination, BACT for a methyl bromide fumigation operation at a major source was based on a permit issued by San Luis Obispo APCD for a methyl bromide

¹ Bromomethane, commonly known as methyl bromide, is an organobromine compound with formula CH₃Br.

² https://www.aqmd.gov/docs/default-source/bact/bact-guidelines/bact-guidelines-2022/part-b---guadalupe-cooling_5299_methylbromide.pdf?sfvrsn=8

fumigation operation at Guadalupe Cooling Co. in operation from 2010 until 2023. The operation consisted of three fumigation chambers (with a total chamber size of 48,475 cu. ft) using a carbon adsorption control device with onsite reactivation via a chemical scrubber. The facility was permitted to use 418.8 lb/day and 130,666 lb/year of methyl bromide. The permit required the carbon adsorption and chemical scrubber achieve a minimum overall capture and control efficiency of 86% and source tests in 2016 and 2020 (provided by San Luis Obispo APCD) demonstrated the operation achieved 90% and 94% overall capture and control, respectively.

District staff contacted South Coast AQMD to survey their permitting records to determine if this BACT guideline has been used to require the installation of controls for methyl bromide fumigation operations, or if any other operations (major or minor source) within their jurisdiction had any controls for methyl bromide fumigation operations. South Coast AQMD staff found no permits issued for methyl bromide fumigation operations where controls were required as a condition of the permit.

As discussed above, SJVAPCD BACT clearinghouse contained BACT Guideline 5.4.12 for methyl bromide fumigation operations (< 100,000 lb-CH₃Br/year), but the guideline was rescinded in August 2023. The guideline listed the following as VOC control technologies:

Achieved in Practice or contained in SIP:

- Minimize use of fumigant (i.e. use no more than product specifications recommend), and airtight fumigation

Technologically Feasible:

- 99% control (chemical scrubbing)
- 98% control (thermal or catalytic oxidation³)
- 90% control (carbon adsorption)
- 80% control (condensation refrigeration system)

Survey of Applicable Rules:

No applicable rules and regulations from the agencies listed above were found to establish controls for VOC emissions from methyl bromide fumigation operations.

³ BACT Guideline 5.4.12 listed '98% control (thermal or catalytic reduction)' as second Technologically Feasible option. However, it should be noted that 'reduction' here means the reduction in emissions by means of thermal or catalytic oxidation and not a chemical reduction process. Therefore, the term 'thermal or catalytic oxidation' will be used in this BACT analysis.

Survey of Permit Requirements:

No active SJVAPCD methyl bromide fumigation permits were found requiring emissions control devices for VOC emissions. The District did issue an ATC in 2008 for M&L Commodities (N-7489-1-0, project N-1062096) requiring controls similar to those installed at Guadalupe Cooling noted above. The proposed amount of methyl bromide usage was 2,079 pounds of methyl bromide per day, as evaluated in the project. The ATC required 81% control with a daily emission limit of 395 lb VOC per day and 19,500 lb VOC per year (equivalent to 102,631 lbs of methyl bromide usage/year). However, the ATC has not been implemented and the equipment not installed or operated.

Achieved in Practice Determination:

The rescinded BACT Guideline 5.4.12 was applicable to methyl bromide fumigation operations that had an annual usage of less than 100,000 lbs of methyl bromide per year and established achieved in practice as “Minimize use of fumigant (i.e. use no more than product specifications recommend), and airtight fumigation” and listed add on controls (chemical scrubbing, thermal or catalytic oxidation, carbon adsorption, and condensation refrigeration system) as technologically feasible options. This guideline made a distinction that fumigations operations utilizing less than 100,000 lbs per year did not have to consider add on controls as achieved in practice. Advanced IPM has proposed a permit limit of 4,275 lbs of methyl bromide usage per year and this BACT guideline would have applied if it were still valid.

The South Coast AQMD BACT guideline applies to methyl bromide fumigation operations at facilities that are considered major sources. As discussed in Section VII.C.5 of the evaluation above, Advanced IPM is not a Major Source for any pollutant. Therefore, when considering whether to classify the controls installed and operated at Guadalupe Cooling as achieved in practice for this project, consideration should be given to the annual permitted methyl bromide usage at Guadalupe Cooling compared to the annual permitted methyl bromide usage at Advanced IPM. Guadalupe Cooling was permitted with a potential usage of up to 130,666 lb of methyl bromide per year while Advanced IPM has proposed a permit limit of only 4,275 lb of methyl bromide usage per year. Therefore, for purposes of this project specific BACT determination, the controls at Guadalupe Cooling/SCAQMD BACT Determination will be considered as technologically feasible, and not as achieved in practice for the BACT category.

The ATC (N-7489-1-0) issued in 2008 to M&L Commodities for a methyl bromide fumigation operation could have also established achieved in practice BACT; however, the ATC has not been implemented and the equipment was never installed or operation.

Based on the discussion above, the District has determined that methyl bromide fumigation operations that have an annual usage of equal to or greater than 100,000 lbs/year is a different class and category of source than facilities that use less than 100,000 lbs/year.

Therefore, for fumigation operations that use less than 100,000 lbs of methyl bromide/year, the District will consider achieved in practice BACT as “the use of air-tight fumigation methods and minimized use of fumigant (i.e. use no more than product specification recommends)”, while the installation of add on controls will be considered as technologically feasible options.

Elimination of Thermal or Catalytic oxidation (98% control)

While this add on control technology could be considered, the thermal incineration of methyl bromide produces the toxic gas hydrogen bromide. In addition, thermal/catalytic incineration of methyl bromide will create combustion emissions (such as NOx) and NOx has greater impacts to the District's Ozone and PM2.5 attainment strategies than VOC emissions. Therefore, the requirement to control VOC emissions through incineration will be removed from further consideration since the overall process of incineration would result in an increase in collateral emissions, mainly NOx.

Summary of All Possible VOC Emissions Controls

- 99% control – Chemical scrubbing system (Technologically Feasible)
- 90% control – Carbon adsorption (Technologically Feasible)
- 86% control – Carbon absorption and chemical scrubber system (Technologically Feasible)
- 80% control – Condensation using a refrigeration system (Technologically Feasible)
- Use of air-tight fumigation methods and minimized use of fumigant (i.e. use no more than product specification recommended) (Achieved in Practice)

The control efficiencies for the top two control options in the above ranking assume permanent total enclosures (100% capture) or equal and a high-end estimate of the level of control achievable. Considering option #3 consists of a combination of option #1 and option #2, the overall capture and control efficiency of option #3 would be expected to be better than either option #1 or option #2 alone. However, the overall capture and control efficiency of option #3 is based on source test data for Guadalupe Cooling and reflects a more realistic efficiency than was assumed for the more theoretical capture and control assumptions for options #1 and #2.

Step 2: Eliminate Technologically Infeasible Options

No technologically infeasible options need to be eliminated.

Step 3: Rank Remaining Control Technologies by Control Effectiveness

- 1) 99% control – Chemical scrubbing system (Technologically Feasible)
- 2) 90% control – Carbon adsorption (Technologically Feasible)
- 3) 86% control – Carbon absorption and chemical scrubber system (Technologically Feasible)
- 4) 80% control – Condensation using a refrigeration system (Technologically Feasible)
- 5) Use of air-tight fumigation methods and minimized use of fumigant (i.e. use no more than product specification recommends) (Achieved in Practice)

Step 4: Cost Effectiveness Analysis

A cost-effective analysis will now be performed for the control technologies specified above. As calculated in Section VII.C.2 of this evaluation, the uncontrolled VOC emissions from the fumigation operation are 4,275 lbs/year, equivalent to the use of 4,275 pounds methyl bromide per year.

Option 1: Chemical Scrubber with 99% control

Chemical scrubbing typically involves passing an exhaust stream through a solution containing one or more compounds that will react with the targeted pollutant(s) to produce harmless or less harmful byproducts. The exhaust stream is typically introduced into the bottom of a scrubber tank or vessel and liquid solution is introduced from the top. The scrubber may have a packing material or distribution tray at the top to maximize the contact between the gas stream and the liquid scrubbing solution in the counter current flow design. The increased contact helps to maximum the chemical reaction(s) to occur. The 'scrubbed' clean exhaust stream emerges into the headspace of the scrubber and is subsequently released through the scrubber's stack. For methyl bromide control, a scrubber solution containing potassium thiosulfate may be used. Methyl bromide will react with potassium thiosulfate to produce potassium bromide and potassium methyl thiosulfate, both of which are considered non-hazardous and environmentally harmless.

No current cost data is available for a chemical scrubber system serving a methyl bromide fumigation operation. Therefore, the following cost data was taken from project S-1171056, a methyl bromide fumigation operation in a 5,270 cubic feet chamber. The larger scale container of this project will be taken into consideration for a worst case:

- Capital Cost - Scrubber: \$160,000⁴

Since the above capital cost was provided in 2017, it will be adjusted to 2026 using the Consumer Price Index inflation calculator (https://www.bls.gov/data/inflation_calculator.htm). Thus, the capital cost of the scrubber in May of 2026⁵ would be:

- 2026 Capital Cost - Scrubber: \$220,803

The annualized capital cost is calculated as shown below:

$$A = P \frac{i(1+i)^n}{(1+i)^n - 1} = P \times \text{Amortization Factor}$$

Where,

A = Equivalent annual control equipment capital cost

P = Present value of the control equipment, including installation cost

i = Interest rate (generally assumed to be 7%, unless the applicant demonstrates that a different rate is more representative of the specific operation)

n = Equipment life (generally assumed to be 10 years, unless the applicant demonstrates that a different rate is more representative of the specific operation)

⁴ This was an estimate of the capital cost for a scrubber system from the vendor who provided the controls for Guadalupe Cooling. No cost information was provided for installation and other auxiliary costs.

⁵ May of 2025 is the latest data available as of June 16, 2026.

With: Amortization Factor = $\frac{0.07(1+0.07)^{10}}{(1+0.07)^{10} - 1} = 0.14$

Thus, annualized capital cost is:

$$A = \$220,803 \times (0.14)$$

$$= \$30,912$$

Annual Capital Cost after Scaling for Chamber Size (using “the Rule of Six-tenths”)

$$= \text{Annual Capital cost} \times (\text{Chamber Size}_{\text{new system}} / \text{Chamber Size}_{\text{known system}})^{0.6}$$

$$= \$30,912 \times (2,720 \text{ ft}^3 / 5,270 \text{ ft}^3)^{0.6}$$

$$= \$20,786$$

Annual Operation cost:

- Operating Cost provided in project S-1171056 (scrubber solution, labor, waste disposal, electricity, etc.): \$7.50 per pound of methyl bromide used

Since the above operating cost was provided in 2017, it will be adjusted to 2026 using the Consumer Price Index inflation calculator (https://www.bls.gov/data/inflation_calculator.htm). Thus, the operating cost of the scrubber in May of 2026 would be:

- Operating Cost (scrubber solution, labor, waste disposal, electricity, etc.): \$10.35 per pound of methyl bromide used

The unit in this project has a maximum methyl bromide usage limit of 4,275 pounds per year. Thus:

$$\text{Annual Operating Cost} = \$10.35 \times 4,275 \text{ lb/yr}$$

$$= \$44,246/\text{yr}$$

Total annual cost of the control option

$$= \text{Annualized capital cost} + \text{Annual Operation Cost}$$

$$= \$20,786 + \$44,246$$

$$= \$65,032$$

Annual Emission Reductions

$$\text{Quantity of VOC Reduced} = \text{Annual PE (lb-VOC/yr)} \times (1 \text{ ton} / 2,000 \text{ lb}) \times (\text{Control Efficiency})$$

$$= (4,275 \text{ lb-VOC/yr}) \times (1 \text{ ton} / 2,000 \text{ lb}) \times 0.99$$

$$= 2.12 \text{ ton-VOC/yr}$$

Cost of Reduction

$$\begin{aligned} &= \text{Total Annual Cost (\$/yr)} / \text{Annual Emissions Reduction (ton-VOC/yr)} \\ &= (\$65,032/\text{yr}) / (2.12 \text{ tons-VOC/yr}) \\ &= \$30,675/\text{ton} \end{aligned}$$

Since this exceeds the VOC cost effective threshold of \$27,900/ton, this control technology of utilizing a chemical scrubber system is not cost effective and will be removed from further consideration at this time.

Option 2: Carbon Adsorption with 90% control

Carbon adsorption is a control technology in which pollutants are removed from an exhaust stream by physical adsorption onto activated carbon grains. Carbon (charcoal or biochar) is "activated" for this purpose by further oxidization at high temperatures, which creates porous particles with a large internal surface area for adsorption of organic molecules as well as certain metal and inorganic molecules.

The activated carbon is packed into a canister/vessel to create a 'carbon bed' through which the contaminated exhaust stream is blown. The size of the carbon bed required is determined by the flow rate of the contaminated exhaust stream and the concentration of the pollutant(s) to be controlled. Standard activated carbon only adsorbs but does not destroy pollutants. As such, the carbon bed eventually becomes saturated, at which point it has to be replaced with a fresh one. The saturated bed can be regenerated (desorbed) and placed back in service. The pollutants released from the carbon bed during desorption will then need to be destroyed by other methods. For methyl bromide, a chemical scrubber will typically be used for this purpose. Whereas large scale operations may be able to do their own desorption and carbon bed recycling, smaller scale operations such as the one involved in this project will typically need to use a carbon bed exchange service.

Carbon Replacement Cost

The primary annual operating cost is the replacement of the spent activated carbon. Therefore, it will be shown that the annual cost to replace the spent activated carbon alone will be adequate to cause this technology to be not cost effective per District BACT policy. This estimate does not include the capital cost of purchasing the carbon adsorption system or any additional operational and maintenance costs.

Since carbon can adsorb approximately 20% of its weight in VOCs, and the control efficiency of carbon adsorption is 90%, the total amount of carbon required per year can be determined as follows:

$$\begin{aligned} \text{Carbon Required} &= 4,275 \text{ lb-VOC/yr} \times 0.90 \times 1 \text{ lb-Carbon}/0.2 \text{ lb-VOC} \\ &= 19,238 \text{ lb-Carbon/yr} \end{aligned}$$

Per EnviroSupply & Service Inc. (<http://envirosupply.net>) May of 2025 cost of one pound bag of activated carbon is \$19.00 (4x8 Vapor Phase Coconut Shell Granular Activated Carbon). However, the price of a larger 55 pound bag is \$261.00, which corresponds to a much lower cost of \$4.75 per pound. For a worst case scenario, the lower cost of \$4.75 per pound of the larger 55 bags will be selected for this analysis. Therefore, the annual cost of spent carbon replacement is calculated as below:

$$\begin{aligned}\text{Annual Carbon Replacement Cost} &= 19,238 \text{ lb-Carbon/yr} \times \$4.75/\text{lb-Carbon} \\ &= \$91,381/\text{yr}\end{aligned}$$

Annual Emission Reductions

$$\begin{aligned}\text{Quantity of VOC Reduced} &= \text{Annual PE (lb-VOC/yr)} \times (1 \text{ ton}/ 2,000 \text{ lb}) \times (\text{Control Efficiency}) \\ &= (4,275 \text{ lb-VOC/yr}) \times (1 \text{ ton}/2,000 \text{ lb}) \times 0.90 \\ &= 1.92 \text{ ton-VOC/yr}\end{aligned}$$

Cost of Reduction

$$\begin{aligned}&= \text{Total Carbon Replacement Cost (\$/yr)} / \text{Annual Emissions Reduction (ton-VOC/yr)} \\ &= (\$91,381/\text{yr}) / (1.92 \text{ tons-VOC/yr}) \\ &= \$47,594/\text{ton}\end{aligned}$$

Since this exceeds the VOC cost effective threshold of \$27,900/ton, this control technology of utilizing a carbon adsorption system is not cost effective and will be removed from further consideration at this time.

Option 3: Carbon Absorption and Chemical Scrubber System with 86% control

This control technology consists of a carbon absorption bed vented to a chemical scrubber for regeneration. The carbon bed physically removes the methyl bromide while the scrubber chemically converts it to a nonhazardous by-product. Initially methyl bromide is exhausted to an activated carbon bed where it is physically adsorbed onto the carbon. Carbon (charcoal or biochar) is "activated" for this purpose by further oxidization at high temperatures, which creates porous particles with a large internal surface area for adsorption of organic molecules as well as certain metal and inorganic molecules.

The activated carbon is packed into a canister/vessel to create a 'carbon bed' through which the contaminated exhaust stream is blown. The size of the carbon bed required is determined by the flow rate of the contaminated exhaust stream and the concentration of the pollutant(s) to be controlled. Standard activated carbon only adsorbs but does not destroy pollutants. As such, the carbon bed eventually becomes saturated, at which point it has to be replaced with a fresh one. In this method the saturated bed is regenerated (desorbed) and placed back in service.

After passing through the carbon bed the methyl bromide is driven using warm air to a chemical scrubber. Chemical scrubbing typically involves passing an exhaust stream through a solution containing one or more compounds that will react with the targeted pollutant(s) to produce harmless or less harmful byproducts. The exhaust stream is typically introduced into the bottom of a scrubber tank or vessel and liquid solution is introduced from the top. The 'scrubbed' clean exhaust stream emerges into the headspace of the scrubber and is subsequently released through the scrubber's stack. For methyl bromide control, a scrubber solution containing potassium thiosulfate is used. Methyl bromide will react with potassium thiosulfate to produce potassium bromide and potassium methyl thiosulfate, both of which are considered non-hazardous and environmentally harmless.

The regeneration of the carbon allows the carbon to be used again for a new cycle and thus cutting cost on the purchasing of carbon. However, this system can be costly for small operations. Reaching out to Guadalupe Cooling Co, whom installed the system in 2010, it was estimated that the capital cost for this installation was \$1.5 million. The cost analysis for this control technology will take into account scaling down the operation based on chamber size and cost inflation. Capital cost will only be used for the cost analysis since the capital cost alone is expected to cost out this technology.

- Capital Cost – Carbon/Scrubber: \$1,500,000

Since the above capital cost was for 2010, it will be adjusted to 2026 using the Consumer Price Index inflation calculator (https://www.bls.gov/data/inflation_calculator.htm). Thus, the capital cost of the system in May of 2026 would be:

- 2026 Capital Cost - Scrubber: \$2,319,865

The annualized capital cost is calculated as shown below:

$$A = P \frac{i(1+i)^n}{(1+i)^n - 1} = P \times \text{Amortization Factor}$$

Where,

A = Equivalent annual control equipment capital cost

P = Present value of the control equipment, including installation cost

i = Interest rate (generally assumed to be 7%, unless the applicant demonstrates that a different rate is more representative of the specific operation)

n = Equipment life (generally assumed to be 10 years, unless the applicant demonstrates that a different rate is more representative of the specific operation)

With: Amortization Factor = $\frac{0.07(1+0.07)^{10}}{(1+0.07)^{10} - 1} = 0.14$

Thus, annualized capital cost is:

$$A = \$2,319,865 \times (0.14)$$

$$= \$324,781$$

As proposed by applicant, the container will have the following dimensions: 56 ft x 1.33 ft x 56 ft. Therefore, the annualized capital cost is scaled to the proposed dimensions as follows.

Annualized Capital Cost after Scaling for Chamber Size

$$= \text{Annualized Capital Cost} \times (\text{Chamber Size}_{\text{new system}} / \text{Chamber Size}_{\text{known system}})^{0.6}$$

$$= \$324,781 \times (4,171 \text{ ft}^3 / 48,475 \text{ ft}^3)^{0.6}$$

$$= \$74,546$$

Annual Emission Reductions

$$\text{Quantity of VOC Reduced} = \text{Annual PE (lb-VOC/yr)} \times (1 \text{ ton} / 2,000 \text{ lb}) \times (\text{Control Efficiency})$$

$$= (4,275 \text{ lb-VOC/yr}) \times (1 \text{ ton} / 2,000 \text{ lb}) \times 0.86$$

$$= 1.84 \text{ ton-VOC/yr}$$

Cost of Reduction

$$= \text{Total Annual Cost (\$/yr)} / \text{Annual Emissions Reduction (ton-VOC/yr)}$$

$$= (\$74,546/\text{yr}) / (1.84 \text{ tons-VOC/yr})$$

$$= \$40,514/\text{ton}$$

Since this exceeds the VOC cost effective threshold of \$27,900/ton, this control technology of utilizing a carbon and chemical scrubber system is not cost effective and will be removed from further consideration at this time.

Option 4: Condensation Refrigeration System with 80% control

It will be shown that the capital equipment costs and the cost of the electricity required to operate a refrigerated vapor condenser system alone will be sufficiently to cause this control technology to be not cost effective per District BACT policy. This partial cost estimate does not include any other associated operational and maintenance costs.

This process requires the methyl bromide and exhaust air to be cooled from the typical chamber exhaust temperature of 70°F to the methyl bromide dew point of 35°F and then cooled to a final temperature of 32°F.

Calculating for Required Refrigeration Capacity:

The thermal energy (in BTU/hr) required for a change in air temperature is:

$$= 1.08 \times \text{CFM} \times (T_2 - T_1)$$

where, CFM = airflow rate in cubic feet per minute = 5,338 ft³/min per applicant

T₂ = final temperature = 35°F

T₁ = initial temperature = 70°F

Therefore, the total thermal energy required is 201,776 Btu/hr. One ton of refrigeration is equivalent to 12,000 Btu/hr. Therefore, 201,776 Btu/hr is equivalent to 16.8 ton refrigeration capacity.

Capital Cost:

Per EPA's Cost Reports and Guidance for Air Pollution Regulations, [Chapter 2 - Refrigerated Condensers](#)⁶ (EPA's Cost Report and Guidance), Figure 2.5, for a condensation temperature of 35°F and assuming a single stage refrigeration unit, a conservative estimation of the equipment cost is about \$55,000 presented in 2014 dollars.

The equipment cost will be adjusted to 2026 using the Consumer Price Index inflation calculator (https://www.bls.gov/data/inflation_calculator.htm). Thus, the capital cost of the system in May of 2026 would be \$78,796.51.

The annualized capital cost is calculated as shown below:

$$A = P \frac{i(1+i)^n}{(1+i)^n - 1} = P \times \text{Amortization Factor}$$

Where,

A = Equivalent annual control equipment capital cost

P = Present value of the control equipment, including installation cost

i = Interest rate (generally assumed to be 7%, unless the applicant demonstrates that a different rate is more representative of the specific operation)

n = Equipment life (generally assumed to be 10 years, unless the applicant demonstrates that a different rate is more representative of the specific operation)

With: Amortization Factor = $\frac{0.07(1+0.07)^{10}}{(1+0.07)^{10} - 1} = 0.14$

⁶ https://www.epa.gov/sites/default/files/2017-12/documents/refrigeratedcondenserschapter_7thedition_final.pdf

Thus, annualized capital cost is:

$$\begin{aligned} A &= \$78,796.51 \times (0.14) \\ &= \$6,451 \end{aligned}$$

Annualized Electrical Cost:

Per EPA's Cost Reports and Guidance for Air Pollution Regulations, Chapter 2 - Refrigerated Condensers, the electrical cost to operate a refrigerated condenser system can be calculated with the following equation:

$$\text{Cost} = \frac{R}{\eta_{\text{compressor}}} \times E \times \theta s \times pe$$

Where:

- $\eta_{\text{compressor}}$ = mechanical efficiency of the compressor
- E = electricity requirement for the temperature achieved (kW/ton of refrigeration)
- θs = annual system operating hours (hour/year)
- pe = electricity cost (\$/kW)

- The refrigeration cost was calculated earlier to be 16.8 tons.
- We will assume the mechanical efficiency of the compressor to be 85%.
- The operating schedule is 18 hour/day, 7 days/week and 52 week/year.
- Per Table 2.5 of EPA's Cost Report and Guidance, the electricity requirement for the temperature achieved is 1.3 kW/ton and as of June 2026, the maximum commercial electricity rate from PG&E is \$0.45/kW-hr.

Therefore, the calculated electrical cost is \$75,757/year.

The Total Annualized Capital Cost and Electrical Cost:

$$\begin{aligned} &= \$6,451 + \$75,757 \\ &= \$82,208 \end{aligned}$$

Annual Emission Reduction:

$$\begin{aligned} \text{Quantity of VOC Reduced} &= \text{Annual PE (lb-VOC/yr)} \times (1 \text{ ton} / 2,000 \text{ lb}) \times (\text{Control Efficiency}) \\ &= 4,275 \text{ lb-VOC/yr} \times 1 \text{ tons-VOC} / 2,000 \text{ lb-VOC} \times 0.80 \\ &= 1.71 \text{ ton-VOC/yr} \end{aligned}$$

Cost of VOC reduction:

$$\begin{aligned} &= \text{cost of system and electricity} / \text{controlled VOC emissions} \\ &= \$82,208/\text{yr} / 1.71 \text{ ton-VOC/yr} \\ &= \$48,074/\text{ton-VOC} \end{aligned}$$

Since the calculated cost of VOC reduction exceeds the VOC cost effective threshold of \$27,900/ton. Therefore, this control technology of utilize a condensation refrigeration system is deemed not cost effective and will be removed from consideration at this time.

Option 5 - Use of air-tight fumigation methods and minimized use of fumigant (i.e. use no more than product specification recommends).

Since this option is achieved in practice and also proposed by the applicant, no cost effectiveness analysis is required.

Step 5: Select BACT

As demonstrated above, none of the technologically feasible control technologies are cost effective for this operation. Therefore, BACT is selected as the use of an air-tight fumigation method and minimized use of fumigant (i.e. use no more than product specification recommends). Since the applicant has proposed this option, BACT is satisfied for this project.

APPENDIX C
Health Risk Assessment Summary

San Joaquin Valley Air Pollution Control District

Health Risk Assessment Summary

Facility Name: ADVANCED IPM
Facility ID, Project #: C-10220, C-1233702

This Health Risk Assessment (HRA) Summary is provided as an attachment to the Engineering Evaluation supporting the Authority to Construct permitting project.

1. Overview

Under the District RMR policies (APR-1905 and APR-1906), the potential public health impacts associated with air toxic emissions from the proposed project were evaluated. This review ensures the project complies with the District's health risk policies and that the evaluation is protective of nearby residents, workers, and sensitive populations such as schools and homes.

Using conservative, health-protective assumptions and state-recommended risk assessment methods, the District determined that the project's potential health risks are **below established significance thresholds**.

The RMR process includes:

- a) Characterizing and estimating the project's potential air emissions from pollutants with associated health risk values as defined by the California Office of Environmental Health Hazard Assessment (OEHHA).
- b) Performing a screening level "Prioritization" using the prioritization methodology outlined in the California Air Pollution Control Officers Association (CAPCOA) Facility Prioritization Guidelines. A facility's priority status is determined using the prioritization thresholds listed in District Policy APR-1905. If the post-project cumulative facility increase in prioritization score is equal to or less than 1, the project is approvable with no further assessment. If a facility's total prioritization score exceeds 1, then an HRA is required.
- c) If applicable, performing an HRA using air dispersion modeling and risk assessment default inputs listed in District Policy APR-1906 and the District's Modeling Guidance. These methods use conservative and health protective assumptions consistent with statewide risk assessment guidance and are designed for protection of public health when estimating potential impacts.
- d) Determine whether the project triggers Toxic Best Available Control Technology (T-BACT). For new or modified emission units that exceed a cancer risk of one in a million, T-BACT must be implemented for the permit.

2. Executive Summary

Since the post-project cumulative facility prioritization score is less than one (See Prioritization Results table below), the project is **not expected to result in a significant health risk**. Therefore, the project is approved.

Table 1. Prioritization Results

| Permit # | Cancer Prioritization Score | Chronic Prioritization Score | Acute Prioritization Score |
|--|-----------------------------|------------------------------|----------------------------|
| C-10220-1-0 | 0.00 | 0.87 | 0.17 |
| Receptor Distance Bin | 250 to <500 m | 250 to <500 m | 250 to <500 m |
| Incremental Project Total | 0.00 | 0.87 | 0.17 |
| Post-Project Cumulative Facility Total | 0.00 | 0.87 | 0.17 |
| Significance Threshold | ≤ 1 | ≤ 1 | ≤ 1 |
| Below Facility Threshold | Yes | Yes | Yes |

3. Air Toxic Emissions

Air toxics emissions for this project were calculated using the following methods:

- Fumigant emission rates for the proposed fumigation operation were provided by the Permit Engineer.

Table 2. Estimated Potential Air Toxics from Project

| Pollutant | Hourly Emissions (lbs/hr) | Annual Emissions (lbs/yr) |
|----------------|---------------------------|---------------------------|
| Methyl Bromide | 1.11E+01 | 4.28E+03 |
| NH3 | 2.83E-02 | 1.86E+02 |
| Phosphine | 5.00E-02 | 3.27E+02 |

4. Permit Requirements Based on HRA

To ensure that the potential risk does not exceed the levels evaluated in the risk assessment and that health risks remain below established significance thresholds, the following shall be included as permit requirements:

Unit # 1-0

- A REL for Sulfuryl Fluoride has not yet been developed by OEHHA. However, once a REL becomes approved and established for this substance, the facility shall comply

San Joaquin Valley Air Pollution Control District

Ambient Air Quality Analysis Summary

Facility Name: ADVANCED IPM
Facility ID, Project #: C-10220, C-1233702

1. Overview

The District evaluated the proposed project's potential impact 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 applies 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. This progressive framework ensures that potential impacts are evaluated conservatively at the screening stage and refined as necessary to provide a thorough and health-protective assessment.

The modeling analysis predicts the maximum ground-level 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 detailed source parameters, including emission rates.

2. Ambient Air Quality Analysis (AAQA) Results Summary

Table 1. Air Quality Standard (State/Federal)

| Pollutant | 1 Hour | 3 Hours | 8 Hours | 24 Hours | Annual |
|-------------------------|---------------|----------------|----------------|-----------------|---------------|
| CO | N/A | N/A | N/A | N/A | N/A |
| NO_x | N/A | N/A | N/A | N/A | N/A |
| SO_x | N/A | N/A | N/A | N/A | N/A |
| PM₁₀ | N/A | N/A | N/A | N/A | N/A |
| PM_{2.5} | N/A | N/A | N/A | N/A | N/A |

The project is **not expected to cause or contribute to an exceedance of any applicable NAAQS or CAAQS, nor does it exceed applicable Significant Impact Levels (SILs).**

AAQA Clarifications

- VOC triggered public notice; however, it does not have an AAQA standard. Therefore, an AAQA was not performed.

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:

$$\begin{aligned} \text{PE2}_{\text{quarterly}} &= \text{PE2}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 4,275 \text{ lb/year} \div 4 \text{ quarters/year} \\ &= 1068.75 \text{ lb/qtr} \end{aligned}$$

$$\begin{aligned} \text{PE1}_{\text{quarterly}} &= \text{PE1}_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb/year} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb/qtr} \end{aligned}$$

| Quarterly NEC [QNEC] | | | |
|----------------------|--------------|--------------|---------------|
| Pollutant | PE2 (lb/qtr) | PE1 (lb/qtr) | QNEC (lb/qtr) |
| NOx | 0 | 0 | 0 |
| SOx | 0 | 0 | 0 |
| PM10 | 0 | 0 | 0 |
| CO | 0 | 0 | 0 |
| VOC | 1068.75 | 0 | 1068.75 |