



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



OCT 27 2016

Wolfgang Rochert
Rivermaid Trading, Company
PO Box 350
Lodi, CA 95241

Re: Notice of Preliminary Decision - Authority to Construct
Facility Number: N-8844
Project Number: N-1160591

Dear Mr. Rochert:

Enclosed for your review and comment is the District's analysis of Rivermaid Trading, Company's application for an Authority to Construct for the construction of a new fumigation chamber, at 6011 East Pine Street in Lodi.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. 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. Wai-Man So of Permit Services at (209) 557-6449.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:WMS

Enclosures

cc: Tung Le, CARB (w/ enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Methyl Bromide Fumigation Operation

Facility Name:	Rivermaid Trading, Company	Revised Date:	October 25, 2016
Mailing Address:	P.O. Box 350 Lodi, CA 95241	Engineer:	Wai-Man So
Contact Person:	Wolfgang Rochert	Lead Engineer:	Nick Peirce
Telephone:	(209) 369 – 3586	Jake Uhlenkott (Consultant)	(530) 673 – 2947 ext. 144
Cell:	(209) 327 – 0445		(530) 933 – 8110
E-Mail:	Wolfgang@rivermaid.com		jake@hilbersinc.com
Application #(s):	N-8844-2-0		
Project #:	N-1160591		
Deemed Complete:	March 17, 2016		

I. Proposal

Rivermaid Trading Company (hereinafter RTC) is requesting Authority to Construct (ATC) for the construction of a new fumigation chamber that utilize Methyl Bromide (MeBr) as the only fumigant. The draft ATC is included in Appendix A.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
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 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177:	California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:	CEQA Guidelines

III. Project Location

The facility is located at 6011 East Pine Street, Lodi, in California. 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 primary business of RTC is processing and packing agricultural commodities. The new fumigation chamber is mainly used for fumigate cherries. The capacity of the new chamber is approximately 62,700 cubic feet (40'L x 55' W x 28'6" H).

Cherries are placed inside the fumigation chamber then MeBr is injected into the chamber for the purpose of killing various bacteria. After a fumigation cycle is complete, the chamber is aerated to the atmosphere until the fumigant concentration inside the chamber is less than 5 ppmv, and cherries are unloaded and packed for shipment.

V. Equipment Listing

N-8844-2-0: METHYL BROMIDE FUMIGATION OPERATION CONSISTING OF ONE CHAMBER (APPROXIMATE CAPACITY (40'L X 55'W X 28'6"H)

VI. Emission Control Technology Evaluation

All used fumigant is vented directly to the atmosphere. No emission control technology is used.

VII. General Calculations

A. Assumptions

- MeBr in gaseous form is 100% VOC.
- All MeBr used is emitted to the atmosphere.
- Other assumptions will be stated as each is made.

B. Emission Factors

Since MeBr is considered 100% VOC, therefore, $EF = 1 \text{ lb-VOC/lb-fumigant}$.

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 proposed daily and annual MeBr usages are 300 pounds per day and 10,000 pounds per year respectively. The post-project potential to emit for this permit unit is summarized below:

PE2		
Pollutant	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	0	0
SO _x	0	0
PM ₁₀	0	0
CO	0	0
VOC	300	10,000

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.

SSPE1 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
N-8844-1-1	0	0	0	0	9,000
SSPE1	0	0	0	0	9,000

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
N-8844-1-2	0	0	0	0	9,000
N-8844-2-0	0	0	0	0	10,000
SSPE2	0	0	0	0	19,000

5. Major Source Determination

Rule 2201 Major Source Determination:

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

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

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1	0	0	0	0	0	9,000
SSPE2	0	0	0	0	0	19,000
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)						
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀
Estimated Facility PE before Project Increase	0	4.5	0	0	0	0
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	N	N	N	N	N	N

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

6. Baseline Emissions (BE)

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

Pursuant to District Rule 2201, BE = PE1 for:

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

otherwise,

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

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

Therefore BE = PE1.

N-8844-2-0:

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

7. SB 288 Major Modification

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

Since this facility is not a major source for any of the pollutants addressed in this project, this project does not constitute an SB 288 major modification.

8. Federal Major Modification

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

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification.

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)

The proposed project emit only 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)(iii). 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	0	5.0	0	0	0	0
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N	N

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

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

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install a new fumigation chamber with a PE greater than 2 lb/day for VOC. BACT is triggered for VOC.

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

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

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

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

d. SB 288/Federal Major Modification

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

2. BACT Guideline

BACT Guideline 5.4.12 applies to commodity Methyl Bromide fumigation chamber (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:

VOC: minimize use of fumigant (i.e. use no more than product specifications recommend), and airtight fumigation

B. Offsets

1. Offset Applicability

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

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

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	0	0	0	0	19,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	No

2. Quantity of Offsets Required

As seen above, the SSPE2 is not greater than the offset thresholds for all the pollutants; therefore offset calculations are not necessary and offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

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

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

As demonstrated in Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

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

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO _x	0.0	100 lb/day	No
SO _x	0.0	100 lb/day	No
PM ₁₀	0.0	100 lb/day	No
CO	0.0	100 lb/day	No
VOC	300.0	100 lb/day	Yes

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

c. Offset Threshold

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	0	0	20,000 lb/year	No
SO _x	0	0	54,750 lb/year	No
PM ₁₀	0	0	29,200 lb/year	No
CO	0	0	200,000 lb/year	No
VOC	9,000	19,000	20,000 lb/year	No

As detailed 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	0	0	0	20,000 lb/year	No
SO _x	0	0	0	20,000 lb/year	No
PM ₁₀	0	0	0	20,000 lb/year	No
CO	0	0	0	20,000 lb/year	No
VOC	19,000	9,000	10,000	20,000 lb/year	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. 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 lb/day. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for the 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:

- VOC emissions from this fumigation operation shall not exceed 300.0 pounds in any one day, equivalent to the use of 300.0 pounds of MeBr in any one day. [District Rules 2201 and 4102]
- VOC emissions from this fumigation operation shall not exceed 10,000 pounds in any calendar year, equivalent to the use of 10,000 pounds of MeBr in any one calendar year. [District Rules 2201 and 4102]
- Methyl Bromide (MeBr) shall be the only fumigant used in this fumigation operation. [District Rules 2201 and 4102]

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:

- The following records shall be maintained for the fumigation operation: 1) date; 2) chamber aeration start time; 3) chamber aeration end time; 4) daily MeBr usage in pounds; 5) cumulative annual MeBr usage in pounds; and 6) hourly MeBr emissions in pounds. [District Rules 2201 and 4102]
- The cumulative annual MeBr usage records shall be updated at least once during each week that MeBr is used. [District Rules 1070 and 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall 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.

This project involves only VOCs for which AAQA does not exist; therefore, AAQA is not performed for this project.

Compliance with the requirements of this Rule is expected.

Rule 2410 Prevention of Significant Deterioration

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

Rule 2520 Federally Mandated Operating Permits

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

Rule 4001 New Source Performance Standards (NSPS)

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

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 commodity fumigation operation.

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). MeBr is a colorless gas, so visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. The following condition will be listed on the permit 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 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 that the equipment is well maintained. Therefore, the following condition will be listed on the permit to ensure compliance:

- {98} No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700 (Health Risk Assessment)

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

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (Appendix D), 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 cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
N-8844-2-0	N/A ¹	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.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk

¹ The maximum individual cancer risk was not calculated since there are no risk factors associated with any of the Toxic Air Contaminants (TACs) under analysis.

greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 20 in a million). As outlined by the HRA Summary in Appendix D of this report, the emissions increases for this project was determined to be less than significant.

- The exhaust stack shall be at least 100 feet tall.
- The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction.
- The chamber daily and annual methyl bromide usage shall not exceed 300 lb/day or 10,000 lb/yr.
- Total methyl bromide emissions emitted into the atmosphere shall not be greater than 272.1 pounds in any given rolling hour.
- The fumigation chamber may only be exhausted from 11 PM to 5 AM.

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

District is a Lead Agency and Project not Covered Under Cap-and-Trade

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project. The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

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

Indemnification Agreement/Letter of Credit Determination

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

This project triggers public notice; however, 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-8844-2-0 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
N-8844-2-0	3020-01-A	7 hp	\$97.00

Appendixes

- A: Draft ATC
- B: BACT Guideline
- C: BACT Analysis
- D: 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-8844-2-0

LEGAL OWNER OR OPERATOR: RIVERMAID TRADING, CO.

MAILING ADDRESS: PO BOX 350
LODI, CA 95241

LOCATION: 6011 EAST PINE
LODI, CA 95241

EQUIPMENT DESCRIPTION:

METHYL BROMIDE FUMIGATION OPERATION CONSISTING OF ONE CHAMBER (APPROXIMATE CAPACITY 40'L X 55'W X 28'6"H)

CONDITIONS

1. {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]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. All fumigation operations must be conducted inside the fumigation chamber, and the fumigation chamber must be maintained in a sealed and air-tight condition when in operation. [District Rule 4102]
4. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
5. The height of the exhaust stack from the ground shall be at least 100 feet. [District Rule 4102]
6. The fumigation chamber shall be aerated only from the period of 11 PM through 5 AM in any rolling 24-hour period. [District Rule 4102]
7. Methyl Bromide (MeBr) shall be the only fumigant used in this fumigation operation. [District Rules 2201 and 4102]
8. VOC emissions from this fumigation operation shall not exceed 300.0 pounds in any one day, equivalent to the use of 300.0 pounds of MeBr in any one day. [District Rule 2201]
9. VOC emissions from this fumigation operation shall not exceed 10,000 pounds in any one calendar year, equivalent to the use of 10,000 pounds of MeBr in any one calendar year. [District Rules 2201 and 4102]

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.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjollet, Director of Permit Services

N-8844-2-0: Oct 25 2016 10:25AM -- SCW Joint Inspection NOT Required

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10. MeBr emissions from this fumigation operation shall not exceed 272.1 pounds in any given rolling hour. The hourly MeBr emissions rate shall be calculated: $\text{MeBr Emissions (lb/hour)} = \text{Quantity of MeBr injected into the chamber (lb/cycle)} \times 0.907 \text{ (cycle/hour)}$. [District Rule 4102]
11. The following records shall be maintained for the fumigation operation: 1) date; 2) chamber aeration start time; 3) chamber aeration end time; 4) daily MeBr usage in pounds; 5) cumulative annual MeBr usage in pounds; and 6) hourly MeBr emissions in pounds. [District Rules 2201 and 4102]
12. The cumulative annual MeBr usage records shall be updated at least once during each week that MeBr is used. [District Rules 1070 and 2201]
13. {4922} On a monthly basis, the permittee shall calculate and record the monthly VOC emissions from this unit. [District Rule 2201]
14. {4923} On a monthly basis, the permittee shall calculate and record the facility-wide VOC emissions in pounds for the rolling 12-month period. The facility-wide VOC emissions shall be calculated by summing the VOC emissions from the previous 12 months from every permitted unit at this facility. [District Rule 2201]
15. {3246} 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]

DRAFT

APPENDIX B
BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 5.4.12*

Last Update: 06/25/2008

Commodity Methyl Bromide Fumigation Chamber

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Minimize use of fumigant (i.e. use no more than product specifications recommend), and airtight fumigation	<ol style="list-style-type: none"> 1. 99% control (chemical scrubbing) 2. 98% control (thermal or catalytic reduction) 3. 95% control (carbon adsorption) 4. 81% control (carbon adsorption with onsite re-activation using chemical scrubber) 5. 80% control (condensation refrigeration system) 	

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 VOC Emissions

The following VOC emission control technologies are listed in BACT guideline 5.4.12, 1st quarter, 2016, Commodity Methyl Bromide Fumigation Chamber.

Step 1: Identify All Possible 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 reduction)
- 95% control (carbon adsorption)
- 81% control (carbon adsorption with onsite re-activation using chemical scrubber)
- 80% control (condensation refrigeration system)

Alternate Basic Equipment:

There is no alternate basic equipment listed in this guideline.

Step 2: Eliminate Technologically Infeasible Options

For option: 98% control (thermal or catalytic reduction)

Thermal incineration of methyl bromide produces toxic gas hydrogen bromide. The incineration process must be followed with a chemical scrubber to treat this toxic gas. Furthermore, installing such an incineration apparatus would result in significant increases in collateral emissions (mainly NO_x).

Catalytic incineration of methyl bromide will foul the catalyst. Furthermore, installing such incineration apparatus would result in significant increases in collateral emissions (mainly NO_x).

Therefore, thermal and catalytic incineration is considered to be technologically infeasible for this operation and is eliminated from further analysis.

For option: 81% control (carbon adsorption with onsite re-activation using chemical scrubber)

The District is in the progress of revising this current BACT guideline for commodity Methyl Bromide fumigation chamber, to split it into two categories; a) smaller scale methyl bromide fumigation operations using less than 100,000 pounds of methyl bromide per year; and b) operations using greater than or equal to 100,000 pounds of methyl bromide per year. Both categories will remove onsite re-activation from the current BACT guideline. As the use of

onsite carbon bed re-activation is not directly related to the amount of fumigant used during the fumigation operation. Use of onsite carbon bed re-activation is solely at the discretion of the facility to reduce the operating costs.

Therefore, carbon adsorption with onsite re-activation using chemical scrubber is eliminated from further analysis.

All other options identified above are considered to be technologically feasible.

Step 3: Rank Remaining Control Technologies by Control Effectiveness

- 1) 99% control – Chemical scrubbing system (Technologically Feasible)
- 2) 95% control – Carbon adsorption (Technologically Feasible)
- 3) 80% control – Condensation using a refrigeration system (Technologically Feasible)
- 4) Use of air-tight fumigation chambers and minimized use of fumigant (i.e. use no more than product specification recommend). (Achieved in Practice)

Step 4: Cost Effectiveness Analysis

A cost-effective analysis will now be performed for the control technologies specified above. As shown in section VII.C.1 of this document, the uncontrolled VOC emissions from the new fumigation operation is calculated to 10,000 lb/yr.

Option 1: Chemical Scrubber with 99% control

No facility in the District has been permitted and implemented a chemical scrubber system to control methyl bromide emissions from fumigation operation. Therefore, an actual cost quote for a chemical scrubber system that capable to achieve 99% control efficiency provided under engineering evaluation N-1062096, for a similar MeBr fumigation operation, is used.

Per project N-1062096, the proposed fumigation operation will be conducted inside an airtight atmospheric chamber with minimize use of fumigant. Most methyl bromide fumigation operations permitted in the District are conducted inside of this type of chamber and utilize no more than product specifications recommend amount of fumigant. US Department of Agriculture also requires fumigations be conducted inside airtight chambers. Therefore, using airtight atmospheric chamber with minimize use of fumigant is determined to be "industry standard".

The annual methyl bromide usage for the fumigation operation under project N-1062096 is 19,999 pounds. Based on economics of scales, it is obvious that any control found to not be cost-effective at this level of throughput would be even less cost-effective at lower capacities, such as the annual methyl bromide usage of 10,000 pounds in this application.

This cost quote provided in project N-1062096 includes two elements:

- 1) Two scrubbers should be connected in series for every 100 acfm to obtain 99% control.
- 2) Scrubber cost is \$45,000/unit.

The exhaust airflow rate of the proposed fumigation operation is 12,000 acfm. Therefore, the control system would need 240 scrubbers with a total cost of \$10,800,000 (\$45,000/unit x 240 units).

Adjusting from 2006 dollars to 2016 dollars; (multiply by 1.21, 3% inflation/yr)².

The cost of the scrubbers system = \$10,800,000 x 1.344 = \$14,515,200

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

$$\text{Amortization Factor} = \left[\frac{0.1(1.1)^{10}}{(1.1)^{10} - 1} \right] = 0.163 \text{ per District policy, amortizing over 10 years at 10\%}$$

Therefore,

Annualized Capital Investment = \$14,515,200 x 0.163 = \$2,365,978

Controlled VOC emissions = 10,000 lb-VOC/yr x 1 tons-VOC/2,000 lb-VOC x 0.99
= 4.95 ton-VOC/yr

Cost of VOC reduction is calculated as follows:

$$\begin{aligned} \text{Cost of VOC reduction} &= \text{cost of system} \div \text{controlled VOC emissions} \\ &= \$2,365,978/\text{yr} \div 4.95 \text{ ton-VOC/yr} \\ &= \$477,975/\text{ton-VOC} \end{aligned}$$

Since the calculated cost of VOC reduction exceeds the VOC cost effective threshold of \$17,500/ton. Therefore, this control technology of utilize a chemical scrubber system is deemed not cost effective and will be removed from consideration at this time.

Option 2: Carbon Adsorption with 95% control

Carbon adsorption occurs when air containing VOC mixture is blown through a carbon canister and the VOC mixture is adsorbed onto the surface of the cracks in the activated carbon particles.

A representative from United States Filter Corporation stated that carbon adsorption systems are able to control about 20% of their weight in VOCs. As shown in the section above, the total uncontrolled VOC emission rate is 10,000 lb-VOC/year. Assuming the carbon would be able to capture 20% of its weight in VOC, the annual carbon requirement would be 50,000 pounds (10,000/0.2).

Per cost estimate provided by Calgon, the cost is \$2.0/lb-carbon. Therefore, the cost of carbon is calculated to:

$$\begin{aligned} \text{The cost of carbon} &= 50,000 \text{ lb-carbon/yr} \times \$2.0/\text{lb-carbon} \\ &= \$100,000/\text{yr} \end{aligned}$$

² Inflation multiplier (IM) = (1 + i)ⁿ, where i is the inflation rate of 3%, and n is the number of year of 10. IM = (1 + 0.03)¹⁰ = 1.344

$$\begin{aligned}\text{Controlled VOC emissions} &= 10,000 \text{ lb-VOC/yr} \times 1 \text{ tons-VOC}/2,000 \text{ lb-VOC} \times 0.95 \\ &= 4.75 \text{ ton-VOC/yr}\end{aligned}$$

Cost of VOC reduction is calculated as follow:

$$\begin{aligned}\text{Cost of VOC reduction} &= \text{cost of carbon} \div \text{controlled VOC emissions} \\ &= \$100,000/\text{yr} \div 4.75 \text{ ton-VOC/yr} \\ &= \$21,053/\text{ton-VOC}\end{aligned}$$

Since the calculated cost of VOC reduction exceeds the VOC cost effective threshold of \$17,500/ton. Therefore, this control technology of utilize a carbon adsorption system is deemed not cost effective and will be removed from consideration at this time.

Option 3: Condensation Refrigeration System with 80% control

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 the capital equipment costs, or any 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.

An SDUPA study estimated the cost for electricity to run a compressor at \$44,000/cycle, assuming \$0.10/kW-hr and 234,000 cubic foot of air chilled from 70°F to 35°F.

The capacity of the chamber is 62,700 ft³, and the cost to chill the air from 70°F to 35°F for the entire chamber is calculated to:

$$\text{Cost} = \$44,000/\text{cycle} \times (62,700 \text{ ft}^3 \div 234,000 \text{ ft}^3) = \$11,790/\text{cycle}$$

Per PG&E Electric Schedule AG-1, Rate B with summer season, the electric rate is \$0.23614/kW-hr³.

Adjusting the cost calculated in the SDUPA study to reflect \$0.23614/kWh-hr results in an electrical compressor cost as follows:

$$\text{Cost} = \$11,790/\text{cycle} \times (\$0.23614/\text{kW-hr} \div \$0.10/\text{kW-hr}) = \$27,841/\text{cycle}$$

Based on the annual MeBr usage of 10,000 pounds per year and 300.0 lb-MeBr per cycle, the maximum fumigation cycle is calculated to 33 cycles per year. Therefore, the annual electricity cost is calculated to:

³ Per PG&E Electric Schedule AG-1, http://www.pge.com/tariffs/tm2/pdf/ELEC_SCHS_AG-1.pdf
This facility has more than one single-motor installed and the total horsepower rating of the equipment is more than 15 hp, so Rate B is used. In addition, cherries fumigation operation is a seasonal operation which normally operates from 1st to 2nd quarter. Therefore, be conservative summer season rate is used.

Cost = \$27,841/cycle x 33 = \$918,753/yr

Controlled VOC emissions = 10,000 lb-VOC/yr x 1 tons-VOC/2,000 lb-VOC x 0.80
= 4.0 ton-VOC/yr

Cost of VOC reduction is calculated as follow:

Cost of VOC reduction = cost of system ÷ controlled VOC emissions
= \$918,753/yr ÷ 4.0 ton-VOC/yr
= \$229,688/ton-VOC

Since the calculated cost of VOC reduction exceeds the VOC cost effective threshold of \$17,500/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.

Step 5: Select BACT

None of the technologically feasible control technologies are cost effective. Therefore, no emissions control equipment is required, and use no more than product specifications recommend and airtight fumigation shall be considered BACT for this operation.

APPENDIX D
HRA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Wai-Man So – Permit Services
 From: Kyle Melching – Permit Services
 Date: October 25, 2016
 Facility Name: Rivermaid Trading
 Location: 6011 Pine St., Lodi
 Application #(s): N-8844-2-0
 Project #: N-1160591

A. RMR SUMMARY

Categories	Fumigation Operation (Unit 2-0)	Project Totals	Facility Totals
Prioritization Score	105	>1	>1
Acute Hazard Index	0.68	0.68	0.83
Chronic Hazard Index	0.01	0.01	0.4
Maximum Individual Cancer Risk	N/A ¹	0.00	0.00
T-BACT Required?	No		
Special Permit Requirements?	Yes		

¹The Maximum Individual Cancer Risk was not calculated since there are no risk factors associated with any of the Toxic Air contaminants (TACs) under analysis.

Proposed Permit Requirements

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

Unit 2-0

1. The exhaust stack shall be at least 100 feet tall.
2. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction.
[District Rule 4102] N
3. The chambers daily and annual methyl bromide usage shall not exceed 300 lb/day or 10,000 lb/yr;
4. Total Methyl bromide emissions emitted into the atmosphere shall not be greater than 272.1 pounds in any given rolling hour.
5. The fumigation chamber may only be exhausted from 11 PM to 5 AM.

B. RMR REPORT

I. Project Description

Technical Services received a request on March 17, 2016 to perform a Risk Management Review for the installation of a new methyl bromide fumigation chamber.

II. Analysis

Toxic emissions from the project were calculated after reviewing process rates for Methyl Bromide provided by the engineer and input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines. The prioritization score for the facility is 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 2010-2014 from Stockton 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:

Analysis Parameters (Unit 2-0)			
Source Type	Point	Closest Receptor (m)	125
Stack Height (m)	30.48	Type of Receptor	Residence
Stack Diameter (m)	0.92	Location Type	Rural
Stack Gas Temperature (K)	294	Stack Gas Velocity (m/sec)	8.57
Methyl Bromide Increase in Emissions (lb/hr)	272.1	Methyl Bromide Emissions (lb/yr)	10,000

III. Conclusions

There is no Cancer Risk associated with Methyl Bromide; and the Acute and Chronic Hazard Index is below 1.0. In accordance with the District's Risk Management Policy, the unit 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 permit 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.

IV. Attachments

- A. RMR request from the project engineer
- B. Prioritization score
- C. HARP Risk Report
- D. Facility Summary

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:

$$\begin{aligned} PE2_{\text{quarterly}} &= PE2_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 10,000 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 2,500 \text{ lb VOC/qtr} \end{aligned}$$

$$\begin{aligned} PE1_{\text{quarterly}} &= PE1_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 0 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 0 \text{ lb VOC/qtr} \end{aligned}$$

Quarterly NEC [QNEC]			
Pollutant	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0
SO _x	0	0	0
PM ₁₀	0	0	0
CO	0	0	0
VOC	2,500	0	2,500