San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JAN 3 0 2012

Mr. Steven Sylvester
E & J Gallo Winery - Brandy
200 Yosemite Avenue
Modesto, CA 95353

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-7478
Project # N-1113684

Dear Mr. Sylvester:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. The applicant is requesting that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project is to install seven distilled spirits storage tanks.

After addressing any EPA comments made during the 45-day comment period, the Authorities to Construct will be issued to the facility with Certificates of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW: WMS/st

Enclosures

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

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
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www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JAN 3 0 2012

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St.
San Francisco, CA 94105

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-7478
Project # N-1113684

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for E & J Gallo Winery - Brandy 200 Yosemite Avenue, Modesto, CA 95353, which has been issued a Title V permit. E & J Gallo Winery - Brandy is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. This project is to install seven distilled spirits storage tanks.

After demonstrating compliance with the Authorities to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW: WMS/st

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San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JAN 30 2012

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-7478
Project # N-1113684

Dear Mr. Tollstrup:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. The applicant is requesting that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project is to install seven distilled spirits storage tanks.

After demonstrating compliance with the Authorities to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 30-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW: WMS/st

Enclosures

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Modesto Bee

NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED SIGNIFICANT MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed significant modification of E & J Gallo Winery - Brandy for its Winery 200 Yosemite Avenue, Modesto, CA 95353, California. This project is to install seven distilled spirits storage tanks.

The District's analysis of the legal and factual basis for this proposed action, project #N-1113684, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. The emissions increases associated with this proposed action will be mitigated by providing sufficient amount of offsets in the form of emission reduction credits. This will be the public's only opportunity to comment on the specific conditions of the modification. If requested by the public, the District will hold a public hearing regarding issuance of this modification. For additional information, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 4800 ENTERPRISE WAY, MODESTO, CA 95356-8718.

San Joaquin Valley Air Pollution Control District
Authority to Construct

New Storage Tanks

Facility Name:	E&J Gallo Winery - Brandy	Date:	January 16, 2012
Mailing Address:	200 Yosemite Ave,	Engineer:	Wai-Man So
	Modesto, CA 95353	Lead Engineer:	Nick Peirce
Contact Person:	Steven Sylvester		
Telephone:	(209) 341-6804		
Fax:	(209) 236-3938		
Email:	Steven.sylvester@ejgallo.com		
Application #(s):	N-7478-26-0 through -32-0		
Project #:	N-1113684		
Deemed Complete:	November 15, 2011		

I. PROPOSAL

E & J Gallo Winery - Brandy is requesting Authority to Construct (ATC) permits for the installation of two 105,000 gallon stainless steel tanks to supply high proof spirits to the bottling operation, and five 2,500 gallon stainless steel tanks to reclaim high proof spirits from the same bottling operation. The large tanks will be insulated and installed outdoor, whereas the small tanks will not be insulated and installed indoor. All these tanks will be equipped with pressure-vacuum (PV) relief valves.

E & J Gallo Winery possesses a Title V permit. The proposed project is a Significant Modification to the Title V permit since the project triggers a Federal Major Modification under Rule 2201. The applicant has requested to issue the ATCs with a Certificate of Conformity (COC), which is EPA's 45-day review of the project prior to the issuance of the final ATCs. This project will be published in the local newspaper, Modesto Bee, for public review and comment. The public comment period will last 30-days from the date of publication. Both COC and public notice will run concurrently.

II. APPLICABLE RULES

District Rule 2201	New and Modified Stationary Source Review (04/21/11)
District Rule 2520	Federally Mandated Operating Permits (06/21/01)
District Rule 4001	New Source Performance Standards (04/14/99)
District Rule 4002	National Emissions Standards for Hazardous Air Pollutants (05/02/04)
District Rule 4101	Visible Emissions (02/17/05)
District Rule 4102	Public Nuisance (12/17/92)
District Rule 4623	Storage of Organic Liquids (05/19/05)

District Rule 4694 Wine Fermentation and Storage Tanks (12/15/05)
District Rule 4695 Bandy Aging and Wine Aging Operations (09/17/09)
CH & SC 41700 Public Nuisance
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 200 Yosemite Avenue in Modesto, 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, Section 42301.6 is not applicable to this project.

IV. PROCESS DESCRIPTION

The proposed large tanks will be used to store and supply spirits to the bottling operation, and the small tanks will be used to reclaim spirits from the bottling operation.

V. EQUIPMENT LISTING

N-7478-26-0

105,000 GALLON INSULATED STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #113 EQUIPPED WITH PRESSURE/VACUUM VALVE

N-7478-27-0

105,000 GALLON INSULATED STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #114 EQUIPPED WITH PRESSURE/VACUUM VALVE

N-7478-28-0

2,500 GALLON NON-INSULATED STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #24 EQUIPPED WITH PRESSURE/VACUUM VALVE

N-7478-29-0

2,500 GALLON NON-INSULATED STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #25 EQUIPPED WITH PRESSURE/VACUUM VALVE

N-7478-30-0

2,500 GALLON NON-INSULATED STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #26 EQUIPPED WITH PRESSURE/VACUUM VALVE

N-7478-31-0

2,500 GALLON NON-INSULATED STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #27 EQUIPPED WITH PRESSURE/VACUUM VALVE

N-7478-32-0

2,500 GALLON NON-INSULATED STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #28 EQUIPPED WITH PRESSURE/VACUUM VALVE

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

VOCs (ethanol) are emitted from distilled spirits storage tanks as a result of both working losses (which occur when the liquid level in the tank changes) and breathing losses (expansion and contraction effects due to temperature variations). These tanks will be equipped with pressure/vacuum valves to reduce release of VOCs by requiring the maximum amount of variation in tank pressure before allowing the tank to vent to the atmosphere or allowing air admission to the tank. The large tanks will be insulated, and the small tanks will be installed indoor to minimize the breathing losses, when the storage tanks are insulated, the breathing losses are considered to be negligible.

VII. EMISSIONS CALCULATIONS

A. Assumptions

- VOC is the only pollutant concern associated to this project.
- Maximum storage temperature for each large tank will be 55°F (per applicant).
- Maximum ethanol content in each tank is 99.9% volume (per applicant).
- Maximum average annual ethanol content in each tank is 99.9% volume (per applicant).
- Daily throughput for each large tank is 96,774 gallons (per applicant).
- Annual throughput for each large tank is 3,000,000 gallons (per applicant).
- Daily throughput for each small tank is 3,225 gallons (per applicant).
- Annual throughput for each small tank is 100,000 gallons (per applicant).
- The emissions will be determined by modeling the tank with EPA's Tanks 4.0.d software in conformance with the District's Policy, FYI-114, for modeling emissions from ethanol/water storage tanks.
- Other assumptions will be stated as they are made.

B. Emission Factors (EF)

Pre-Project Emissions Factor (EF1)

These tanks are new emissions units. Therefore, EF1 is equal to zero for each unit.

Post-Project Emissions Factor (EF2)

The VOC emission from each tank is calculated using EPA's Tanks 4.0.9d program. Therefore, a separate emissions factor is not necessary.

C. Potential to Emit (PE)

1. Daily and Annual PE

Pre-Project Potential Emissions (PE1)

N-7478-26-0 through -32-0

These are new emissions units. Therefore, PE1 is equal to zero for each unit.

Post-Project Potential Emissions (PE2)

The applicant proposed to install two set of storage tanks consisting two 105,000 gallon tanks and five 2,500 gallon tanks. Therefore, only single calculation for each size of tanks will be performed.

N-7478-26-0 and -27-0 (Large Tanks)

EPA's Tanks 4.0.d program is used to determine vapor emissions (ethanol and water mixture) using a custom chemical database for the wine with the maximum average annual ethanol concentration and the maximum ethanol concentration, each of 99.9% volume, and the maximum wine storage temperature of 55°F (see chemical database information and the Tanks 4.0.d program reports in Appendix III of this document).

As listed in the chemical database, the average molecular weight (AMW) of the vapor from this mixture is 45.92 lb/mole for 99.9% ethanol. VOCs (ethanol) emissions are determined as follows:

$AMW = y_a \times MW_a + (1- y_a) \times MW_w,$

Where,
AMW = Average Molecular Weight, (lb/mole)
ya = Molar fraction of ethanol,
MW_a = Molecular weight of ethanol, 46.02 (lb/mole)
MW_w = Molecular weight of water, 18.02 (lb/mole)

Solving for the molar fraction of ethanol,

$ya = [AMW - MW_w] \div [MW_a - MW_w]$

Annual Emissions

Per Tanks 4.0.d's report, the annual emission from each large tank is summarized below:

Annual PE (ethanol and water emissions) = 1,803 lb/year

With the maximum ethanol concentration of 99.9 % volume, the molar fraction of ethanol in the mixture is calculated to:

ya = $[AMW - MW_w] \div [MW_a - MW_w]$
= $[45.92 - 18.02] \div [46.02 - 18.02]$
= 0.9964

Annual PE (ethanol) = {[Annual PE (ethanol and water)/AMW] x ya x MW_a}
= {[1,803/45.92] x 0.9964 x 46.02}
= 1,800 lb-ethanol/year (lb-VOC/year)

Daily Emissions:

Per Tanks 4.0.d's reports, the monthly emission (July) from each large tank is summarized below:

Monthly PE (ethanol and water emissions) = 1,803 lb/month

The daily emission is calculated by dividing the month of July emissions by the number of days in the month, of 31 days.

Daily PE (ethanol and water emissions) = 1,803 lb/month ÷ 31 day/month
= 58.16 lb/day

As calculated above, the molar fraction of ethanol in this mixture with maximum ethanol concentration of 99.9 % volume is equal to, ya = 0.9964.

Daily PE (ethanol) = {[Daily PE (ethanol and water)/AMW] x ya x MW_a}
= {[58.16/45.92] x 0.9964 x 46.02}
= 58.1 lb-ethanol/day (lb-VOC/day)

N-7478-28-0 through -32-0 (Small Tanks)

EPA's Tanks 4.0.d program is used to determine vapor emissions (ethanol and water mixture) using a custom chemical database for the wine with the maximum average annual ethanol concentration of 99.9 % volume, and the maximum ethanol concentration of 99.9% volume (see chemical database information and the Tanks 4.0.d program reports in Appendix III of this document).

As listed in the chemical database, the average molecular weight (AMW) of the vapor from this mixture is 45.92 lb/mole for 99.9% ethanol. VOCs (ethanol) emissions are determined as follows:

$AMW = y_a \times MW_a + (1- y_a) \times MW_w$,

Where,
AMW = Average Molecular Weight, (lb/mole)
ya = Molar fraction of ethanol,
MW_a = Molecular weight of ethanol, 46.02 (lb/mole)
MW_w = Molecular weight of water, 18.02 (lb/mole)

Solving for the molar fraction of ethanol,

$ya = [AMW - MW_w] \div [MW_a - MW_w]$

Annual Emissions

Per Tanks 4.0.d's report, the annual emission from each small tank is summarized below:

Annual PE (ethanol and water emissions) = 101 lb/year

As calculated above, the molar fraction of ethanol in this mixture with maximum average annual ethanol concentration of 99.9 % volume is equal to, ya = 0.9964.

Annual PE (ethanol) = {[Annual PE (ethanol and water)/AMW] x ya x MW_a}
= {[101/45.92] x 0.9964 x 46.02}
= 101 lb-ethanol/year (lb-VOC/year)

Daily Emissions:

Per Tanks 4.0.d's reports, the monthly emission (July) from each small tank is summarized below:

Monthly PE (ethanol and water emissions) = 136 lb/month

The daily emission is calculated by dividing the month of July emissions by the number of days in the month, of 31 days.

Daily PE (ethanol and water emissions) = 136 lb/month ÷ 31 day/month
= 4.38 lb/day

As calculated above, the molar fraction of ethanol in this mixture with maximum ethanol concentration of 99.9 % volume is equal to, ya = 0.9964.

Daily PE (ethanol) = {[Daily PE (ethanol and water)/AMW] x ya x MW_a}
= {[4.38/45.92] x 0.9964 x 46.02}
= 4.4 lb-ethanol/day (lb-VOC/day)

The daily and annual post-project potential emissions from these new tanks are summarized in the table below:

Permit Unit	Daily PE (lb-VOC/day)	Annual PE (lb-VOc/year)
N-7478-26-0	58.1	1,800
N-7478-27-0	58.1	1,800
N-7478-28-0	4.4	101
N-7478-29-0	4.4	101
N-7478-30-0	4.4	101
N-7478-31-0	4.4	101
N-7478-32-0	4.4	101

2. Quarterly Emission Changes (ΔPE)

The Quarterly Emissions Changes (QEC) is calculated for each pollutant, for each unit, as the difference between the quarterly PE2 and the quarterly baseline emissions (BE). The annual emissions are evenly distributed throughout each quarter using the following equation:

QEC (lb/quarter) = [Annual PE2 – Annual PE1] (lb/year) / 4 (quarter/year)

The quarterly VOC emission for each permit unit is listed as follow:

Permit	Quarterly Net Emission Changes (QNEC)			
	1st Quarter (lb-VOC/quarter)	2nd Quarter (lb-VOC/quarter)	3rd Quarter (lb-VOC/quarter)	4th Quarter (lb-VOC/quarter)
N-7478-26-0	450	450	450	450
N-7478-27-0	450	450	450	450
N-7478-28-0	25	25	25	26
N-7478-29-0	25	25	25	26
N-7478-30-0	25	25	25	26
N-7478-31-0	25	25	25	26
N-7478-32-0	25	25	25	26

3. Adjusted increase in Permitted Emissions (AIPE)

AIPE is used to determine if Best Available Control Technology (BACT) is required for emission units that are being modified.

These are new emissions unit. Therefore, AIPE calculations are not required.

D. Facility Emissions

1. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, § 4.9, the Pre-Project Stationary Source Potential to Emit (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 that have occurred at the source, and which have not been used on-site.

This facility is contiguous with facility N-3386 (E & J Gallo Winery), is under common ownership, and shares the same two-digit SIC code. Therefore, pursuant to District Rule 2201, facilities N-3386 and N-7478 are considered to be the same stationary source.

The potential emissions from emissions units under facility N-7478 are taken from engineering evaluation N-1093232. The total VOC emissions for facility N-3386 are taken from engineering evaluation N-1111823.

Permit Number	Pollutants (lb/yr)
	VOC
N-7478-1-2	89,556
N-7478-2-2	123,271
N-7478-3-1	3,978
N-7478-4-1	32
N-3386 (Facility Total)	2,006,230
ERC	0
SSPE1	2,223,067
Major Source Threshold Level	20,000
Major Source?	Yes

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

Pursuant to District Rule 2201, § 4.10, the Post-Project Stationary Source Potential to Emit (SSPE2) 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 that have occurred at the source, and which have not been used on-site.

Permit Number	Pollutants (lb/yr)
	VOC
N-7478-1-2	89,556
N-7478-2-2	123,271
N-7478-3-1	3,978
N-7478-4-1	32
ATC N-7478-26-0	1,800
ATC N-7478-27-0	1,800
ATC N-7478-28-0	101
ATC N-7478-29-0	101
ATC N-7478-30-0	101
ATC N-7478-31-0	101
ATC N-7478-32-0	101
N-3386 (Facility Total)	2,006,230
ERC	0
SSPE2	2,227,172
Major Source Threshold Level	20,000
Major Source?	Yes
Offset Threshold Level	20,000
Offsets Triggered?	Yes

3. Stationary Source Increase in Permitted Emissions (SSIPE)

SSIPE calculations are used to determine if the project triggers public notice pursuant to District Rule 2201, § 5.4.5. If SSIPE results greater than 20,000 lb/yr for any one pollutant then project requires public notification. At this time, it is District Practice to define the SSIPE as the difference of SSPE2 to SSPE1.

	Pollutants (lb/yr)
	VOC
SSPE2	2,227,172
SSPE1	2,223,067
SSIPE	4,105

4. Major Source Determination

Pursuant to District Rule 2201, Section 3.24, a major source is a stationary source a Post-Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the Major Source threshold values (excluding ERCs banked onsite that have not been used onsite).

This facility is an existing Major Source of VOC emissions and will remain a Major Source of VOC emissions as a result of this project.

5. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed on a pollutant-by-pollutant basis to determine the amount of offsets required, where necessary, when the SSPE1 is greater than the offset threshold. Pursuant to section 3.8, baseline emissions shall be equal to the sum of:

BE = Pre-project Potential to Emit 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 section 3.23.

Since these are new emissions unit. Therefore, the baseline emissions are equal to the pre-project potential to emit for each unit, BE = PE1 = 0.

6. SB 288 Major Modification

SB 288 Major Modification calculation is to determine the following:

a. Pursuant to District Rule 2201, section 4.1.3, if Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Major Modification; and
b. Pursuant to District Rule 2201, section 5.4.1, if a public notification is triggered.

As shown in Section VII.D.4 of this document, this facility is an existing Major Source for VOC emissions. In order to determine whether a SB 288 Major Modification can be triggered, the Net Emissions Increase (NEI) is calculated and is compared with the SB 288 Major Modification threshold limit of 50,000 lb-VOC/year listed on Table 3-5 of Rule 2201, section 3.36.

NEI can be calculated as the sum of the difference of post-project potential emissions (PE2) and historical emissions (HE) for the emissions units involved in this project. Since this project involves only new emissions units, and no change to the existing emission units. The historical emissions for these units are each equal to zero. Thus,

$NEI = \sum(PE2 - HE)_{New}$

Where:
$HE_{New} = 0$

$NEI = \sum(PE2 - HE)_{New}$
$= (4{,}105 - 0)$
$= 4{,}105$ lb-VOC/year

NEI is not greater than 50,000 lb-VOC/yr. Therefore, the proposed project is not considered an SB 288 Major Modification for VOC emissions.

7. Federal Major Modification

Federal Major Modification is to determine the following:

a. Pursuant to Rule 2201, section 4.2.3.5, if a Rule-compliance project qualifies for District Rule 2201's Best Available Control Technology (BACT) and offset exemptions and

b. Pursuant to Rule 2201, section 4.15.1, if an Alternate Siting analysis must be performed; and if the applicant must provide certification that all California stationary sources owned, operated, or controlled by the applicant that are subject to emission limits are in compliance with those limits or are on a schedule for compliance with all applicable emission limits and standards; and

c. Pursuant to Rule 2201, section 5.4.1, if a public notification is triggered.

This facility is an existing Major Source for VOC emissions. In order to determine whether a Federal Major Modification can be triggered, the Net Emissions Increase (NEI) is calculated and is compared with the significance threshold limit of 0 lb-VOC/year listed on Table 3-1 of Rule 2201, section 3.18.1.4.

NEI can be calculated as the sum of the difference of the project actual emissions (PAE) and baseline actual emissions (BAE) for the emissions units involved in this project. Since this project involves only new emissions units, and no change to the existing emissions units. The baseline actual emissions for the new units are each equal to zero. Thus,

$NEI = \sum(PAE - BAE)_{New}$

Where:
$BAE_{New} = 0$

$NEI = \sum(PAE - BAE)_{New}$
$= (4{,}105 - 0)$
$= 4{,}105$ lb-VOC/year

NEI is greater than 0 lb-VOC/yr threshold. Therefore, the proposed project is a Federal Major Modification for VOC emissions.

VIII. COMPLIANCE

District Rule 2201 New and Modified Stationary Source Review Rule

1. Best Available Control Technology (BACT)

Pursuant to District Rule 2201, § 4.1.1, BACT requirements are triggered in a pollutant-by-pollutant basis for new emissions unit with a Potential to Emit (PE) exceeding 2.0 lb/day, unless the unit is otherwise exempt per section 4.2. Section 4.2.1 provides an exemption from BACT requirements for CO emissions if the facility is located in a CO attainment area and the $SSPE2_{CO}$ is less than 200,000 lb/yr. As well, BACT may be triggered if the modification is an SB 288 Major Modification or Federal Major Modification per section 4.1.3.

As shown in section VII.C.1, PE of VOC emission from each tank exceeds 2.0 lb/day. In addition, as shown in section VII.D.7, this project constitutes a Federal Major Modification. Therefore, BACT is triggered and required for each tank associated with this project.

New BACT Guideline 5.4.XX lists VOC emissions control requirements for Distilled Spirits Storage Tanks. The requirement is listed in the following table:

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible
VOC	Insulation or Equivalent, Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; "gas-tight" tank operation	1. Capture of VOC and thermal or catalytic oxidation or equivalent (98% control) 2. Capture of VOC and carbon adsorption or equivalent (95% control) 3. Capture of VOC and absorption or equivalent (90% control) 4. Refrigerated storage (70% control)

The "Top-Down BACT Analysis" for VOC emissions is preformed in Appendix II of this document.

Pursuant to the analysis, BACT for VOC emissions has been satisfied with the following: insulated or installed indoor, pressure vacuum valve set within 10% of the maximum allowable working pressure of the tank, "gas-tight" tank operation.

The following conditions will be listed on each ATC to ensure compliance with the BACT requirements:

- *This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rule 2201]*

- *The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rule 2201]*

For the large tanks, N-7478-26 and N-7478-27:

- *The maximum temperature of the distilled spirits stored in this tank shall not exceed 55 degrees Fahrenheit. [District Rule 2201]*

2. Offsets

Offsets are examined on a pollutant-by-pollutant basis, and are triggered for any pollutant with a SSPE2 equal to or greater than the values listed in § 4.5.3, table 4-1.

As discussed above, this facility is an existing Major Source for VOC emissions, and the SSPE2 of VOC exceeds the offsets threshold. Therefore, offset calculations are required, and pursuant to § 4.7.1, emission offset is calculated as the sum of differences between the PE2 and the BE of all the new and modified emissions units, plus all increases in Cargo Carrier emissions. The emissions offset are calculated as follow:

Emission offset = Σ (PE2 – BE) x DOR + ICCE

Where, PE2 is post project potential to emit
BE is baseline emissions
DOR is the distance offset ratio determined under Rule 2201, § 4.8
ICCE is Increase in Cargo Carrier emissions

There are no increases in Cargo Carrier emissions as result of this project, and the proposed project constitutes a Federal Major Modification, which result DOR = 1.5. Then,

Emission offset = Σ (PE2 – BE) x 1.5 + 0

Emission offset = [Σ (PE2 – BE)$_{\text{Existing units}}$ + Σ (PE2 – BE)$_{\text{New units}}$] x 1.5

This project involves only new emission units and no modification to the existing units. Therefore, PE2 = BE for each existing units, results Σ (PE2 – BE)$_{\text{Existing units}}$ = 0. Thus,

Emission offset = Σ (PE2 – BE)$_{\text{New units}}$ x 1.5

For new emission unit, BE = 0. Thus,

Emission offset = Σ (PE2 - 0)$_{\text{New units}}$ x 1.5

As shown in section VII.C.1 of this document, ΣPE2$_{\text{New units}}$ is calculated to 4,105 lb-VOC/yr.

Emission offset required = 4,105 x 1.5 lb-VOC/yr = 6,158 lb-VOC/yr

As shown above, offset are required for this project. The applicant has proposed to utilize ERC certificate S-3666-1 to offset the increase of VOC emissions in this project. The available credit on this certificate is listed in the table below:

ERC S-3666-1	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	80,000	80,000	80,000	80,000

As shown in section VII.C.2 of this document, the quarterly VOC emissions from each new large tank are:

Each Permit	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	450	450	450	450

As shown in section VII.C.2 of this document, the quarterly VOC emissions from each small tank are:

Each Permit	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	25	25	25	26

The proposed project involves two large tanks and five small tanks. The total quarterly VOC emissions from this project are:

Total	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	1,025	1,025	1,025	1,030

This project constitutes a Federal Major Modification, which requires offset ratio of 1.5 to 1, the required total quarterly offset for this project are:

Total Offset	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	1,538	1,538	1,538	1,544

The amount of credit of the ERC certificate after offset is summarized in the table below:

ERC S-3666-1:

VOC	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
Available Offset	80,000	80,000	80,000	80,000
Total Reserved	(47,498)	(47,498)	(47,482)	(47,480)
Minus Offset required for this project	(1,538)	(1,538)	(1,538)	(1,544)
Remaining Offset	30,964	30,964	30,980	30,976

Therefore, the ERC certificate S-3666-1 has sufficient credits to fully offset the increase of VOC emissions in this project.

To ensure the emission credits from ERC Certificate S-3666-1 utilize for offset the increase of VOC emissions in this project, the following conditions will be listed on each ATC:

- *ERC certificate S-3666-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]*

The following condition will be listed on each ATC for the large tanks, N-7478-26 and N-7478-27:

- *Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 450 lb, 2nd quarter - 450 lb, 3rd quarter - 450 lb, and 4th quarter - 450 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201]*

The following condition will be listed on each ATC for the small tanks, N-7478-28 through N-7478-32:

- *Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 25 lb, 2nd quarter - 25 lb, 3rd quarter - 25 lb, and 4th quarter - 26 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201]*

3. Public Notification

District Rule 2201, § 5.4, requires a public notification for the affected pollutants from the following types of projects:

- New Major Sources
- Federal Major Modifications
- SB 288 Major Modifications
- New emission units with a PE>100 lb/day of any one pollutant
- Modifications with SSPE1 below an Offset threshold and SSPE2 above an Offset threshold on a pollutant-by-pollutant basis
- New stationary sources with SSPE2 exceeding Offset thresholds
- Any permitting action with a SSIPE exceeding 20,000 lb/yr for any one pollutant

This project triggers a Federal Major Modification. Therefore, a 30-day public notice is required for this project.

4. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by § 3.15 to restrict a unit's maximum daily emissions. Therefore, the following conditions will be listed on the permit:

N-7478-26 and N-7478-27 (Large Tanks):

- *The daily VOC emissions for distilled spirits storage shall not exceed 58.1 pounds. [District Rule 2201]*
- *The daily distilled spirits storage throughput of this tank shall not exceed 96,774 gallons. [District Rule 2201]*
- *The maximum ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201]*
- *The maximum liquid temperature of the distilled spirits stored in this tank shall not exceed 55 degrees Fahrenheit. [District Rule 2201]*

N-7478-28 through N-7478-32 (Small Tanks):

- *The daily VOC emissions for distilled spirits storage shall not exceed 4.4 pounds. [District Rule 2201]*
- *The daily distilled spirits storage throughput of this tank shall not exceed 3,225 gallons. [District Rule 2201]*
- *The maximum ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201]*

5. Compliance Assurance

Source Testing

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

Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

Record Keeping

Recordkeeping is required to demonstrate compliance with the offsets, public notification and daily emission limit requirements of Rule 2201. Therefore, the following conditions will be listed on each permit:

- *All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070 and 2201]*

N-7478-26 and N-7478-27 (Large Tanks):

- *The permittee shall maintained the following records: a) the maximum temperature of the distilled spirits stored, b) the maximum ethanol concentration in volume percent of the distilled spirits stored, c) the maximum average annual ethanol concentration in volume percent of the distilled spirits stored, d) the daily throughout, and e) the cumulative annual throughput. [District Rule 2201]*

N-7478-29 through N-7478-32 (Small Tanks):

- *The permittee shall maintained the following records: a) the maximum ethanol concentration in volume percent of the distilled spirits stored, b) the maximum average annual ethanol concentration in volume percent of the distilled spirits stored, c) the daily throughout, and d) the cumulative annual throughput. [District Rule 2201]*

6. Ambient Air Quality Analysis

Per Section 4.14 of Rule 2201, ambient air quality analysis (AAQA) shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse the violation of an Ambient Air Quality Standard (AAQS).

This project involves only VOCs (mainly ethanol) for which AAQS does not exist; therefore, AAQA is not performed for this project.

7. Additional Requirements for new Major Source and Federal Major Modifications

Per Section 4.15 of Rule 2201, "Alternative Siting" and "Compliance Certification" is required for any project which constitutes a new Major Source or a Federal Major Modification.

Per section 4.15.1, Alternative Siting Analysis:

The current project occurs at an existing winery with a pre-project total wine tank volume of 86,454,565 gallons[1]. The applicant proposes to install new winery tanks totaling 222,500

[1]The total tank capacity of this facility is taken from engineering evaluation N-111823.

gallons in volume, which represents an increase of 0.26% of the existing total wine tank volume. In addition to winery tanks, the operation of a winery requires a large number support equipment, services and structures such as raw material receiving stations, crushers, piping, filtering and refrigeration units, warehouses, laboratories, bottling and shipping facilities, and administration buildings.

Since the current project involves only a minimal increase in the winery's total tank volume and no change to any other facets of the operation, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures and facilities on a much greater scale, and would therefore result in a much greater impact.

Per section 4.15.2, Compliance Certification:

A source undergoing a Major Modification is required to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards.

This project constitutes a Federal Major Modification. Therefore, compliance certification is required, and a copy of compliance certification from the facility is included in Appendix IV of this document.

Therefore, compliance with the requirements of this Rule is expected.

District Rule 2520 Federally Mandated Operating Permits

E&J Gallo Winery – Brandy possesses a Title V permit. The proposed project is considered a Significant Modification to the Title V permit since this project triggers a Federal Major Modification under Rule 2201. Therefore, the following conditions will be listed on each permit:

- *{1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule]*

- *{1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]*

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs and

- The source's suggested draft permit (Appendix I of this document) and
- Certification by a responsible official that the proposed modification meets the criteria for use of major permit modification procedures and a request that such procedures be used (Appendix IV of this document)

Section 5.3.4 of this rule requires the permittee shall file an application for administrative permit amendments prior to implementing the requested change except when allowed by the operational flexibility provisions of section 6.4 of this rule.

E&J Gallo Winery – Brandy is expected to notify the District by filing the appropriate TV modification application forms prior to operating under the ATCs. Therefore, compliance with the requirements of this Rule is expected.

District 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 wines/spirits storage tank operations.

District 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 wines/spirits storage tank operations.

District Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringlemann 1 or equivalent to 20% opacity. Therefore, the following condition will be listed on each permit:

- *{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]*

District Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, the following condition will be listed on each permit:

- *{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 1905-1 (March 2, 2001) - 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.

Ethanol is not a HAP as defined by Section 44321 of the California Health and Safety Code. Therefore, a health risk assessment is not necessary and no further risk analysis is required.

District Rule 4623 Storage of Organic Liquids

The purpose of this rule is to limit of volatile organic compound (VOC) emissions from the storage of organic liquids.

Section 4.1.4 of this rule provides an exemption for tanks used in wine fermentation and for storage of resulting products, by-products, and spirits. The new tanks will be used to store distilled spirits. Therefore, the requirement of this rule does not apply to this project.

District Rule 4694 Wine Fermentation and Storage Tanks

The purpose of this rule is to reduce emissions of volatile organic compounds (VOC) from the fermentation and bulk storage of wine, or achieve equivalent reductions from alternative emission sources. This rule is applicable to any winery fermenting wine and/or storing wine in bulk containers.

Section 4.1 of this rule states that except for recording keeping requirements specified in section 6.4.4, this rule shall not apply to any winery which has a Baseline Fermentation Emissions (BFE) of less than 10 tons per year.

The new tanks will use for only store and reclaim distilled spirits for bottling purpose in the brandy manufacturing facility.

Only 7 out of 398 tanks in facility N-3386 will be used for both fermentation and storage. No fermentation of wine takes place in the rest of tanks at this stationary source (including both facilities, N-7478 and N-3386).

In addition, the BFE for this stationary source is limited to less than 10 tons per year pursuant to condition number 42 under the facility wide permit N-3386-0-3. Therefore, only recording keeping requirements specified in section 6.4.4 will be required.

Section 6.4.4 requires keeping the total gallons of wine in storage. The permittee will keep the daily and annual throughput records. Therefore, compliance with the requirements of this rule is expected.

District Rule 4695 Brandy Aging and Wine aging Operations

The purpose of this rule is to limit volatile organic compound (VOC) emissions from brandy aging and wine aging operations.

Section 3.1 of this rule states that aging is to keep, in a non-temporary or transient manner, brandy or wine in containers with the objective of acquiring desirable characteristic from contact with wood.

The proposed new stainless steel tanks will be used for supply and reclaim the high proof distilled spirits for the bottling operation. Therefore, the requirement of this rule does not apply to this project.

California Health & Safety Code 42301.6 (School Notice)

As discussed in section III of this document, the California Health and Safety Code 42301.6 requirement does not apply to this project.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (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 San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

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

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has 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 § 15031 (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)).

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authorities to Construct N-7478-26-0 through N-7478-32-0 subject to the permits conditions listed on the attached draft Authorities to Construct in Appendix I.

X. BILLING INFORMATION

Annual Permit Fees				
Permit Number	Previous Fee Schedule	Fee Schedule	Fee Description	Annual Fee
N-7478-26-0	N/A	3020-05-E (100,000 or Greater but less than 500,000 gallon)	105,000 gallons	$ 246
N-7478-27-0				$ 246
N-7478-28-0	N/A	3020-05-A (Up to 5,000 gallon)	2,500 gallons	$ 75
N-7478-29-0				$ 75
N-7478-30-0				$ 75
N-7478-31-0				$ 75
N-7478-32-0				$ 75

APPENDICES

Appendix I: Draft Authorities to Construct (ATC)
Appendix II: BACT Guideline & Top-Down BACT Analysis
Appendix III: EPA's Tanks 4.0.d Reports
Appendix IV: Compliance Certification

Appendix I

Draft Authorities to Construct (ATC)

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-7478-26-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY - BRANDY
MAILING ADDRESS: PO BOX 1130
MODESTO, CA 95353

LOCATION: 200 YOSEMITE AVE
MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
105,000 GALLON INSULATED STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #113 EQUIPPED WITH PRESSURE/VACUUM VALVE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 450 lb, 2nd quarter - 450 lb, 3rd quarter - 450 lb, and 4th quarter - 450 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC certificate S-3666-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 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

DRAFT

DAVID WARNER, Director of Permit Services
N-7478-26-0: Jan 18 2012 8:25PM -- SOW Joint Inspection NOT Required

6. {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]
7. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The maximum liquid temperature of the distilled spirits stored in this tank shall not exceed 55 degrees Fahrenheit. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The daily VOC emissions for distilled spirits storage shall not exceed 58.1 pounds. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The daily distilled spirits storage throughput of this tank shall not exceed 96,774 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The maximum ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The annual distilled spirits storage throughput of this tank shall not exceed 3,000,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The maximum average annual ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201]
15. The permittee shall maintained the following records: a) the maximum temperature of the distilled spirits stored, b) the maximum ethanol concentration in volume percent of the distilled spirits stored, c) the maximum average annual ethanol concentration in volume percent of the distilled spirits stored, d) the daily throughout, and e) the cumulative annual throughput. [District Rule 2201] Federally Enforceable Through Title V Permit
16. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-7478-27-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY - BRANDY
MAILING ADDRESS: PO BOX 1130
MODESTO, CA 95353

LOCATION: 200 YOSEMITE AVE
MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
105,000 GALLON INSULATED STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #114 EQUIPPED WITH PRESSURE/VACUUM VALVE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 450 lb, 2nd quarter - 450 lb, 3rd quarter - 450 lb, and 4th quarter - 450 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC certificate S-3666-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 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

DRAFT

DAVID WARNER, Director of Permit Services
N-7478-27-0 : Jan 18 2012 6:26PM -- SOW : Joint Inspection NOT Required

6. {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]
7. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The maximum liquid temperature of the distilled spirits stored in this tank shall not exceed 55 degrees Fahrenheit. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The daily VOC emissions for distilled spirits storage shall not exceed 58.1 pounds. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The daily distilled spirits storage throughput of this tank shall not exceed 96,774 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The maximum ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The annual distilled spirits storage throughput of this tank shall not exceed 3,000,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The maximum average annual ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201]
15. The permittee shall maintained the following records: a) the maximum temperature of the distilled spirits stored, b) the maximum ethanol concentration in volume percent of the distilled spirits stored, c) the maximum average annual ethanol concentration in volume percent of the distilled spirits stored, d) the daily throughout, and e) the cumulative annual throughput. [District Rule 2201] Federally Enforceable Through Title V Permit
16. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-7478-28-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY - BRANDY
MAILING ADDRESS: PO BOX 1130
MODESTO, CA 95353

LOCATION: 200 YOSEMITE AVE
MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
2,500 GALLON NON-INSULATED INDOOR STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #24 EQUIPPED WITH PRESSURE/VACUUM VALVE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 25 lb, 2nd quarter - 25 lb, 3rd quarter - 25 lb, and 4th quarter - 26 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC certificate S-3666-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-7478-28-0 : Jan 25 2012 1:34PM – SOW : Joint Inspection NOT Required

6. {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]
7. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The daily VOC emissions for distilled spirits storage shall not exceed 4.4 pounds. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The daily distilled spirits storage throughput of this tank shall not exceed 3,225 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The maximum ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The annual distilled spirits storage throughput of this tank shall not exceed 100,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The maximum average annual ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201]
14. The permittee shall maintained the following records: a) the maximum ethanol concentration in volume percent of the distilled spirits stored, b) the maximum average annual ethanol concentration in volume percent of the distilled spirits stored, c) the daily throughout, and d) the cumulative annual throughput. [District Rule 2201] Federally Enforceable Through Title V Permit
15. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-7478-29-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY - BRANDY
MAILING ADDRESS: PO BOX 1130
MODESTO, CA 95353

LOCATION: 200 YOSEMITE AVE
MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
2,500 GALLON NON-INSULATED INDOOR STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #25 EQUIPPED WITH PRESSURE/VACUUM VALVE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 25 lb, 2nd quarter - 25 lb, 3rd quarter - 25 lb, and 4th quarter - 26 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC certificate S-3666-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director/APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-7478-29-0 : Jan 25 2012 1:35PM – SOW : Joint Inspection NOT Required

6. {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]
7. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The daily VOC emissions for distilled spirits storage shall not exceed 4.4 pounds. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The daily distilled spirits storage throughput of this tank shall not exceed 3,225 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The maximum ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The annual distilled spirits storage throughput of this tank shall not exceed 100,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The maximum average annual ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201]
14. The permittee shall maintained the following records: a) the maximum ethanol concentration in volume percent of the distilled spirits stored, b) the maximum average annual ethanol concentration in volume percent of the distilled spirits stored, c) the daily throughout, and d) the cumulative annual throughput. [District Rule 2201] Federally Enforceable Through Title V Permit
15. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-7478-30-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY - BRANDY
MAILING ADDRESS: PO BOX 1130
MODESTO, CA 95353

LOCATION: 200 YOSEMITE AVE
MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
2,500 GALLON NON-INSULATED INDOOR STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #26 EQUIPPED WITH PRESSURE/VACUUM VALVE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 25 lb, 2nd quarter - 25 lb, 3rd quarter - 25 lb, and 4th quarter - 26 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC certificate S-3666-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-7478-30-0: Jan 25 2012 1:35PM – SOW : Joint Inspection NOT Required

6. {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]
7. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The daily VOC emissions for distilled spirits storage shall not exceed 4.4 pounds. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The daily distilled spirits storage throughput of this tank shall not exceed 3,225 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The maximum ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The annual distilled spirits storage throughput of this tank shall not exceed 100,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The maximum average annual ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201]
14. The permittee shall maintained the following records: a) the maximum ethanol concentration in volume percent of the distilled spirits stored, b) the maximum average annual ethanol concentration in volume percent of the distilled spirits stored, c) the daily throughout, and d) the cumulative annual throughput. [District Rule 2201] Federally Enforceable Through Title V Permit
15. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-7478-31-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY - BRANDY
MAILING ADDRESS: PO BOX 1130
MODESTO, CA 95353

LOCATION: 200 YOSEMITE AVE
MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
2,500 GALLON NON-INSULATED INDOOR STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #27 EQUIPPED WITH PRESSURE/VACUUM VALVE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 25 lb, 2nd quarter - 25 lb, 3rd quarter - 25 lb, and 4th quarter - 26 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC certificate S-3666-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-7478-31-0 : Jan 25 2012 1:35PM – GOW : Joint Inspection NOT Required

6. {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]
7. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition, except when the operating pressure of the tank exceeds the valve set pressure. A gas-tight condition shall be determined by measuring the gas leak in accordance with the procedures in EPA Method 21. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The daily VOC emissions for distilled spirits storage shall not exceed 4.4 pounds. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The daily distilled spirits storage throughput of this tank shall not exceed 3,225 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The maximum ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The annual distilled spirits storage throughput of this tank shall not exceed 100,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The maximum average annual ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201]
14. The permittee shall maintained the following records: a) the maximum ethanol concentration in volume percent of the distilled spirits stored, b) the maximum average annual ethanol concentration in volume percent of the distilled spirits stored, c) the daily throughout, and d) the cumulative annual throughput. [District Rule 2201] Federally Enforceable Through Title V Permit
15. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-7478-32-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY - BRANDY
MAILING ADDRESS: PO BOX 1130
MODESTO, CA 95353

LOCATION: 200 YOSEMITE AVE
MODESTO, CA 95353

EQUIPMENT DESCRIPTION:
2,500 GALLON NON-INSULATED INDOOR STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK #28 EQUIPPED WITH PRESSURE/VACUUM VALVE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
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4. ERC certificate S-3666-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
5. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-7478-32-0: Jan 25 2012 1:35PM - BOW : Joint Inspection NOT Required

6. {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]
7. This tank shall be equipped with and operated with a pressure-vacuum relief valve, which shall operate within 10% of the maximum allowable working pressure of the tank, operate in accordance with the manufacturer's instructions, and be permanently labeled with the operating pressure settings. [District Rule 2201] Federally Enforceable Through Title V Permit
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10. The daily distilled spirits storage throughput of this tank shall not exceed 3,225 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The maximum ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201] Federally Enforceable Through Title V Permit
12. The annual distilled spirits storage throughput of this tank shall not exceed 100,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The maximum average annual ethanol concentration of the distilled spirits stored in this tank shall not exceed 99.9 percent of volume. [District Rule 2201]
14. The permittee shall maintained the following records: a) the maximum ethanol concentration in volume percent of the distilled spirits stored, b) the maximum average annual ethanol concentration in volume percent of the distilled spirits stored, c) the daily throughout, and d) the cumulative annual throughput. [District Rule 2201] Federally Enforceable Through Title V Permit
15. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

Appendix II

BACT Guideline & Top-Down BACT Analysis

Top-Down BACT Analysis for VOC emissions

The following VOC emission control technologies are listed in the draft BACT guideline 5.4.XX, for Distilled Spirits Storage Tank (prepared under engineering evaluation N-1113407):

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:

Insulation or Equivalent**, Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; "gas-tight" tank operation.

Technologically Feasible:

1) Capture of VOCs and thermal or catalytic oxidation or equivalent (98% control)
2) Capture of VOCs and carbon adsorption or equivalent (95% control)
3) Capture of VOCs and absorption or equivalent (90% control)
4) Refrigerated Storage (70% control)

Alternate Basic Equipment:

There is no alternate basic equipment listed on this guideline.

Step 2 - Eliminate technologically infeasible options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank remaining options by control effectiveness

Rank by Control Effectiveness			
Rank	Option	Control	Overall Capture & Control Efficiency
1	2	Capture of VOCs & thermal or catalytic oxidation, or equivalent	98%
2	3	Capture of VOCs & carbon adsorption, or equivalent	95%
3	4	Capture of VOCs & absorption, or equivalent	90%
4	5	Refrigerated Storage	70%
5	1	Insulation or Equivalent, Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; "gas-tight" tank operation	0 %

Step 4 - Cost Effectiveness Analysis

A cost effectiveness analysis is performed for each control technology which is more effective than achieved-in-practice BACT. The cost-effectiveness analysis will be performed based on the most cost effective approach by installing a common control device for multiple tanks.

Tank Configuration:

The proposed two large tanks (105,000 gallon each) will be used to store and supply spirits to the bottling operation, and the five small tanks (2,500 gallon each) will be used to reclaim spirits from the same bottling operation.

Large Tanks (product)
Capacity: 105,000 gallon (each):
Quantity: 2
Size: 21' diameter x 40' tall (each)
Specification: 304L SS, Vertical fixed roof (cone), pressure/vacuum valve, insulated, installed outdoor, and temperature controlled

Small Tanks (reclaim)
Capacity: 2,500 gallon (each):
Quantity: 5
Size: 6' diameter x 12' tall (each)
Specification: 304L SS, Vertical fixed roof (flat), pressure/vacuum valve, non-insulated, installed indoor, and non-temperature controlled

Maximum Vapor Flow Rate:

Large Tanks (product)
Determination of the maximum vapor flow rate from these tanks is calculated by the maximum product transfer rate. The applicant stated that the maximum design flow rate to transfer liquid spirits using positive displacement type pumps would be 200 GPM.

105,000 gallons x min/200 gallons x 1 hr/60 min = 8.75 hours

Therefore, it would take 17.5 hours to fill two 105,000 gallon tanks.

Moles of air displaced = 105,000 gallons/tank x ft^3/7.48 gallons x 0.07544 lb-air/ft^3 x lb-mol air/28.58 lb-air
= 37.1 lb-mol air/tank

Tanks 4.0.d Daily Spirits Emissions = (1,800 lb-VOC/month)/(31 days) = 58.1 lb-VOC/tank

Moles of spirits = 58.1 lb-VOC/tank x lb-mol/46.07 lb = 1.26 lb-mol/tank

Total moles = (1.26 + 37.1) lb-mol/tank x 2 tanks = 76.7 lb-mol

V = nRT/P
= [76.7 lb-mol x 0.7302 lb-mol °R/atm ft^3 x 520 °R] /1 atm
= 29,123 ft^3

Vapor Flow Rate = 29,123 ft^3 ÷ 17.5 hours x 1 hour/60 min = 27.7 scfm

Small Tanks (reclaim)
Determination of the maximum vapor flow rate from these tanks is calculated by the maximum product transfer rate. The applicant stated that the maximum design flow rate to transfer liquid spirits using portable pumps would be 50 GPM.

2,500 gallons x min/50 gallons x 1 hr/60 min = 0.83 hours

Therefore, it would take 4.17 hours to fill five 2,500 gallon tanks.

Moles of air displaced = 2,500 gallons/tank x ft^3/7.48 gallons x 0.07544 lb-air/ft^3 x lb-mol air/28.58 lb-air
= 0.88 lb-mol air/tank

Tanks 4.0.d Daily Spirits Emissions = (136 lb-VOC/month)/(31 days) = 4.4 lb-VOC/tank

Moles of spirits = 4.4 lb-VOC/tank x lb-mol/46.07 lb = 0.1 lb-mol/tank

Total moles = (0.88 + 0.1) lb-mol/tank x 5 tanks = 4.9 lb-mol

V = nRT/P
= [4.9 lb-mol x 0.7302 lb-mol °R/atm ft^3 x 520 °R] /1 atm
= 1,861 ft^3

Vapor Flow Rate = 1,861 ft^3 ÷ 4.17 hours x 1 hour/60 min = 7.4 scfm

Total Vapor Flow Rate = (27.7 + 7.4) scfm = 35.1 scfm

Uncontrolled Emissions:

As shown in section VII.C.2 of this document, the total VOC emissions are:

Total VOC = (1,800 lb-VOC/tank x 2 tanks) + (101 lb-VOC/tank x 5 tanks)
= 4,105 lb-VOC/year

Collection System Capital Investment (based on ductwork):

A common feature of all technically feasible options (except tank refrigeration) is that they require installation of a collection system for delivering the VOCs from the tanks to the common control device. This analysis ignores additional major costs for equipment sterilization systems for ductwork and control device, instrumentation and control systems for isolation of individual tanks in the battery, and site specific factors due to limited plot space (known to be a significant factor at all wineries). Should all these additional cost factors be included, the calculated cost effectiveness would be substantially higher than indicated below.

Collection system to consist of:

- The collection system consists of stainless steel place ductwork (stainless steel is required due to food grade product status) with isolation valving, connecting two 105,000 gallon tanks and five 2,500 gallon tanks to a common manifold system which ducts the combined vent to the common control device. The cost of dampers and isolation valving, installed in the ductwork, will be included in the cost estimate.
- A minimum duct size is established at six inches diameter at each tank to provide adequate strength for spanning between supports. The main header is twelve inches diameter to handle the potential for simultaneous venting.
- A minimum estimated length 150 feet (based on a seven-tank layout (3 small tanks a row, 2 small tanks a row, and 2 large tanks a row), 10 feet spacing between each tank, header line in the middle (16' + 16' + 12' + 10' + 16' + 12' + 10' + 31' + 40' + 10' = 173'), and control device located within 100 feet of tank array.

Capital Cost Ductwork

6" Stainless Steel Duct: 173 linear feet
12" Stainless Steel Duct: 100 linear feet

A direct cost estimate for 6 inch & 12 inch diameter stainless steel ductwork, installed in a San Joaquin Valley winery, was taken from Fermenter VOC Emission Control Cost Estimate, prepared by Eichleay Engineering for the Wine Institute in conjunction with development of District Rule 4694. The estimate is based on 2nd quarter 2005 dollars, and includes fittings, miscellaneous duct supports and other materials plus field labor costs required to install the ductwork, but does not include other associated indirect costs such as construction management, engineering, owner's cost, contingency, etc.

Unit installed cost for 6 inch Stainless Steel ducting: $61.30/linear foot[2]
Unit installed cost for 12 inch Stainless Steel ducting: $143.80/linear foot[2]

Installed costs = ($61.30 linear foot x 173 feet) + ($143.80 linear foot x 100 feet) = $24,985

[2] The cost information is taken from engineering evaluation N-1113407.

Adjusting from 2005 dollars to 2011 dollars (multiply by 1.177, 2.75% inflation/yr)[3].

Installed costs = $24,985 x 1.177 = $29,407

Duct Valve Allowance

One of the major concerns of a manifold duct system is microorganisms spoiling the wine, and transferring from one tank to another. It is possible to completely ruin a tank of white wine if a few hundred gallons of red wine were back fed through the duct. It is necessary to design into the system a positive disconnect of the ducting system when the tanks are not being filled. There are a number of ways this can be done. In this case, an automatic butterfly valve with a physical spool to disconnect the tank from the duct will be utilized.

Unit installed cost for 6 inch butterfly valve = $2,125/valve
Unit installed cost one foot removable spool = $500/tank

Installed costs = ($2,125/valve x 7 tanks) + ($500/tank x 7 tanks) = $18,375

Clean-In-Place (CIP) System

A ducting system on a tank farm must have this system to maintain sanitation and quality of the product. The cost of operation of the CIP system has not been estimated. Operation of a CIP system, using typical cleaning agents, will raise disposal and wastewater treatment costs.

An allowance of $200,000 for a CIP system is included in the evaluation. This value is consistent with the data used in engineering evaluation N-1113407.

Installed costs = $200,000

Total costs = Ductwork + Duct Valve + CIP System
= $29,407 + $18,375 + $200,000
= $247,782

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

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

Therefore,

Annualized Capital Investment = $247,782 x 0.163 = **$40,389**

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[3] Inflation multiplier (IM) = $(1 + i)^n$, where I is the inflation rate of 2.75%, and n is the number of year of 6. IM = $(1 = 0.0275)^6$ = 1.177

Option 1 - Capture of VOCs & thermal/catalytic oxidation or equivalent (98% control)

The smallest thermal oxidizer available is 50 scfm. Baker Furnace provided a quote for a 50 scfm thermal oxidizer with 50% recuperator at a capital cost of $37,700 (2009 dollars).

Adjusting from 2009 dollars to 2011 dollars (multiply by 1.056, 2.75% inflation/yr):

RTO (50 cfm) capital cost = $37,700 x 1.056 = $39,811

Cost Item	**Cost, $**
Direct Costs	
Purchased equipment costs:	
RTO cost, A	39,811
Sales tax, Modesto, 0.07375 x (A)	2,936
Freight, 0.05 x (A)	1,991
Purchased equipment cost, B	$44,738
Direct installation costs:	
Foundations & supports, 0.08 x (B)	3,579
Handling & erection, 0.14 x (B)	6,263
Electrical, 0.04 x (B)	1,789
Piping, 0.02 x (B)	895
Insulation for duct work, 0.01 x (B)	447
Painting, 0.01 x (B)	447
Direct installation costs	$13,420
Site preparation	--
Buildings	--
Total Direct Costs	$58,158
Indirect Costs (Installation)	
Engineering, 0.1 x (B)	4,474
Construction & field expenses, 0.05 x (B)	2,237
Contractor fees, 0.1 x (B)	4,474
Start-up, 0.02 x (B)	895
Performance test, 0.01 x (B)[4]	--
Contingencies, 0.03 x (B)	1,342
Total Indirect Costs	$13,422
Total Capital Investment	$71,580

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

Annualized Capital Investment = Total Capital Cost x Amortization Factor

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

Therefore,

Annualized Capital Investment = $71,580 x 0.163 = $11,668

Total Annual Cost = $40,389 + $11,668 = $52,057

Annual Emission Reduction = Uncontrolled Emissions x 0.98
= 4,105 lb-VOC/year x 0.98
= 4,023 lb-VOC/year
= 2.01 tons-VOC/year

Cost Effectiveness = $52,057/year ÷ 2.01 tons-VOC/year
= $25,899/ton-VOC

The cost of VOC reductions considering the capture and control equipment costs alone is more than the threshold limit of $17,500/ton. Therefore, the capture and oxidation control is not cost-effective for this installation.

Option 2 - Capture of VOCs and carbon adsorption or equivalent (95% control)

Per engineering evaluation N-1100320 (July 19, 2011), Kurt Keefer of EAS Corp, (916) 967-9007, provided a budget price of $40,000 for a single stage "Duall CAS-3000" carbon adsorption system capable of handling 3,200 cfm. The quoted price does not include sales tax, freight expenses, operational and maintenance costs, site preparation, etc.

Mr. Keefer informed that the cost of installing and disposing carbon ranges anywhere from $2/lb to $10/lb.

Cost Item	**Cost, $**
Direct Costs	
Purchased equipment costs	
Carbon system cost, A	40,000
Sales tax, Modesto, 0.07375 x (A)	2,950
Freight, 0.05 x (A)	2,000
Purchased equipment cost, B	$44,950
Direct installation costs	
Foundations & supports, 0.08 x (B)	3,596
Handling & erection, 0.14 x (B)	6,293
Electrical, 0.04 x (B)	1,798

Piping, 0.02 x (B)	899
Insulation for duct work, 0.01 x (B)	450
Painting, 0.01 x (B)	450
Direct installation costs	$13,486
Site preparation	--
Buildings	--
Total Direct Costs	$58,436
Indirect Costs (Installation)	
Engineering, 0.1 x (B)	4,495
Construction & field expenses, 0.05 x (B)	2,248
Contractor fees, 0.1 x (B)	4,495
Start-up, 0.02 x (B)	899
Performance test, 0.01 x (B)	--
Contingencies, 0.03 x (B)	1,349
Total Indirect Costs	$13,486
Total Capital Investment	$71,922

$$\text{Capital Costs } 35.1\,\text{cfm} = \text{Capital Costs } 3{,}200\text{cfm} \times \left(\frac{35.1\,\text{cfm}}{3{,}200\,\text{cfm}}\right)^{0.6}$$

Capital Costs 35.1 cfm = $71,922 x $(35.1 \div 3{,}200)^{0.6}$
= $4,797/year

Annualized Capital Investment = Total Capital Cost x Amortization Factor

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

Therefore,

Annualized Capital Investment = $4,797 x 0.163 = $782

The operational costs for the carbon adsorption system include a cost to replace and dispose the saturated carbon ($2/lb of carbon).

The carbon requirement is expected to be 19,499 lb/year (0.95 × 4,105 lb-VOC/yr ÷ 0.2 lb-carbon/lb-VOC adsorbed). Therefore, the total carbon replacement and disposal costs would be:

= $2/lb-carbon × 1,9499 lb-carbon/year = $38,998/year

Total Annual Cost = $40,389 + $782 + $38,998 = $80,167

Annual Emission Reduction = Uncontrolled Emissions x 0.95
= 4,105 lb-VOC/year x 0.95
= 3,900 lb-VOC/year
= 1.95 tons-VOC/year

Cost Effectiveness = $80,167/year ÷ 1.95 tons-VOC/year
= $41,111/ton-VOC

The cost of VOC reductions considering the capture and control equipment and carbon replacement costs is more than the threshold limit of $17,500/ton. Therefore, the capture and adsorption control is not cost-effective for this installation.

Option 3 - Capture of VOCs and absorption or equivalent (90% control)

Per engineering evaluation N-1100320 (July 19, 2011), Kurt Keefer of EAS Corp, (916) 967-9007, provided a budget price of $29,800 for a single stage "Duall Once Through Water Scrubber" system capable of handling 3,200 cfm. The quoted price does not include sales tax, freight expenses, operational and maintenance costs, site preparation, etc. It is assumed that one scrubber would handle 35.1 scfm. Therefore,

Cost Item	**Cost, $**
Direct Costs	
Purchased equipment costs	
Scrubber System cost, A	29,800
Sales tax, Modesto, 0.07375 x (A)	2,198
Freight, 0.05 x (A)	1,490
Purchased equipment cost, B	$33,488
Direct installation costs	
Foundations & supports, 0.08 x (B)	2,679
Handling & erection, 0.14 x (B)	4,688
Electrical, 0.04 x (B)	1,340
Piping, 0.02 x (B)	670
Insulation for duct work, 0.01 x (B)	335
Painting, 0.01 x (B)	335
Direct installation costs	$10,047
Site preparation	--
Buildings	--
Total Direct Costs	$43,534

Indirect Costs (Installation)	
Engineering, 0.1 x (B)	3,349
Construction & field expenses, 0.05 x (B)	1,674
Contractor fees, 0.1 x (B)	3,349
Start-up, 0.02 x (B)	670
Performance test, 0.01 x (B)	--
Contingencies, 0.03 x (B)	1,005
Total Indirect Costs	$10,046
Total Capital Investment	$53,580

$$\text{Capital Costs } 35.1\,\text{cfm} = \text{Capital Costs } 3{,}200\,\text{cfm} \times \left(\frac{35.1\,\text{cfm}}{3{,}200\,\text{cfm}}\right)^{0.6}$$

Capital Costs 35.1 cfm = $53,580 x (35.1 ÷ 3,200)$^{0.6}$
= $3,574/year

Annualized Capital Investment = Total Capital Cost x Amortization Factor

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

Therefore,

Annualized Capital Investment = $3,574 x 0.163 = $583

Additionally, the water scrubber will generate ethanol-laden wastewater containing 1.85 tons-ethanol annually (calculated below). Assuming a 2% solution, approximately 27,946 gallons of waste water (1.85 ton-ethanol/year x 2000 lb/ton x gal/6.62 lb ÷ 0.02) will be generated annually. Per estimate in Sonoma Technologies study, an allowance of $0.25 per gallon is applied for disposal costs[5].

Annual disposal costs = 27,946 gallons x $0.25/gallon = $6,897

Total Annual Cost = $40,389 + $583 + $6,897 = $47,869

Annual Emission Reduction = Uncontrolled Emissions x 0.90
= 4,105 lb-VOC/year x 0.90
= 3,695 lb-VOC/year
= 1.85 tons-VOC/year

Cost Effectiveness = $47,869/year ÷ 0.21 tons-VOC/year
= $25,875/ton-VOC

[5] This cost information is consistent with the engineering evaluation N-1113407.

The cost of VOC reductions considering the control equipment is more than the threshold limit of $17,500/ton. Therefore, the capture and absorption control is not cost-effective for this installation.

Option 4 - Refrigerated storage (70% control)

Design Basis

- A common refrigeration system will be installed for these two tanks.
- The refrigeration system will be a packaged single-stage vapor-compression system.
- Minimum refrigeration capacity will allow cooling the proposed tanks from 55°F to 40°F.
- The liquid transfer rate of the large tank is 200 GPM.
- The liquid transfer rate of the small tank is 50 GPM.

Based on a specific heat capacity of 1.0 Btu/lb-°F and cooling two large tanks alone from 55°F to 40°F, the capacity required for the refrigeration system would be:

Refrigeration Capacity = [200 gal/min x 2 tanks x 8.34 lb/gal x 1.0 Btu/lb-°F x (55°F – 40°F) x (60 min/hr) x (1 ton-hr refrigeration/12,000 Btu)]
= 250.2 tons
≈ 250 tons

Capital Cost

The EPA Air Pollution Control Manual, Section 3, Chapter 2, Figure 2.5, provides costs for single stage vapor compression systems up to 100 tons capacity at a condensation temperature of 40°F. Conservatively, using the purchase price for a 174 ton unit yields:

Refrigeration System Cost = $201,739[6]

This cost is in 1990 dollars; therefore, it is adjusted by conservatively assuming an average inflation rate of 2.75% as follows:

Current Refrigeration System Cost = $201,739 x 1.78 = $359,095

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

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

Therefore,

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[6] Cost is estimated using EPA's document EPA/452/B-02-001, Section 3.1, Chapter 2, Section 2.4, equation 2.26 on Page 2-18 for single stage refrigeration unit. This equation is valid up to a 174 tons refrigeration capacity. Cost (1990 dollars) = $e^{[9.26 - 0.007 \times 40 + 0.627 \ln(174)]}$ = $201,739

Annualized Capital Investment = $359,095 x 0.163 = $58,533

To compare the cost and size of a 174 ton condenser to the subject 407 ton condenser, the six-tenths rule of thumb is used.

$$\text{Annualized Costs } 250\,\text{ton} = \text{Annualized Costs } 174\,\text{ton} \times \left(\frac{250\,\text{ton}}{174\,\text{ton}}\right)^{0.6}$$

Annualized Costs 407 ton = $58,533 x (250 ÷ 174)$^{0.6}$
= $72,750/year

Annual Emission Reduction = Uncontrolled Emissions x 0.70
= 4,105 lb-VOC/year x 0.70
= 2,874 lb-VOC/year
= 1.44 tons-VOC/year

Cost of Reductions = $72,750/year ÷ 1.44 tons-VOC/year
= $50,521/ton-VOC

The cost of VOC reductions, considering the equipment cost alone, is greater than the threshold limit of $17,500/ton. Therefore, the refrigeration control system is not cost-effective for this installation.

Step 5 - Select BACT

Insulated tank (or equivalent), and Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank, and "gas-tight" tank operation would be the BACT for this operation.

Appendix III

EPA's Tanks 4.0.d Reports

TANKS 4.0
Chemical Data Report

Chemical Name Category	CAS	Molecular Weight Liquid	 Vapor	Density*	Vapor Pressure (psia) at Temperature (degrees F) 40	 50	 60	 70	 80	 90	 100	Constants for Antione's Equation Line 1: degrees C Line 2: degrees K A	 B	 C	REID (psia)	ASTM Slope
Wine 99.8 % Vol Alcohol Organic Liquids		45.79	45.81	6.63	0.32	0.46	0.65	0.90	1.25	1.70	2.29					

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	E&J Gallo - N7478 - Tank #113 (Large) - Annual
City:	Modesto
State:	California
Company:	E&J Gallo Winery - Brandy
Type of Tank:	Vertical Fixed Roof Tank
Description:	105,000 gallon, 304 Stainless Steel, insulated & installed outdoor (Temp controlled tank)

Tank Dimensions

Shell Height (ft):		40.00
Diameter (ft):		21.00
Liquid Height (ft) :		40.00
Avg. Liquid Height (ft):		40.00
Volume (gallons):		103,638.63
Turnovers:		28.95
Net Throughput(gal/yr):		3,000,000.00
Is Tank Heated (y/n):	Y	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone	
Height (ft)		1.00
Slope (ft/ft) (Cone Roof)		0.10

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

E&J Gallo - N7478 - Tank #113 (Large) - Annual - Vertical Fixed Roof Tank
Modesto, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Wine 99.9 % Vol Alcohol	Jan	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Feb	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Mar	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Apr	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	May	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Jun	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Jul	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Aug	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Sep	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Oct	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Nov	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Dec	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

E&J Gallo - N7478 - Tank #113 (Large) - Annual - Vertical Fixed Roof Tank
Modesto, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vapor Space Volume (cu ft):	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535
Vapor Density (lb/cu ft):	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046
Vapor Space Expansion Factor:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vented Vapor Saturation Factor:	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535	115.4535
Tank Diameter (ft):	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000
Vapor Space Outage (ft):	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333
Tank Shell Height (ft):	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000
Average Liquid Height (ft):	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000
Roof Outage (ft):	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333
Roof Outage (Cone Roof)												
Roof Outage (ft):	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333
Roof Height (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Roof Slope (ft/ft):	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
Shell Radius (ft):	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000	10.5000
Vapor Density												
Vapor Density (lb/cu ft):	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046
Vapor Molecular Weight (lb/lb-mole):	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498
Daily Avg. Liquid Surface Temp. (deg. R):	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700
Daily Average Ambient Temp. (deg. F):	45.0000	50.5000	54.0500	59.3000	66.7000	73.3000	77.6500	76.8000	72.7000	64.5500	53.0500	44.9500
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700
Tank Paint Solar Absorptance (Shell):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	597.0000	939.0000	1,458.0000	2,004.0000	2,435.0000	2,684.0000	2,688.0000	2,368.0000	1,907.0000	1,315.0000	782.0000	538.0000
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Daily Vapor Temperature Range (deg. R):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Daily Vapor Pressure Range (psia):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Breather Vent Press. Setting Range(psia):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498
Daily Avg. Liquid Surface Temp. (deg R):	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700
Daily Min. Liquid Surface Temp. (deg R):	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700
Daily Max. Liquid Surface Temp. (deg R):	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700	514.6700
Daily Ambient Temp. Range (deg. R):	16.0000	20.4000	22.9000	27.2000	29.8000	31.6000	33.5000	32.2000	30.4000	27.5000	20.7000	15.7000
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904	0.9904
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498

Vapor Space Outage (ft):	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333	0.3333
Working Losses (lb):	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662
Vapor Molecular Weight (lb/lb-mole):	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498	0.5498
Net Throughput (gal/mo.):	250,000.0000	250,000.0000	250,000.0000	250,000.0000	250,000.0000	250,000.0000	250,000.0000	250,000.0000	250,000.0000	250,000.0000	250,000.0000	250,000.0000
Annual Turnovers:	28.9467	28.9467	28.9467	28.9467	28.9467	28.9467	28.9467	28.9467	28.9467	28.9467	28.9467	28.9467
Turnover Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Maximum Liquid Volume (gal):	103,638.6288	103,638.6288	103,638.6288	103,638.6288	103,638.6288	103,638.6288	103,638.6288	103,638.6288	103,638.6288	103,638.6288	103,638.6288	103,638.6288
Maximum Liquid Height (ft):	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000	40.0000
Tank Diameter (ft):	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000	21.0000
Working Loss Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662	150.2662

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

E&J Gallo - N7478 - Tank #113 (Large) - Annual - Vertical Fixed Roof Tank
Modesto, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Wine 99.9 % Vol Alcohol	1,803.19	0.00	1,803.19

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	E&J Gallo - N7478 Tank #113 (Large) - Monthly
City:	Modesto
State:	California
Company:	E&J Gallo Winery - Brandy
Type of Tank:	Vertical Fixed Roof Tank
Description:	105,000 gallon, 304 Stainless Steel, insulated & installed outdoor (Temp controlled tank)

Tank Dimensions

Shell Height (ft):		40.00
Diameter (ft):		21.00
Liquid Height (ft) :		40.00
Avg. Liquid Height (ft):		40.00
Volume (gallons):		103,638.63
Turnovers:		28.95
Net Throughput(gal/yr):		3,000,000.00
Is Tank Heated (y/n):	Y	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone	
Height (ft)		1.00
Slope (ft/ft) (Cone Roof)		0.10

Breather Vent Settings

Vacuum Settings (psig):	0.00
Pressure Settings (psig)	0.00

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

E&J Gallo - N7478 Tank #113 (Large) - Monthly - Vertical Fixed Roof Tank
Modesto, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Wine 99.9 % Vol Alcohol	Jul	55.00	55.00	55.00	55.00	0.5498	0.5498	0.5498	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

E&J Gallo - N7478 Tank #113 (Large) - Monthly - Vertical Fixed Roof Tank
Modesto, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):							0.0000					
Vapor Space Volume (cu ft):							115.4535					
Vapor Density (lb/cu ft):							0.0046					
Vapor Space Expansion Factor:							0.0000					
Vented Vapor Saturation Factor:							0.9904					
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):							115.4535					
Tank Diameter (ft):							21.0000					
Vapor Space Outage (ft):							0.3333					
Tank Shell Height (ft):							40.0000					
Average Liquid Height (ft):							40.0000					
Roof Outage (ft):							0.3333					
Roof Outage (Cone Roof)												
Roof Outage (ft):							0.3333					
Roof Height (ft):							1.0000					
Roof Slope (ft/ft):							0.1000					
Shell Radius (ft):							10.5000					
Vapor Density												
Vapor Density (lb/cu ft):							0.0046					
Vapor Molecular Weight (lb/lb-mole):							45.9158					
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):							0.5498					
Daily Avg. Liquid Surface Temp. (deg. R):							514.6700					
Daily Average Ambient Temp. (deg. F):							77.6500					
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):							10.731					
Liquid Bulk Temperature (deg. R):							514.6700					
Tank Paint Solar Absorptance (Shell):							0.1700					
Tank Paint Solar Absorptance (Roof):							0.1700					
Daily Total Solar Insulation Factor (Btu/sqft day):							2,688.0000					
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:							0.0000					
Daily Vapor Temperature Range (deg. R):							0.0000					
Daily Vapor Pressure Range (psia):							0.0000					
Breather Vent Press. Setting Range(psia):							0.0000					
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):							0.5498					
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):							0.5498					
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):							0.5498					
Daily Avg. Liquid Surface Temp. (deg R):							514.6700					
Daily Min. Liquid Surface Temp. (deg R):							514.6700					
Daily Max. Liquid Surface Temp. (deg R):							514.6700					
Daily Ambient Temp. Range (deg. R):							33.5000					
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:							0.9904					
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):							0.5498					

Vapor Space Outage (ft):	0.3333
Working Losses (lb):	1,803.1947
Vapor Molecular Weight (lb/lb-mole):	45.9158
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.5498
Net Throughput (gal/mo.):	3,000,000.0000
Annual Turnovers:	28.9467
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	103,638.6288
Maximum Liquid Height (ft):	40.0000
Tank Diameter (ft):	21.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	1,803.1947

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: July

E&J Gallo - N7478 Tank #113 (Large) - Monthly - Vertical Fixed Roof Tank
Modesto, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Wine 99.9 % Vol Alcohol	1,803.19	0.00	1,803.19

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	E&J Gallo -N7478- Reclaim Tank #24 (Small)- Annual
City:	Modesto
State:	California
Company:	E&J Gallo Winery - Brandy
Type of Tank:	Vertical Fixed Roof Tank
Description:	2,500 gallon, 304L Stainless Steel, non-insulated but installed indoor (Non-temp controlled tank)

Tank Dimensions

Shell Height (ft):	12.00
Diameter (ft):	6.00
Liquid Height (ft) :	11.50
Avg. Liquid Height (ft):	11.50
Volume (gallons):	2,432.34
Turnovers:	41.11
Net Throughput(gal/yr):	100,000.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	Aluminum/Diffuse
Shell Condition	Good
Roof Color/Shade:	Aluminum/Diffuse
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	0.00
Slope (ft/ft) (Cone Roof)	0.00

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

E&J Gallo -N7478- Reclaim Tank #24 (Small)- Annual - Vertical Fixed Roof Tank
Modesto, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Wine 99.9 % Vol Alcohol	Jan	58.55	53.16	63.94	64.15	0.6173	0.5149	0.7461	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476
Wine 99.9 % Vol Alcohol	Feb	62.59	54.98	70.21	64.15	0.7115	0.5494	0.9092	45.9158			45.90	Option 1: VP60 = .64476 VP70 = .90202
Wine 99.9 % Vol Alcohol	Mar	66.61	56.37	76.86	64.15	0.8149	0.5758	1.1382	45.9158			45.90	Option 1: VP60 = .64476 VP70 = .90202
Wine 99.9 % Vol Alcohol	Apr	71.51	58.20	84.83	64.15	0.9541	0.6106	1.4662	45.9158			45.90	Option 1: VP70 = .90202 VP80 = 1.24636
Wine 99.9 % Vol Alcohol	May	76.81	61.22	92.40	64.15	1.1366	0.6762	1.8454	45.9158			45.90	Option 1: VP70 = .90202 VP80 = 1.24636
Wine 99.9 % Vol Alcohol	Jun	80.90	63.94	97.86	64.15	1.2872	0.7460	2.1708	45.9158			45.90	Option 1: VP70 = .90202 VP80 = 1.24636
Wine 99.9 % Vol Alcohol	Jul	82.83	65.51	100.15	64.15	1.3753	0.7865	2.2986	45.9158			45.90	Option 1: VP70 = .90202 VP80 = 1.24636
Wine 99.9 % Vol Alcohol	Aug	80.94	65.20	96.68	64.15	1.2891	0.7784	2.1005	45.9158			45.90	Option 1: VP70 = .90202 VP80 = 1.24636
Wine 99.9 % Vol Alcohol	Sep	76.95	63.47	90.43	64.15	1.1413	0.7340	1.7277	45.9158			45.90	Option 1: VP70 = .90202 VP80 = 1.24636
Wine 99.9 % Vol Alcohol	Oct	70.56	60.08	81.03	64.15	0.9212	0.6469	1.2933	45.9158			45.90	Option 1: VP70 = .90202 VP80 = 1.24636
Wine 99.9 % Vol Alcohol	Nov	62.97	55.96	69.98	64.15	0.7212	0.5680	0.9015	45.9158			45.90	Option 1: VP60 = .64476 VP70 = .90202
Wine 99.9 % Vol Alcohol	Dec	58.25	53.16	63.34	64.15	0.6115	0.5149	0.7306	45.9158			45.90	Option 1: VP50 = .45485 VP60 = .64476

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

E&J Gallo -N7478- Reclaim Tank #24 (Small)- Annual - Vertical Fixed Roof Tank
Modesto, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):	0.1181	0.1806	0.3241	0.5025	0.7633	0.9491	1.0849	0.9100	0.6341	0.3864	0.1798	0.1096
Vapor Space Volume (cu ft):	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372
Vapor Density (lb/cu ft):	0.0051	0.0058	0.0066	0.0077	0.0091	0.0102	0.0108	0.0102	0.0091	0.0074	0.0059	0.0051
Vapor Space Expansion Factor:	0.0537	0.0797	0.1140	0.1581	0.1979	0.2271	0.2365	0.2105	0.1693	0.1215	0.0732	0.0503
Vented Vapor Saturation Factor:	0.9839	0.9815	0.9789	0.9753	0.9708	0.9670	0.9648	0.9670	0.9706	0.9762	0.9812	0.9841
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372	14.1372
Tank Diameter (ft):	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
Vapor Space Outage (ft):	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
Tank Shell Height (ft):	12.0000	12.0000	12.0000	12.0000	12.0000	12.0000	12.0000	12.0000	12.0000	12.0000	12.0000	12.0000
Average Liquid Height (ft):	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000
Roof Outage (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Roof Outage (Cone Roof)												
Roof Outage (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Roof Height (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Roof Slope (ft/ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Shell Radius (ft):	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000
Vapor Density												
Vapor Density (lb/cu ft):	0.0051	0.0058	0.0066	0.0077	0.0091	0.0102	0.0108	0.0102	0.0091	0.0074	0.0059	0.0051
Vapor Molecular Weight (lb/lb-mole):	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.6173	0.7115	0.8149	0.9541	1.1366	1.2872	1.3753	1.2891	1.1413	0.9212	0.7212	0.6115
Daily Avg. Liquid Surface Temp. (deg. R):	518.2214	522.2625	526.2846	531.1826	536.4816	540.5658	542.4988	540.6080	536.6188	530.2268	522.6403	517.9198
Daily Average Ambient Temp. (deg. F):	45.0000	50.5000	54.0500	59.3000	66.7000	73.3000	77.6500	76.8000	72.7000	64.5500	53.0500	44.9500
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731	10.731
Liquid Bulk Temperature (deg. R):	523.8158	523.8158	523.8158	523.8158	523.8158	523.8158	523.8158	523.8158	523.8158	523.8158	523.8158	523.8158
Tank Paint Solar Absorptance (Shell):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Tank Paint Solar Absorptance (Roof):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Daily Total Solar Insulation Factor (Btu/sqft day):	597.0000	939.0000	1,458.0000	2,004.0000	2,435.0000	2,684.0000	2,688.0000	2,358.0000	1,907.0000	1,315.0000	782.0000	538.0000
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:	0.0537	0.0797	0.1140	0.1581	0.1979	0.2271	0.2365	0.2105	0.1693	0.1215	0.0732	0.0503
Daily Vapor Temperature Range (deg. R):	21.5496	30.4632	40.9824	53.2512	62.3640	67.8432	69.2784	62.9664	53.9256	41.8920	28.0416	20.3424
Daily Vapor Pressure Range (psia):	0.2312	0.3598	0.5624	0.8557	1.1692	1.4248	1.5122	1.3221	0.9938	0.6464	0.3335	0.2156
Breather Vent Press. Setting Range(psia):	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.6173	0.7115	0.8149	0.9541	1.1366	1.2872	1.3753	1.2891	1.1413	0.9212	0.7212	0.6115
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	0.5149	0.5494	0.5758	0.6106	0.6762	0.7460	0.7865	0.7784	0.7340	0.6469	0.5680	0.5149
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	0.7461	0.9092	1.1382	1.4662	1.8454	2.1708	2.2985	2.1005	1.7277	1.2933	0.9015	0.7306
Daily Avg. Liquid Surface Temp. (deg R):	518.2214	522.2625	526.2846	531.1826	536.4816	540.5658	542.4988	540.6080	536.6188	530.2268	522.6403	517.9198
Daily Min. Liquid Surface Temp. (deg R):	512.8340	514.6467	516.0390	517.8698	520.8906	523.6050	525.1792	524.8664	523.1374	519.7538	515.6299	512.8342
Daily Max. Liquid Surface Temp. (deg R):	523.6088	529.8783	536.5302	544.4954	552.0726	557.5266	559.8184	556.3496	550.1002	540.6998	529.6507	523.0054
Daily Ambient Temp. Range (deg. R):	16.0000	20.4000	22.9000	27.2000	29.8000	31.6000	33.5000	32.2000	30.4000	27.5000	20.7000	15.7000
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.9839	0.9815	0.9789	0.9753	0.9708	0.9670	0.9648	0.9670	0.9706	0.9762	0.9812	0.9841
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	0.6173	0.7115	0.8149	0.9541	1.1366	1.2872	1.3753	1.2891	1.1413	0.9212	0.7212	0.6115

Vapor Space Outage (ft):	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
Working Losses (lb):	5.0406	5.8099	6.6548	7.7914	9.2814	10.5113	11.2306	10.5270	9.3200	7.5226	5.8892	4.9938
Vapor Molecular Weight (lb/lb-mole):	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158	45.9158
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.6173	0.7115	0.8149	0.9541	1.1366	1.2872	1.3753	1.2891	1.1413	0.9212	0.7212	0.6115
Net Throughput (gal/mo.):	8,333.3333	8,333.3333	8,333.3333	8,333.3333	8,333.3333	8,333.3333	8,333.3333	8,333.3333	8,333.3333	8,333.3333	8,333.3333	8,333.3333
Annual Turnovers:	41.1128	41.1128	41.1128	41.1128	41.1128	41.1128	41.1128	41.1128	41.1128	41.1128	41.1128	41.1128
Turnover Factor:	0.8964	0.8964	0.8964	0.8964	0.8964	0.8964	0.8964	0.8964	0.8964	0.8964	0.8964	0.8964
Maximum Liquid Volume (gal):	2,432.3352	2,432.3352	2,432.3352	2,432.3352	2,432.3352	2,432.3352	2,432.3352	2,432.3352	2,432.3352	2,432.3352	2,432.3352	2,432.3352
Maximum Liquid Height (ft):	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000	11.5000
Tank Diameter (ft):	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000	6.0000
Working Loss Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	5.1586	5.9904	6.9789	8.2939	10.0447	11.4604	12.3155	11.4370	9.9541	7.9090	6.0691	5.1034

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

E&J Gallo -N7478- Reclaim Tank #24 (Small)- Annual - Vertical Fixed Roof Tank
Modesto, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Wine 99.9 % Vol Alcohol	94.57	6.14	100.71

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	E&J Gallo -N7478- Reclaim Tank #24 (Small)-Monthly
City:	Modesto
State:	California
Company:	E&J Gallo Winery - Brandy
Type of Tank:	Vertical Fixed Roof Tank
Description:	2,500 gallon, 304L Stainless Steel, non-insulated but installed indoor (Non-temp controlled tank)

Tank Dimensions

Shell Height (ft):		12.00
Diameter (ft):		6.00
Liquid Height (ft) :		11.50
Avg. Liquid Height (ft):		11.50
Volume (gallons):		2,432.34
Turnovers:		41.11
Net Throughput(gal/yr):		100,000.00
Is Tank Heated (y/n):	N	

Paint Characteristics

Shell Color/Shade:	Aluminum/Diffuse
Shell Condition	Good
Roof Color/Shade:	Aluminum/Diffuse
Roof Condition:	Good

Roof Characteristics

Type:	Cone	
Height (ft)		0.00
Slope (ft/ft) (Cone Roof)		0.00

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

E&J Gallo -N7478- Reclaim Tank #24 (Small)-Monthly - Vertical Fixed Roof Tank
Modesto, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Wine 99.9 % Vol Alcohol	Jul	82.83	65.51	100.15	64.15	1.3753	0.7865	2.2986	45.9158			45.90	Option 1: VP70 = .90202 VP80 = 1.24636

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

E&J Gallo -N7478- Reclaim Tank #24 (Small)-Monthly - Vertical Fixed Roof Tank
Modesto, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):							1.0849					
Vapor Space Volume (cu ft):							14.1372					
Vapor Density (lb/cu ft):							0.0108					
Vapor Space Expansion Factor:							0.2365					
Vented Vapor Saturation Factor:							0.9648					
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):							14.1372					
Tank Diameter (ft):							6.0000					
Vapor Space Outage (ft):							0.5000					
Tank Shell Height (ft):							12.0000					
Average Liquid Height (ft):							11.5000					
Roof Outage (ft):							0.0000					
Roof Outage (Cone Roof)												
Roof Outage (ft):							0.0000					
Roof Height (ft):							0.0000					
Roof Slope (ft/ft):							0.0000					
Shell Radius (ft):							3.0000					
Vapor Density												
Vapor Density (lb/cu ft):							0.0108					
Vapor Molecular Weight (lb/lb-mole):							45.9158					
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):							1.3753					
Daily Avg. Liquid Surface Temp. (deg. R):							542.4988					
Daily Average Ambient Temp. (deg. F):							77.6500					
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):							10.731					
Liquid Bulk Temperature (deg. R):							523.8158					
Tank Paint Solar Absorptance (Shell):							0.6000					
Tank Paint Solar Absorptance (Roof):							0.6000					
Daily Total Solar Insulation Factor (Btu/sqft day):							2,688.0000					
Vapor Space Expansion Factor												
Vapor Space Expansion Factor:							0.2365					
Daily Vapor Temperature Range (deg. R):							69.2784					
Daily Vapor Pressure Range (psia):							1.5122					
Breather Vent Press. Setting Range(psia):							0.0600					
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):							1.3753					
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):							0.7865					
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):							2.2986					
Daily Avg. Liquid Surface Temp. (deg R):							542.4988					
Daily Min. Liquid Surface Temp. (deg R):							525.1792					
Daily Max. Liquid Surface Temp. (deg R):							559.8184					
Daily Ambient Temp. Range (deg. R):							33.5000					
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:							0.9648					
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):							1.3753					

Vapor Space Outage (ft):	0.5000
Working Losses (lb):	134.7675
Vapor Molecular Weight (lb/lb-mole):	45.9158
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.3753
Net Throughput (gal/mo.):	100,000.0000
Annual Turnovers:	41.1128
Turnover Factor:	0.8964
Maximum Liquid Volume (gal):	2,432.3352
Maximum Liquid Height (ft):	11.5000
Tank Diameter (ft):	6.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	135.8524

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: July

E&J Gallo -N7478- Reclaim Tank #24 (Small)-Monthly - Vertical Fixed Roof Tank
Modesto, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Wine 99.9 % Vol Alcohol	134.77	1.08	135.85

Appendix IV

Compliance Certification

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[X] SIGNIFICANT PERMIT MODIFICATION
[ ] MINOR PERMIT MODIFICATION
[ ] ADMINISTRATIVE AMENDMENT

COMPANY NAME: E & J Gallo Winery, Modesto	FACILITY ID: N ~~3386~~ 7478
1. Type of Organization: [X] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [ ] Utility	
2. Owner's Name: E & J Gallo Winery	
3. Agent to the Owner: Steven Sylvester	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **all** circles for confirmation):

Based on information and belief formed after reasonable inquiry, the source identified in this application will continue to comply with the applicable federal requirement(s).

Based on information and belief formed after reasonable inquiry, the source identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Signature of Responsible Official

Date 10/21/11

Doug Reifsteck
Name of Responsible Official (please print)

Vice President of Modesto Operations
Title of Responsible Official (please print)