San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

NOV 14 2011

Mr. Kent Mann
E & J Gallo Winery
18000 W River Rd
Livingston, CA 95334

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-1237
Project # N-1113407

Dear Mr. Mann:

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. The applicant proposes to install two 6,000 gallon 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. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
c: Stanley Tom, Permit Services

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
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

NOV 14 2011

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-1237
Project # N-1113407

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 18000 W River Rd, Livingston, which has been issued a Title V permit. E & J Gallo Winery is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. The applicant proposes to install two 6,000 gallon distilled spirits storage tanks.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authorities to Construct # N-1237-597-0 and '598-0 with Certificates of Conformity. After demonstrating compliance with the Authority 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. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
c: Stanley Tom, Permit Services

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
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

NOV 14 2011

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-1237
Project # N-1113407

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. The applicant proposes to install two 6,000 gallon distilled spirits storage tanks.

Enclosed is the engineering evaluation of this application with a copy of the current Title V permit and proposed Authorities to Construct # N-1237-597-0 and '598-0 with Certificates of Conformity. 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. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
c: Stanley Tom, Permit Services

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
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

Merced Sun Star

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 for its winery 18000 W River Rd, Livingston, California. The applicant proposes to install two 6,000 gallon distilled spirits storage tanks.

The District's analysis of the legal and factual basis for this proposed action, project #N-1113407, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. 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. Jim Swaney, Permit Services Manager, at (559) 230-5900. 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, 1990 E. GETTYSBURG AVE, FRESNO, CA 93726-0244.

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Distilled Spirits Storage Tanks

Facility Name:	E & J Gallo Winery	Date:	October 30, 2011
Mailing Address:	18000 W River Rd	Engineer:	Stanley Tom
	Livingston, CA 95334	Lead Engineer:	Joven Refuerzo
Contact Person:	Kent Mann		
Telephone:	(209) 394-5822		
Fax:	(209) 394-5936		
Application #(s):	N-1237-597-0 and '598-0		
Project #:	N-1113407		
Deemed Complete:	October 14, 2011		

I. Proposal

E & J Gallo Winery has requested Authority to Construct (ATC) permits for the installation of two new 6,000 gallon distilled spirit tanks. These tanks will be used for distilled spirit storage.

E & J Gallo Winery has received their Title V Permit. This modification can be classified as a Title V significant modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. E & J Gallo Winery must apply to administratively amend their Title V Operating Permit to include the requirements of the ATCs issued with this project.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4002	National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4102	Nuisance (12/17/92)
Rule 4623	Storage of Organic Liquids (05/19/05)
Rule 4694	Wine Fermentation and Storage Tanks (12/15/05)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

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

III. Project Location

The facility is located at 18000 W River Rd in Livingston, CA. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

E & J Gallo Winery - Livingston produces distilled alcoholic beverages which are stored and processed in the subject storage tanks. These tanks may hold spirits with ethanol contents up to 100% by volume.

V. Equipment Listing

N-1237-597-0: 6,000 GALLON STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK (TANK 65) WITH PRESSURE/VACUUM VALVE AND INSULATION

N-1237-598-0: 6,000 GALLON STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK (TANK 66) WITH PRESSURE/VACUUM VALVE AND INSULATION

VI. Emission Control Technology Evaluation

VOCs (ethanol) are emitted from spirit 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). The proposed pressure/vacuum valve limits these emissions 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. When the storage tanks are insulated, breathing losses are considered to be negligible.

VII. General Calculations

A. Assumptions

- All tanks will be classified as distilled spirits storage tanks
- Typically, for enclosed tanks with refrigeration and/or insulation (or equivalent) and P/V valves, breathing losses from storage of spirits are assumed to be negligible
- Storage tank Daily Storage Throughput = 4,580 gallons/day (per applicant)
- Storage tank Annual Storage Throughput = 142,000 gallons/year (per applicant)
- Storage tank maximum liquid storage temperature = 80 °F
- Storage tank daily maximum ethanol content of stored wine is 100%
- Storage tank annual average ethanol content of stored wine is 50%

B. Emission Factors

Tanks 4.0 will be used to calculate the storage emissions from the new tanks.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since these are new emissions units (storage), PE1 = 0 (all pollutants) for the distilled spirit storage operation in these tanks.

2. Post Project Potential to Emit (PE2)

The new distilled spirit tanks will be used for storage. Two Tanks 4.0 runs have been performed one using a throughput of 4,580 gallons/day to calculate the daily post-project potential to emit by dividing the month of July emissions by the number of days in the month and one using 142,000 gallons/year to calculate the annual post-project potential to emit. See Appendix A for the Tanks 4.0 runs for each tank.

Tank	Daily PE2 (lb-VOC/day)	Annual PE2 (lb-VOC/yr)
N-1237-597-0	6.4	94
N-1237-598-0	6.4	94

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

Pursuant to Section 4.9 of District Rule 2201, 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 project only concerns VOC emissions. This facility acknowledges that its VOC emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE1 calculations are not necessary.

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

Pursuant to Section 4.10 of District Rule 2201, 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.

This project only concerns VOC emissions. This facility acknowledges that its VOC emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, SSPE2 calculations are not necessary.

5. Major Source Determination

This source is an existing Major Source for VOC emissions and will remain a Major Source for VOC. No change in other pollutants are proposed or expected as a result of this project.

6. Baseline Emissions (BE)

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

Pursuant to Section 3.7 of District Rule 2201, 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 3.22 of District Rule 2201.

The permit units in this project only emit VOC and therefore the BE determination is only required for this pollutant, as discussed in the following sections:

BE VOC

<u>New Distilled Spirits Tanks</u>

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

7. SB 288 Major Modification

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

As discussed in Section VII.C.5 above, the facility is an existing Major Source for VOC; however, the project by itself would need to be a significant increase in order to trigger a Major Modification. The emissions units within this project do not have a total potential to emit which is greater than Major Modification thresholds (see table below). Therefore, the project cannot be a significant increase and the project does not constitute a Major Modification.

SB 288 Major Modification Thresholds (Existing Major Source)			
Pollutant	Project PE (lb/year)	Threshold (lb/year)	Major Modification?
VOC	94 x 2 = 188	50,000	No

8. Federal Major Modification

District Rule 2201, Section 3.17 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA. SB 288 Major Modifications are not federal major modifications if they meet the criteria of the "Less-Than-Significant Emissions Increase" exclusion.

A Less-Than-Significant Emissions Increase exclusion is for an emissions increase for the project, or a Net Emissions Increase for the project (as defined in 40 CFR 51.165 (a)(2)(ii)(B) through (D), and (F)), that is not significant for a given regulated NSR pollutant, and therefore is not a federal major modification for that pollutant.

- To determine the post-project projected actual emissions from existing units, the provisions of 40 CFR 51.165 (a)(1)(xxviii) shall be used.
- To determine the pre-project baseline actual emissions, the provisions of 40 CFR 51.165 (a)(1)(xxxv)(A) through (D) shall be used.
- If the project is determined not to be a federal major modification pursuant to the provisions of 40 CFR 51.165 (a)(2)(ii)(B), but there is a reasonable possibility that the project may result in a significant emissions increase, the owner or operator shall comply with all of the provisions of 40 CFR 51.165 (a)(6) and (a)(7).
- Emissions increases calculated pursuant to this section are significant if they exceed the significance thresholds specified in the table below.

Significant Threshold (lb/year)	
Pollutant	Threshold (lb/year)
VOC	0

The Net Emissions Increases (NEI) for purposes of determination of a "Less-Than-Significant Emissions Increase" exclusion will be calculated below to determine if this project qualifies for such an exclusion.

Net Emission Increase for New Units (NEI_N)

Per 40 CFR 51.165 (a)(2)(ii)(D) for new emissions units in this project,

$NEI_N = PE2_N - BAE$

Since these are new units, BAE for these units is zero and,

$NEI_N = PE2_N$

where $PE2_N$ is the Post Project Potential to Emit for the new emissions units.

$NEI_N = PE2_N$ = 94 lb-VOC/year x 2 tanks = 94 lb-VOC/year

The NEI for this project is thus calculated as follows:

$NEI = NEI_N$
NEI = 188 lb-VOC/year

The NEI for this project will be greater than the federal Major Modification threshold of 0 lb-VOC/year. Therefore, this project does not qualify for a "Less-Than-Significant Emissions Increase" exclusion and is thus determined to be a Federal Major Modification for VOC.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

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

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

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

The applicant is proposing to install two new distilled spirits storage tanks with a PE greater than 2 lb/day for VOC. Thus BACT is triggered for VOC for these emissions units.

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

There are no emissions units being relocated from one stationary source to another, hence BACT is not triggered under this category.

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

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

d. Major Modification

As discussed in Section VII.C.7 above, this project does constitute a Major Modification for VOC emissions; therefore BACT is triggered for VOC for the new spirits tanks.

2. BACT Guideline

There is no existing BACT Guideline for a distilled spirits storage tank. Therefore, a new BACT determination will be performed (see Appendix B).

BACT Guideline 5.4.XX, applies to the distilled spirits storage tanks. [Distilled Spirits Storage Tanks] (Appendix B)

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (Appendix B), BACT has been satisfied with the following:

VOC: Insulated tank, pressure/vacuum valve set within 10% of the maximum allowable working pressure of the tank, "gas tight" tank operation

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

Facility emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, offsets are triggered.

2. Quantity of Offsets Required

As discussed above, the facility is an existing Major Source for VOC and the SSPE2 is greater than the offset thresholds; therefore offset calculations will be required for this project.

Per Sections 4.7.1 and 4.7.3, the quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = (Σ[PE2 – BE] + ICCE) x DOR, for all new or modified emissions units in the project,

Where,
PE2 = Post Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

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)

There are no increases in cargo carrier emissions due to this project. Therefore,

Offsets Required (lb/year) = Σ[PE2 – BE] x DOR

Tank	Annual PE2 (lb-VOC/yr)	Annual BE (lb-VOC/yr)
N-1237-597-0	94	0
N-1237-598-0	94	0

Offsets Required (lb/year) = ([94 – 0]) x DOR
= 94 lb-VOC/year x DOR

For each tank, calculating the appropriate quarterly emissions to be offset is as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
23	23	24	24

Offsets Required (lb/year) = ([94 – 0] x 2) x DOR
= 188 lb-VOC/year x DOR

For both tanks, calculating the appropriate quarterly emissions to be offset is as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
47	47	47	47

Assuming an offset ratio of 1.5:1, the amount of VOC ERCs that need to be withdrawn is:

Offsets Required (lb/year) = ([94 – 0] x 2) x 1.5]
= 282 lb VOC/year

Calculating the appropriate quarterly emissions to be offset is as follows:

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
70	70	71	71

The applicant has stated that the facility plans to use ERC certificate C-1066-1 and S-3666-1 to offset the increases in VOC emissions associated with this project. The above certificate has available quarterly VOC credits as follows:

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
ERC #C-1066-1	17,500	17,500	17,500	17,500
ERC #S-3666-1	80,000	80,000	80,000	80,000
Total	97,500	97,500	97,500	97,500

As seen above, the facility has sufficient credits to fully offset the quarterly VOC emissions increases associated with this project.

Proposed Rule 2201 (offset) Conditions:

- Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 23 lb, 2nd quarter - 23 lb, 3rd quarter - 24 lb, and fourth quarter - 24 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 04/21/11). [District Rule 2201]
- ERC Certificate Numbers C-1066-1 and S-3666-1 (or a certificate split from these certificates) 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]

C. Public Notification

1. Applicability

Public noticing is required for:

a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications,
b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications

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

As demonstrated in VII.C.7, this project is a Federal Major Modification for VOC; therefore, public noticing for Federal Major Modification purposes is required.

b. PE > 100 lb/day

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

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
VOC	6.4	100 lb/day	No

Therefore, public noticing for PE > 100 lb/day purposes is not required.

c. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
VOC	> 20,000	> 20,000	20,000 lb/year	No

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

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	ΣPE2 (lb/year)	ΣPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
VOC	188	0	188	20,000 lb/year	No

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

2. Public Notice Action

As discussed above, public noticing is required for this project for Federal Major Modification for VOC. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATCs for this equipment.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

For all distilled spirits storage tank emission units affected by this project, the DEL is stated in the form of a daily limit on tank throughput and a maximum ethanol content for wine stored in the tank.

Proposed Rule 2201 (DEL) Conditions:

- The annual average ethanol content of distilled spirits stored in this tank shall not exceed 50 percent by volume. [District Rule 2201]
- The maximum liquid temperature of distilled spirits stored in this tank shall not exceed 80 degrees Fahrenheit. [District Rule 2201]
- The maximum distilled spirits throughput in this tank shall not exceed 4,850 gallons per day. [District Rule 2201]
- The maximum distilled spirits throughput in this tank shall not exceed 142,000 gallons per year. [District Rule 2201]
- Daily VOC emissions from distilled spirits stored in this tank shall not exceed 6.4 lb/day. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offsets, public notification and daily emission limit requirements of Rule 2201. The following conditions will be placed on the permits:

- Daily throughput records, including records of filling and emptying operations, the dates of such operations, the maximum temperature of the stored distilled spirits, the volume percent ethanol in the batch, and the volume of spirits transferred, shall be maintained. [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. However, since this project involves only VOC and no ambient air quality standard exists for VOC, an AAQA is not required for this project.

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Federal Major Modification 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. As discussed in Sections VIII-Rule 2201-C.1.a and VIII-Rule 2201-C.1.b, this source is undergoing a Federal Major Modification, therefore this requirement is applicable. Included in Appendix C is E & J Gallo's compliance certification.

H. Alternative Siting Analysis

Alternative siting analysis is required for any project, which constitutes a New Major Source or a Federal Major Modification.

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.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

Section 3.20.5 states that a minor permit modification is a permit modification that does not meet the definition of modification as given in Section 111 or Section 112 of the Federal Clean Air Act. Since this project is a Title I modification (i.e. Federal Major Modification), the proposed project is considered to be a modification under the Federal Clean Air Act. As a result, the proposed project constitutes a Significant Modification to the Title V Permit pursuant to Section 3.29.

As discussed above, the facility has applied for a Certificate of Conformity (COC) (see Appendix D); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility shall not implement the changes requested until the final permit is issued.

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 wine fermentation and storage tank operations.

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

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

Rule 4102 Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of the proposed operations provided the equipment is well maintained. Therefore, the following condition will be listed on each permit to ensure compliance:

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

California Health & Safety Code 41700 (Health Risk Assessment)

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

Ethanol is not a HAP as defined by Section 44321 of the California Health and Safety Code. Therefore, there are no increases in HAP emissions associated with any emission units in this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

Rule 4623 Storage of Organic Liquids

The purpose of this rule is to limit volatile organic compound (VOC) emissions from the storage of organic liquids. This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.

However, Section 4.1.4 provides an exemption for tanks used to store fermentation products, byproducts or spirits. The tank in this project is a storage tank used to store distilled spirits. Therefore, the requirements of this rule are not applicable 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.

The storage tank in this project stores distilled spirits. Therefore, the requirements of this rule are not applicable to this project.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

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.
- 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.

The County of Merced (County) is the public agency having principal responsibility for approving the Project. As such, the County served as the Lead Agency for the project. Consistent with CEQA Guidelines §15300 et seq., the County determined that the project was categorically exempt.

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

The District's engineering evaluation of the project (this document) demonstrates that compliance with District rules and permit conditions would reduce Stationary Source emissions from the project to levels below the District's thresholds of significance for criteria pollutants. Thus, the District concludes that through a combination of project design elements and permit conditions, project

specific stationary source emissions will be reduced to less than significant levels. The District has determined that no additional findings are required (CEQA Guidelines §15096(h)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authorities to Construct N-1237-597 and '598-0 subject to the permit conditions on the attached draft Authorities to Construct in Appendix E.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-1237-597-0	3020-05-B	6,000 gallons	$93.00
N-1237-598-0	3020-05-B	6,000 gallons	$93.00

XI. Appendices

A: Tanks 4.0 Calculations
B: New BACT Determination Guideline 5.4.XX and Top Down BACT Analysis
C: Compliance Certification
D: Certificate of Conformity
E: Draft ATCs

Appendix A

Tanks 4.0 Calculations

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

Identification

User Identification:	Tank #65 Daily
City:	Fresno
State:	California
Company:	
Type of Tank:	Vertical Fixed Roof Tank
Description:	Spirits Tank, Stainless Steel

Tank Dimensions

Shell Height (ft):	13.00
Diameter (ft):	9.00
Liquid Height (ft) :	13.00
Avg. Liquid Height (ft):	7.00
Volume (gallons):	6,186.59
Turnovers:	22.95
Net Throughput(gal/yr):	141,982.28
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:	Dome
Height (ft)	10.00
Radius (ft) (Dome Roof)	9.00

Breather Vent Settings

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

Meterological Data used in Emissions Calculations: Fresno, California (Avg Atmospheric Pressure = 14.56 psia)

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

Tank #65 Daily - Vertical Fixed Roof Tank
Fresno, 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
Ethyl alcohol	Jul	80.00	80.00	80.00	80.00	1.2694	1.2694	1.2694	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52

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

Tank #65 Daily - Vertical Fixed Roof Tank
Fresno, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Standing Losses (lb):							0.0000					
Vapor Space Volume (cu ft):							1,223.3885					
Vapor Density (lb/cu ft):							0.0101					
Vapor Space Expansion Factor:							0.0000					
Vented Vapor Saturation Factor:							0.4360					
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):							1,223.3885					
Tank Diameter (ft):							9.0000					
Vapor Space Outage (ft):							19.2305					
Tank Shell Height (ft):							13.0000					
Average Liquid Height (ft):							7.0000					
Roof Outage (ft):							13.2305					
Roof Outage (Dome Roof)												
Roof Outage (ft):							13.2305					
Dome Radius (ft):							9.0000					
Shell Radius (ft):							4.5000					
Vapor Density												
Vapor Density (lb/cu ft):							0.0101					
Vapor Molecular Weight (lb/lb-mole):							46.0700					
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):							1.2694					
Daily Avg. Liquid Surface Temp. (deg. R):							539.6700					
Daily Average Ambient Temp. (deg. F):							81.8500					
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):							10.731					
Liquid Bulk Temperature (deg. R):							539.6700					
Tank Paint Solar Absorptance (Shell):							0.1700					
Tank Paint Solar Absorptance (Roof):							0.1700					
Daily Total Solar Insulation Factor (Btu/sqft day):							2,551.4853					
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):							1.2694					
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):							1.2694					
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):							1.2694					
Daily Avg. Liquid Surface Temp. (deg R):							539.6700					
Daily Min. Liquid Surface Temp. (deg R):							539.6700					
Daily Max. Liquid Surface Temp. (deg R):							539.6700					
Daily Ambient Temp. Range (deg. R):							33.5000					
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:							0.4360					
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):							1.2694					
Vapor Space Outage (ft):							19.2305					

Working Losses (lb):	197.7043
Vapor Molecular Weight (lb/lb-mole):	46.0700
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.2694
Net Throughput (gal/mo.):	141,982.2776
Annual Turnovers:	22.9500
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	6,186.5916
Maximum Liquid Height (ft):	13.0000
Tank Diameter (ft):	9.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	197.7043

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

Emissions Report for: July

Tank #65 Daily - Vertical Fixed Roof Tank
Fresno, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Ethyl alcohol	197.70	0.00	197.70

$\frac{197.70}{31} = 6.4$

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

Identification

User Identification:	Tank #65 With Insulation White Annual
City:	Livingston
State:	California
Company:	E and J Gallo Winery
Type of Tank:	Vertical Fixed Roof Tank
Description:	Wine and Spirits Tank, Stainless Steel

Tank Dimensions

Shell Height (ft):		13.00
Diameter (ft):		9.00
Liquid Height (ft) :		13.00
Avg. Liquid Height (ft):		7.00
Volume (gallons):		6,186.59
Turnovers:		22.95
Net Throughput(gal/yr):		142,000.00
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:	Dome	
Height (ft)		1.00
Radius (ft) (Dome Roof)		9.00

Breather Vent Settings

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

Meterological Data used in Emissions Calculations: Fresno, California (Avg Atmospheric Pressure = 14.56 psia)

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

Tank #65 With Insulation White - Vertical Fixed Roof Tank
Livingston, 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 50.0 % Vol Alcohol	Jan	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	Feb	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	Mar	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	Apr	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	May	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	Jun	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	Jul	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	Aug	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	Sep	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	Oct	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	Nov	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445
Wine 50.0 % Vol Alcohol	Dec	80.00	80.00	80.00	80.00	1.0245	1.0245	1.0245	34.5769			24.30	Option 1: VP70 = .74358 VP80 = 1.02445

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

Tank #65 With Insulation White - Vertical Fixed Roof Tank
Livingston, 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):	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357
Vapor Density (lb/cu ft):	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061
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:	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389
Tank Vapor Space Volume:												
Vapor Space Volume (cu ft):	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357	414.0357
Tank Diameter (ft):	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000
Vapor Space Outage (ft):	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082
Tank Shell Height (ft):	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000
Average Liquid Height (ft):	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000	7.0000
Roof Outage (ft):	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082
Roof Outage (Dome Roof)												
Roof Outage (ft):	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082	0.5082
Dome Radius (ft):	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000
Shell Radius (ft):	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000	4.5000
Vapor Density												
Vapor Density (lb/cu ft):	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061	0.0061
Vapor Molecular Weight (lb/lb-mole):	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245
Daily Avg. Liquid Surface Temp. (deg. R):	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700
Daily Average Ambient Temp. (deg. F):	45.7500	51.1000	55.0000	61.2000	68.9500	76.5500	81.8500	80.2500	74.4500	65.2000	53.6000	45.4000
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):	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700
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):	668.1706	1,022.2439	1,488.6308	1,992.7729	2,390.9467	2,566.7143	2,551.4853	2,279.5850	1,860.7886	1,369.9719	851.5527	592.3431
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):	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245
Daily Avg. Liquid Surface Temp. (deg R):	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700
Daily Min. Liquid Surface Temp. (deg R):	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700
Daily Max. Liquid Surface Temp. (deg R):	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700	539.6700
Daily Ambient Temp. Range (deg. R):	16.7000	21.2000	23.2000	27.8000	30.5000	32.3000	33.5000	32.9000	31.3000	29.0000	22.2000	16.6000
Vented Vapor Saturation Factor												
Vented Vapor Saturation Factor:	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245
Vapor Space Outage (ft):	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082	6.5082
Working Losses (lb):	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801
Vapor Molecular Weight (lb/lb-mole):	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769	34.5769
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245	1.0245
Net Throughput (gal/mo.):	11,833.3333	11,833.3333	11,833.3333	11,833.3333	11,833.3333	11,833.3333	11,833.3333	11,833.3333	11,833.3333	11,833.3333	11,833.3333	11,833.3333
Annual Turnovers:	22.9529	22.9529	22.9529	22.9529	22.9529	22.9529	22.9529	22.9529	22.9529	22.9529	22.9529	22.9529
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):	6,186.5916	6,186.5916	6,186.5916	6,186.5916	6,186.5916	6,186.5916	6,186.5916	6,186.5916	6,186.5916	6,186.5916	6,186.5916	6,186.5916
Maximum Liquid Height (ft):	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000	13.0000

Tank Diameter (ft):	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000	9.0000
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):	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801	9.9801

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

Tank #65 With Insulation White - Vertical Fixed Roof Tank
Livingston, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Wine 50.0 % Vol Alcohol	119.76	0.00	119.76

Tank ID	% by Volume Alcohol	Annual Values: Average Ya	Annual Values: AMW Average	Annual Values: Total Pound of Emissions	Output from Tank 4.0 total emissions no speciation: Alcohol Emissions in pounds (for each tank)
Tank #65 and #66 (identical)	50.0%	0.5913	34.58	119.76	94.25

ethanol + water

"

$\frac{119.76}{34.58} \times 0.5913 \times 46.07$

115.64

0.789 g/cm³

1.0 g/cm³

Appendix B

New BACT Determination Guideline 5.4.XX and Top Down BACT Analysis

New BACT Determination 5.4.XX: Distilled Spirits Storage Tank

Facility Name:	E & J Gallo Winery	Date:	October 30, 2011
Mailing Address:	18000 W River Rd Livingston, CA 95334	Engineer:	Stanley Tom
		Lead Engineer:	Joven Refuerzo
Contact Person:	Kent Mann		
Telephone:	(209) 394-5822		
Application #:	N-1237-597 and '598-0		
Project #:	N-1113407		
Location:	18000 W River Rd, Livingston, CA		
Complete:	October 14, 2011		

I. PROPOSAL

E & J Gallo Winery has requested Authority to Construct (ATC) permits for the installation of two new 6,000 gallon distilled spirit tanks. These tanks will be used for distilled spirit storage.

II. PROJECT LOCATION

This facility is located at 18000 W River Rd, Livingston, CA.

III. EQUIPMENT LISTING

N-1237-597-0: 6,000 GALLON STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK (TANK 65) WITH PRESSURE/VACUUM VALVE AND INSULATION

N-1237-598-0: 6,000 GALLON STAINLESS STEEL DISTILLED SPIRITS STORAGE TANK (TANK 66) WITH PRESSURE/VACUUM VALVE AND INSULATION

IV. PROCESS DESCRIPTION

E & J Gallo Winery - Livingston produces distilled alcoholic beverages which are stored and processed in the subject storage tanks. These tanks may hold spirits with ethanol contents up to 100% by volume.

IV. CONTROL EQUIPMENT EVALUATION

VOCs (ethanol) are emitted from spirit 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). The proposed pressure/vacuum valve limits these emissions 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. When the storage tanks are insulated, breathing losses are considered to be negligible.

A. Best Available Control Technology (BACT) for Permit Units N-1237-597-0 and '598-0

Applicability

District Rule 2201 Section 4.1 states that BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following:

a) Any new emissions unit with a potential to emit exceeding two pounds per day,
b) The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day, and/or
c) Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day.
d) When a Major Modification is triggered for a modification project at a facility that is a Major Source.

As shown below, BACT is triggered for VOC emissions for distilled spirits storage.

The daily VOC emissions from the storage of spirits in each of these tanks can be determined using EPA Tanks 4.0 program and the daily spirits storage throughput limits proposed by the applicant as a part of this project.

The summary of the daily VOC PE2 calculations for each of the new tanks while being used for spirits storage can be found in Appendix A.

B. BACT Policy

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis".

The District's 4th quarter 2011 BACT Clearinghouse was surveyed to determine if an existing BACT guideline was applicable for this class and category of operation. No BACT guidelines were found that cover distilled spirits storage tanks. Therefore, pursuant to the District's BACT policy, a Top-Down BACT analysis will be performed for inclusion of a new determination in the District's BACT Clearinghouse.

C. Top-Down BACT Analysis for Permit Units N-1237-597-0 and '598-0

The Environmental Protection Agency (EPA), California Air Resources Board (CARB), San Diego County Air Pollution Control District (SDCAPCD), South Coast Air Quality Management District (SCAQMD), Bay Area Air Quality Management District (BAAQMD) and the San Joaquin Valley Air Pollution Control District (SJVAPCD) BACT clearinghouses were reviewed to determine potential control technologies for this class and category of operation, but no BACT guidelines for distilled spirits storage tanks were found.

Distilled spirits storage is not subject to Rule 4694 however, the possible emission control technologies employed would be similar to those of red and white wine storage.

VOC Emissions:

Step 1 - Identify all control technologies

Option 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

In industry practice distilled spirits tanks are enclosed, equipped with PVRVs, insulated, and operated to very much the same standards as wine tanks. These design and operational practices are essential for maintaining optimum quality of the stored distilled spirits.

Since the PVRV, "gas-tight" operation, are almost universally employed throughout the industry for purposes other than air pollution control, they are determined to be both "achieved in practice" and "industry standard".

Option 2 – Refrigerated Storage at 40 °F (70% control)

Refrigeration of the distilled spirits to 40 °F substantially lowers the vapor pressure of the ethanol over the solution and results in reduced emissions relative to storage at ambient temperatures. TANKS 4.0 was utilized to compare the emissions from an insulated tank maintained at 75 °F (per the requirements of District Rule 4694 for wine) with those from an insulated tank maintained at 40 °F. Maintaining distilled spirits at 40 °F results in greater than 70% reduction in emissions when compared to storage at 75 °F.

Option 3 – Collection of VOCs and control by biofiltration (>90% collection & control)

Biofiltration has been previously employed to achieve 90% control of ethanol emissions in a process vent stream. Biofiltration uses microorganisms attached to a porous medium to biologically destroy the VOCs present in an air stream. The microorganisms grow in a biofilm on the surface of a medium (inert material) or are suspended in the water phase surrounding the medium particles. Ethanol in the air stream is sorbed onto the medium where it is biologically degraded.

Option 4 – Collection of VOCs and control by absorption (>90% collection & control)

Ethanol is highly soluble in water and thus absorption in water (or other absorbents) using a scrubber is technologically feasible. The draft Technical Assessment Document for Strategies and Costs for Winery Ethanol Emission Control (TAD), developed by in a joint effort by several San Joaquin Valley wineries, states that >90% control can be achieved by absorption but notes that the absorption process will produce ethanol-laden wastewater, requiring either recovery of the ethanol or disposal of the wastewater.

Option 5 – Collection of VOCs and control by carbon adsorption (95% collection and control)

Collection and capture of VOCs on activated carbon is a well-established process for controlling VOCs in the vent streams from enclosed evaporative sources, including ethanol emissions. A VOC removal efficiency of 95% is generally recognized as achievable. As such, it is adaptable from a purely technical standpoint to distilled spirits storage tanks.

Option 6 – Collection of VOCs and control by thermal or catalytic oxidation (>98% collection & control)

Collection and destruction of VOCs with catalytic or thermal oxidation is a well-established process for controlling VOCs in the vent streams from enclosed evaporative sources. A VOC removal efficiency of 98% is generally recognized as achievable. As such, it is adaptable from a purely technical standpoint to distilled spirits storage tanks.

Step 2 - Eliminate Technologically Infeasible Options

All of the options listed above are considered to be feasible with the exception of option 3 (biofiltration).

Option 3 is determined to be infeasible for the following reasons:

1. Emissions from the tanks are highly intermittent, generally occurring during filling of the tanks which typically occurs 5-10 times per year per tank. The intermittent nature of the emissions would not be suitable for maintaining a healthy bed of microorganisms in the filter.

2. Distilled spirits is a food-grade product and requires stringent sanitation practices from the standpoint of eliminating contamination and preserving product quality. The introduction of a system containing microorganisms would not be possible within the sanitation practices normally employed and could potentially be detrimental to distilled spirits quality.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank	Control Technology	Overall Capture and Control Efficiency
1	Capture of VOCs and thermal or catalytic oxidation	98%
2	Capture of VOCs and carbon adsorption	95%
3	Capture of VOCs and absorption	90%
4	Refrigerated Storage at 40 °F	70%
5	Insulation or Equivalent, Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; "gas-tight" tank operation (Achieved in Practice and Industry Standard)	0%

There are no remaining control technologies for VOC.

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

Spirits are produced as the overhead product from a continuous distillation column. The overhead condenser on the tower (evaporative condenser) condenses and subcools the product to 80 °F for rundown to the product collection tanks.

Product Tanks, 12,000 gallon total capacity:

Qty	2
Capacity	6,000 gallons ea.
Size	9' dia x 13' tall
Spec	Vertical fixed roof (dome), pressure/vacuum valve, insulated, temperature control

Maximum Vapor Flow Rate

Determination of the maximum vapor flow rate from the collection of tanks is calculated by the maximum product transfer rate. The facility stated the maximum design flowrate to transfer liquid spirits using air diaphragm pumps would be 50 GPM.

6,000 gallons x min/50 gallons x 1 hr/60 min = 2.0 hours

Therefore, assuming a 4.0 hour fill rate for a 6,000 gallon tank is conservative.

Moles of air displaced = 6,000 gallons x ft^3/7.48 gallons x 0.07544 lb-air/ft^3 x lb-mol/28.58 lb
= 2.12 lb-mol air

Tanks 4.0 Daily Spirits emissions = 197.70 / 31 days = 6.4 lb

Moles of spirits = 6.4 lb x lb-mol/46.07 lb = 0.138 lb-mol

Total moles = (0.138 + 2.12) lb-mol x 2 tanks = 4.51 lb-mol

V = nRT/P = 4.51 lb-mol x 0.7302 lb-mol °R/atm ft^3 x 520 °R / 1 atm
= 1713.04 ft^3

Vapor Flow Rate = 1713.04 ft^3 ÷ 4 hours x 1 hour/60 min = 7.14 scfm

Uncontrolled Emission Calculation

Assumptions:

- Total spirits production = 142,000 gallons per year x 2 tanks = 284,000 gallons per year
- Daily spirits production = 4,580 gallons per day x 2 tanks = 9,160 gallons per day
- Product tanks = two 6,000 gallon tanks (total volume 12,000 gallons), equipped with pressure/vacuum valve, insulated, temperature control
- It is assumed that the spirits are filled and cool to ambient temperature relatively quickly. Breathing losses are considered negligible since the tanks are insulated

Emission Factors:

Tanks 4.0 will be used to calculate the storage emissions from the new tanks.

Calculation:

The new distilled spirit tanks will be used for storage. A Tanks 4.0 run was performed for each tank using a throughput of 142,000 gallons/year to calculate the annual post-project potential to emit. See Appendix A for the Tanks 4.0 run for each tank.

Tank	Annual PE2 (lb-VOC/year)
N-1237-597-0	94
N-1237-598-0	94

Uncontrolled Emissions = 94 + 94 = **188 lb-VOC/year**

Collection System Capital Investment (based on ductwork)

A common feature of all of thermal or catalytic oxidation/carbon adsorption/absorption options 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 6,000 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.

- minimum estimated length 147 feet (based on a two tank layout, 10 feet spacing between tanks, 10 feet spacing between tank and header, and control device located within 100 feet of tank array)

Capital Cost Ductwork

An estimate of straight line duct lengths required was prepared based on a winery layout of two 6,000 gallon tanks.

6" Stainless Steel Duct: 38 linear feet
12" Stainless Steel Duct: 109 linear feet

A direct cost estimate for 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
Unit installed cost for 12 inch Stainless Steel ducting: $143.80/linear foot

Installed costs = ($61.30 linear foot x 38 feet) + ($143.80 linear foot x 109 feet) = $18,004

Adjusting from 2005 dollars to 2011 dollars (multiply by 1.165, 2.75% inflation/yr).

Installed costs = $18,004 x 1.165 = $20,974

Duct Valve Allowance

One of the major concerns of a manifold duct system is micro organisms spoiling the wine, and transferring from one tank to another. It is possible to completely ruin a tank of white win 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 2 tanks) + ($500/tank x 2 tanks) = $5,250

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. Per applicant, this value is consistent with typical bottling systems.

Installed costs = $200,000

Total costs = Ductwork + Duct Valve + CIP System
= $20,974 + $5,250 + $200,000
= $226,224

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 = $226,224 x 0.163 = $36,817

Option 2 – Refrigerated Storage at 40 °F

Design Basis

- A common refrigeration system will be installed for the two tanks.
- The refrigeration system will be a packaged single-stage vapor-compression system.
- Minimum refrigeration capacity will allow cooling the two tanks from 75 °F to 40 °F once the product enters the tanks. As shown above the filling rate for these tanks is 50 gpm.

Based on a specific heat capacity of 1.0 Btu/lb-°F and cooling one tank from 75 °F top 40 °F, the capacity required for the refrigeration system would be:

Refrigeration Capacity = 50 gal/min x 2 tanks x 8.34 lb/gal x 1.0 Btu/lb-°F x (75 °F – 40 °F) x (60 min/hr) x (1 ton-hr refrigeration/12,000 Btu)

Refrigeration Capacity = 145.95 tons

Capital Cost

The EPA Air Pollution Control Manual, Section 3, Chapter 2, Table 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 100 ton unit yields:

Refrigeration System Cost = $140,000

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 = $140,000 x 0.163 = $22,820

To compare the cost and size of a 100 ton condenser to the subject 145.95 ton condenser, the six-tenths rule of thumb is used.

$$Annualized\ Costs\ 145.95 ton = Annualized\ Costs\ 100 ton \times \left(\frac{145.95 ton}{100 ton} \right)^{0.6}$$

Annualized Costs 145.95 ton = $22,820 x (145.95 ÷ 100)$^{0.6}$
= $28,631/year

Total Annual Cost = $36,817 + $28,631 = $65,448

Annual Emission Reduction = Uncontrolled Emissions x 0.70
= 188 lb-VOC/year x 0.70
= 131.6 lb-VOC/year
= 0.0658 tons-VOC/year

Cost Effectiveness = $65,448/year ÷ 0.0658 tons-VOC/year
= $994,652/ton-VOC

The analysis demonstrates that the annualized purchase cost of the required condenser and collection system ductwork equipment alone results in a cost effectiveness which exceeds the District's Guideline of $17,500/ton-VOC.

Option 4 – Collection of VOCs and control by absorption

One scrubber will be required sized at the maximum vapor flow rate of 7.14 scfm.

Water scrubber (750 cfm) capital cost = $108,500 (per 2003 budgetary pricing obtained by Sonoma Technologies)

Adjusting from 2003 dollars to 2011 dollars (multiply by 1.22, 2.75% inflation/yr).

Water scrubber (750 cfm) capital cost = $108,500 x 1.22 = $132,370

$$Capital\ Costs\ 7.14 cfm = Capital\ Costs\ 750 cfm \times \left(\frac{7.14 cfm}{750 cfm} \right)^{0.6}$$

Capital Costs 7.14 cfm = $132,370 x (7.14 ÷ 750)$^{0.6}$
= $8,109/year

The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).

Water Scrubber – Cost Estimate	
Cost Description	Cost ($)
Direct Costs (DC)	
Base Equipment Costs (Water Scrubber)	8,109
Instrumentation	0.10 x 8,109 = 811
Sales Tax	0.03 x 8,109 = 243
Freight	0.05 x 8,109 = 405
Purchased equipment cost	**9,568**
Foundations & supports	0.08 x 9,568 = 765
Handling & erection	0.14 x 9,568 = 1,340
Electrical	0.04 x 9,568 = 383
Piping	0.02 x 9,568 = 191
Painting	0.01 x 9,568 = 96
Insulation	0.01 x 9,568 = 96
Direct installation costs	**2,871**
Total Direct Costs	**12,439**
Indirect Costs (IC)	
Engineering	0.10 x 9,568 = 957
Construction and field expenses	0.05 x 9,568 = 478
Contractor fees	0.10 x 9,568 = 957
Start-up	0.02 x 9,568 = 191
Performance test	0.01 x 9,568 = 96
Contingencies	0.03 x 9,568 = 287
Total Indirect Costs	**2,966**
Total Capital Cost (DC + IC)	**15,405**

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 = $15,405 x 0.163 = $2,507

Additionally, the water scrubber will generate ethanol-laden wastewater containing 0.0846 tons-ethanol annually. Assuming a 2% solution, approximately 1,278 gallons of waste water (0.0846 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

Annual disposal costs = 1,278 gallons x $0.25/gallon = $319

Total Annual Cost = $36,817 + $2,507 + $319 = $39,643

Annual Emission Reduction = Uncontrolled Emissions x 0.90
= 188 lb-VOC/year x 0.90
= 169.2 lb-VOC/year
= 0.0846 tons-VOC/year

Cost Effectiveness = $39,643/year ÷ 0.0846 tons-VOC/year
= $468,593/ton-VOC

The analysis demonstrates that the annualized purchase cost of the required water scrubber and collection system ductwork equipment alone results in a cost effectiveness which exceeds the District's Guideline of $17,500/ton-VOC.

Option 5 – Collection of VOCs and control by carbon adsorption

Annual Emission Reduction = Uncontrolled Emissions x 0.95
= 188 lb-VOC/year x 0.95
= 178.6 lb-VOC/year
= 0.0893 tons-VOC/year

Assume a working bed capacity of 20% for carbon (weight of vapor per weight of carbon)

Carbon required = 0.0893 tons-VOC/year x 2000 lb/ton x 1/0.20
= 893 lb carbon

Carbon capital cost = $1.00/lb = $1.00/lb x 893 lb carbon = $893

The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).

Carbon Adsorption – Cost Estimate	
Cost Description	Cost ($)
Direct Costs (DC)	
Base Equipment Costs (Carbon Material)	893
Instrumentation	0.10 x 893 = 89
Sales Tax	0.03 x 893 = 27
Freight	0.05 x 893 = 45
Purchased equipment cost	**1,054**
Foundations & supports	0.08 x 1,054 = 84
Handling & erection	0.14 x 1,054 = 148
Electrical	0.04 x 1,054 = 42
Piping	0.02 x 1,054 = 21
Painting	0.01 x 1,054 = 11
Insulation	0.01 x 1,054 = 11
Direct installation costs	**317**
Total Direct Costs	**1,371**
Indirect Costs (IC)	
Engineering	0.10 x 1,054 = 105
Construction and field expenses	0.05 x 1,054 = 53
Contractor fees	0.10 x 1,054 = 105
Start-up	0.02 x 1,054 = 21
Performance test	0.01 x 1,054 = 11
Contingencies	0.03 x 1,054 = 32
Total Indirect Costs	**327**
Total Capital Cost (DC + IC)	**1,698**

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 = $1,698 x 0.163 = $276

Operation and Maintenance Cost

The operation and maintenance cost for this carbon adsorption system will only include the cost of the service to remove and replace the saturated carbon canisters.

A representative from United States Filter Corporation stated that carbon adsorption systems are able to control about 20% of their weight in VOC's. As shown above, the annual carbon requirement would be 893 pounds. A typical recommended system consists of 2-8,000 pound canisters connected in series. In order to ensure no breakthrough, a service would be required every time the primary system becomes saturated. Therefore, a service would be required one time per year (893 lb/yr/8,000 lb/canister).

Pursuant to the cost estimate received from United States Filter Corporation, the cost of the service to remove and replace a saturated carbon canister is $8,720 per unit. This cost would include removal and replacement of the spent unit, packaging of the unit, shipping of the unit to the reactivation facility and reactivation of the unit.

Therefore, the annual service cost can be calculated as follows:

Service Cost = Occurrence (service/year) x Cost ($/service)
Service Cost = 1 services/year x $8,720 /service = $8,720/year

Total Annual Cost = $36,817 + $276 + $8,720 = $45,813/year

Cost Effectiveness = $45,813/year ÷ 0.0893 tons-VOC/year
= $513,024/ton-VOC

The analysis demonstrates that the annualized purchase cost of the required carbon and collection system ductwork equipment alone results in a cost effectiveness which exceeds the District's Guideline of $17,500/ton-VOC.

Option 6 – Collection of VOCs and control by thermal or catalytic oxidation

The balanced chemical equation for combustion of ethanol is shown below.

$C_2H_5OH + 3O_2 \rightarrow 3H_2O + 2CO_2$

One thermal oxidizer will be required sized at the maximum vapor flow rate of 7.14 scfm.

However, in practice 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 1.055, 2.75% inflation/yr).

Regenerative thermal oxidizer (50 cfm) capital cost = $37,700 x 1.055 = $39,774

Operation and Maintenance Costs

The Direct annual costs include labor (operating, supervisory, and maintenance), maintenance materials, electricity, and fuel.

Heat of Combustion for waste gas stream -dh(c):

heat of combustion -dHc = 20276 Btu/lb
Daily VOC emissions rate = 6.4 x 2 = 12.8 lb/day
Blower flow rate = 50 scfm
= 72,000 ft^3/day

-dh(c) = 12.8 lb/day x 20276 Btu/lb / 72,000 ft^3/day
= 3.60 Btu/ft^3

Assuming the waste gas is principally air, with a molecular weight of 28.97 and a corresponding density of 0.0739 lb/scf, the heat of combustion per pound of incoming waste gas is:

-dh(c) = 3.60 Btu/ft^3 / 0.0739 lb/ft^3
= 48.78 Btu/lb

Fuel Flow Requirement

$$Q(fuel) = \frac{Pw*Qw*\{Cp*[1.1Tf-Tw-0.1Tr]-[-dh(c)]\}}{P(ef) * [-dh(m) - 1.1\ Cp * (Tf - Tr)]}$$

Where
Pw = 0.0739 lb/ft^3
Cp = 0.255 Btu/lb-°F
Qw = 50 scfm
-dh(m) = 21,502 Btu/lb for methane
Tr = 77°F assume ambient conditions
P(ef) = 0.0408 lb/ft^3 m, methane at 77°F, 1 atm
Tf = 1600°F
Tw = 1150°F
-dh(c) = 48.78 Btu/lb

$$Q = \frac{0.0739*50*\{0.255*[1.1*1600-1150-0.1*77]-48.78\}}{0.0408*[21502 - 1.1*0.255*(1600 - 77)]}$$

= 387.27/859.9 = 0.45 ft^3/min

Fuel Cost

The cost for natural gas shall be based upon the average price of natural gas sold to "Commercial Consumers" in California for the years 2007 and 2008.[1]

2007	= \$10.20/thousand ft^3 total monthly average
2008	= \$11.72/thousand ft^3 total monthly average
Average for two years	= \$10.96/thousand ft^3 total monthly average

Assumptions:
1 therm = 100,000 Btus
1,000 ft^3 = 10 therms
Average Rate = \$1.96/therm = \$0.0110/ft^3

Fuel Cost = 0.45 cfm x (1-0.5 heat recovery) x 1440 min/day x 365 day/yr x \$0.0110/ft^3
= \$1,301/yr

Electricity Requirement

$$\text{Power}_{fan} = \frac{1.17*10^{-4}\ Qw*\ \Delta P}{\in}$$

Where

ΔP	=	Pressure drop Across system = 4 in. H_2O
$\in$	=	Efficiency for fan and motor = 0.6
Qw	=	50 scfm

$$\text{Power}_{fan} = \frac{1.17*10^{-4}*50\ \text{cfm}*\ 4\ \text{in. } H_2O}{0.60}$$

= 0.039 kW

Average cost of electricity to commercial users in California [2]:
2008 = \$0.1302
2009 = \$0.1385
AVG = \$0.1344

Electricity Cost = 0.039 kW x 24 hr/day x 365 days/yr x \$0.1344/kWh = \$46/yr

The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).

---

1 Energy Information Administration/Natural Gas Monthly October 2009; Average Price of Natural Gas Sold to Commercial Consumers by State, 2007 - 2008

2 Energy Information Administration/Electric Power Monthly November 2009; Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, 2007 - 2009

Thermal and Catalytic Incinerator – Cost Estimate	
Cost Description	Cost ($)
Direct Costs (DC)	
Base Equipment Costs (Incinerator)	39,774
Instrumentation	0.10 x 39,774 = 3,977
Sales Tax	0.03 x 39,774 = 1,193
Freight	0.05 x 39,774 = 1,989
Purchased equipment cost	**46,933**
Foundations & supports	0.08 x 7,159 = 573
Handling & erection	0.14 x 7,159 = 1,002
Electrical	0.04 x 7,159 = 286
Piping	0.02 x 7,159 = 143
Painting	0.01 x 7,159 = 72
Insulation	0.01 x 7,159 = 72
Direct installation costs	**2,148**
Total Direct Costs	**49,081**
Indirect Costs (IC)	
Engineering	0.10 x 7,159 = 716
Construction and field expenses	0.05 x 7,159 = 358
Contractor fees	0.10 x 7,159 = 716
Start-up	0.02 x 7,159 = 143
Performance test	0.01 x 7,159 = 72
Contingencies	0.03 x 7,159 = 215
Total Indirect Costs	**2,220**
Total Capital Cost (DC + IC)	**51,301**

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 = $51,301 x 0.163 = $8,349

Total Annual Cost (Data from: Annual Costs for Thermal and Catalytic Incinerators, Table 3.10 – OAQPS Control Cost Manual, Fourth Edition)

Total Annual Cost			
Operator	0.5 h/shift	$25.92/h	$4,730
Supervisor	15% of operator		$710
Maintenance			
Labor	0.5 h/shift	$28.52	$5,205
Material	100% of labor		$5,205
Utility			
Natural Gas			$1,301
Electricity			$46
Indirect Annual Cost (IC)			
Overhead	60% of Labor Cost		$6,387
Administrative Charge	2% TCI		$1,026
Property Taxes	1% TCI		$513
Insurance	1% TCI		$513
Total Annual Cost			**$25,636**

Total Annual Costs = $36,817 + $8,349 + $25,636 = $70,802/year

Annual Emission Reduction = Uncontrolled Emissions x 0.98
= 188 lb-VOC/year x 0.98
= 184.24 lb-VOC/year
= 0.09212 tons-VOC/year

Cost Effectiveness = $70,802/year ÷ 0.09212 tons-VOC/year
= $768,584/ton-VOC

The analysis demonstrates that the annualized purchase cost of the required thermal oxidizer and collection system ductwork equipment alone results in a cost effectiveness which exceeds the District's Guideline of $17,500/ton-VOC.

Step 5 - Select BACT

All identified feasible options with control efficiencies higher than the option proposed by the facility have been shown to not be cost effective. The facility has proposed Option 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. These BACT requirements will be placed on the ATCs as enforceable conditions.

Proposed Pages For the BACT Clearinghouse

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 5.4.XX*

Emission Unit: Distilled Spirits Storage Tank

Industry Type: Wine and Distilled Spirits Production

Equipment Rating: None

Last Update: October 30, 2011

	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
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 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)	

** Tank may be insulated or stored indoors (in a completely enclosed building except for vents, doors and other essential openings) to limit exposure to diurnal temperature variations.

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

***This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)**

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 5.4.xxA

Emission Unit: Distilled Spirits Storage Tank

Equipment Rating: ≤ 142,000 gallons/year

Facility: E & J Gallo Winery

Location: 18000 W River Road, Livingston, CA

References: ATC #: N-1237-597-0 and '598-0
Project #: 1113407

Date of Determination: October 30, 2011

Pollutant	BACT Requirements
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

BACT Status:

X Achieved in practice __ Small Emitter __ T-BACT

X Technologically feasible BACT

__ At the time of this determination achieved in practice BACT was equivalent to technologically feasible BACT

__ Contained in EPA approved SIP

X The following technologically feasible options were not cost effective:

1) Capture of VOCs and thermal or catalytic oxidation or equivalent
2) Capture of VOCs and carbon adsorption or equivalent
3) Capture of VOCs and absorption or equivalent
4) Refrigeration of distilled spirits or equivalent

__ Alternate Basic Equipment

__ The following alternate basic equipment was not cost effective:

BACT CLEARINGHOUSE

--Submission Form--

Category

Source Category		
Winery		
SIC Code	2084	**View SIC Code List**
NAICS Code		View NAICS Code List

Emission Unit Information

Manufacturer	N/A
Type	N/A
Model	N/A
Equipment Description	Distilled Spirits Storage Tank With Pressure/Vacuum Valve and Insulation
Capacity/Dimensions	Maximum 142,000 gallons per year
Fuel Type	N/A
Multiple Fuel Types	N/A
Operating Schedule	Continuous 24 hrs/day, 8760 hrs/yr
Function of Equipment	The purpose of the storage tank is to store distilled spirits.

Facility/District Information

Facility Name	E & J Gallo Winery
Facility County	Merced County
Facility Zip Code	95334
District Contact	David Warner, San Joaquin Valley Air Pollution District
District Contact Phone	(559) 230-6000
District Contact E-mail	carlos.garcia@valleyair.org

Project/Permit Information

Application or Permit Number	N-1237-597-0 and '598-0	
New Construction/Modification	New Construction	
ATC Date (mm-dd-yyyy)	TBD	Example: 03-29-2001
PTO Date (mm-dd-yyyy)	TBD	
Startup Date (mm-dd-yyyy)	TBD	
Technology Status	Achieved in Practice	
Source Test Available	No	

Source Test Results TBD

BACT Information

Pollutant Limit(s) and Control Method(s) – Please include proper units

NOx	Limit: Units: Averaging Time: Control Method Type: Control Method Description:
CO	Limit: Units: Averaging Time: Control Method Type: Control Method Description:
VOC	Limit: 6.4 Units: lb/day Averaging Time: Control Method Type: Control Method Description: Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; "gas-tight" tank operation
PM	Limit: Units: Averaging Time: Control Method Type: Control Method Description:
PM 2.5	Limit: Units: Averaging Time: Control Method Type: Control Method Description:
PM 10	Limit: Units: Averaging Time: Control Method Type: Control Method Description:
SOx	Limit: Units: Averaging Time: Control Method Type: Control Method Description:

Appendix C

Compliance Certification

N-1237

E&J Gallo Winery-Livingston

Compliance Certification Statement

For Federal Major Permit Modifications

Compliance with District Rule 2201, Section 4.15.2

"I certify under penalty of law that all major stationary sources (Title V facilities) operated under my control in California are compliant with all applicable air emissions limitations and standards. The facilities included in this certification statement include the E&J Gallo Winery-Fresno, the E&J Gallo Winery-Livingston, and the E&J Gallo Winery-Modesto."

09/06/11

Mr. Steve Kidd
Vice President of Operations

Date

Appendix D

Certificate of Conformity

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[X] Federal Major Permit MODIFICATION
[] MINOR PERMIT MODIFICATION
[ ] ADMINISTRATIVE AMENDMENT

COMPANY NAME: E&J Gallo Winery - Livingston	FACILITY ID N – 1237
1. Type of Organization:[x] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [ ] Utility	
2. Owner's Name: E&J Gallo Winery-Livingston	
3. Agent to the Owner: Mr. Kent Mann	

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

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

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

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

(KM) 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:

Kent D Mann

Signature of Responsible Official

09/06/11

Date

Mr. Kent Mann

Name of Responsible Official (please print)

Senior Director-Production and Operations

Title of Responsible Official (please print)

Appendix E

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-1237-597-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY
MAILING ADDRESS: 18000 W RIVER RD
LIVINGSTON, CA 95334

LOCATION: 18000 W RIVER RD
LIVINGSTON, CA 95334

EQUIPMENT DESCRIPTION:
6000 GALLON SPIRITS STORAGE TANK (TANK 65) WITH PRESSURE/VACUUM VALVE AND INSULATION

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 quantities of emissions: 1st quarter - 23 lb; 2nd quarter - 23 lb; 3rd quarter - 24 lb; and 4th quarter - 24 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 04/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers C-1066-1 and/or S-3661-1 (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-1237-597-0 : Oct 30 2011 3:41PM – TOMS : Joint Inspection NOT Required

6. 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

7. 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

8. The maximum temperature in this tank shall not exceed 80 degrees Fahrenheit. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The annual average ethanol content of distilled spirits stored in this tank shall not exceed 50 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit

10. The VOC emissions for distilled spirits operations in this tank shall not exceed 6.4 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

11. The maximum distilled spirits storage throughput in this tank shall not exceed 4,580 gallons per day. [District Rule 2201] Federally Enforceable Through Title V Permit

12. The maximum distilled spirits storage throughput in this tank shall not exceed 142,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

13. Daily throughput records, including records of filling and emptying operations, the dates of such operations, the maximum temperature of the stored distilled spirits, the volume percent ethanol in the batch, and the volume of spirits transferred, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

14. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-1237-598-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: E & J GALLO WINERY
MAILING ADDRESS: 18000 W RIVER RD
LIVINGSTON, CA 95334

LOCATION: 18000 W RIVER RD
LIVINGSTON, CA 95334

EQUIPMENT DESCRIPTION:
6000 GALLON SPIRITS STORAGE TANK (TANK 66) WITH PRESSURE/VACUUM VALVE AND INSULATION

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 quantities of emissions: 1st quarter - 23 lb; 2nd quarter - 23 lb; 3rd quarter - 24 lb; and 4th quarter - 24 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 04/21/11). [District Rule 2201] Federally Enforceable Through Title V Permit
4. ERC Certificate Numbers C-1066-1 and/or S-3661-1 (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-1237-598-0 : Oct 30 2011 3:41PM – TOMS . Joint Inspection NOT Required

6. 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

7. 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

8. The maximum temperature in this tank shall not exceed 80 degrees Fahrenheit. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The annual average ethanol content of distilled spirits stored in this tank shall not exceed 50 percent by volume. [District Rule 2201] Federally Enforceable Through Title V Permit

10. The VOC emissions for distilled spirits operations in this tank shall not exceed 6.4 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit

11. The maximum distilled spirits storage throughput in this tank shall not exceed 4,580 gallons per day. [District Rule 2201] Federally Enforceable Through Title V Permit

12. The maximum distilled spirits storage throughput in this tank shall not exceed 142,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

13. Daily throughput records, including records of filling and emptying operations, the dates of such operations, the maximum temperature of the stored distilled spirits, the volume percent ethanol in the batch, and the volume of spirits transferred, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

14. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit