APR 3 0 2014

Ms. Wendy Garcia
CBUS Ops Inc. (dba Woodbridge Winery)
PO Box 1260
Woodbridge, CA 95258

Re: **Proposed ATC / Certificate of Conformity (Significant Mod)**
District Facility # N-2321
Project # N-1133440

Dear Ms. Garcia:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The proposed project is for the installation of four new 652,000 gallon wine storage tanks and three new 108,000 gallon wine storage tanks.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. 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,

Arnaud Marjollet
Director of Permit Services

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Installation of Wine Storage Tanks

Facility Name: CBUS Ops Inc. (dba Woodbridge Winery)

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Application #(s): N-2321-801-0, -802-0, -803-0, -804-0, -805-0, -806-0, & -807-0

Project #: N-1133440

Deemed Complete: November 20, 2013

Date: April 17, 2014

Engineer: Ramon Norman

Lead Engineer: Martin Keast

Davindra Singh (Project Engineer)

(209) 365 - 8048

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I. Proposal

CBUS Ops Inc. (dba Woodbridge Winery) has requested Authority to Construct (ATC) permits for the installation of four (4) new 652,000 gallon wine storage tanks and three (3) new 108,000 gallon wine storage tanks. The tanks will be installed under an existing facility-wide limit for VOC emissions, so there will be no overall increase in VOC emissions. VOC emissions from all wine fermentation and wine storage operations at the facility will continue to be limited to no more than 1,167,178 lb-VOC/year. CBUS Ops Inc. had previously requested ATC permits for the installation of a total of nine (9) new wine storage tanks and twenty four (24) new wine storage and fermentation tanks under this project. Per the facility's request, the original ATC project has been split into two separate projects. Phase 1 will be for the installation of the seven (7) new wine storage tanks under this project. Phase 2 for installation of the remaining twenty six (26) wine storage and fermentation tanks will be processed under a separate project (Project #N-1133440). The facility indicates that the installation of the tanks under Phase 2 of the project is expected to occur in the spring of 2015 or later.

CBUS Ops Inc. received their Title V Permit on March 5, 2007. This modification can be classified as a Title V significant modification pursuant to Rule 2520, 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. CBUS Ops Inc. must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)

Rule 4001   New Source Performance Standards (4/14/99)
Rule 4002   National Emissions Standards for Hazardous Air Pollutants (5/20/04)
Rule 4102   Nuisance (12/17/92)
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 5950 E Woodbridge Road, Acampo, 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

CBUS Ops Inc. produces both red and white table wines, as well as other specialty wine products, from the fermentation of grapes. During the "crush season," typically from late August to late November, both red and white grapes are received by truck and delivered to a crusher-stemmer which serves to crush the grapes and remove the stems. In the case of red wines, the resultant juice (termed "must" and containing the grape skins, pulp and seeds) is pumped to red wine fermentation tanks for fermentation, a batch process. The red wine fermentation tanks are specifically designed to ferment the must in contact with the skins and to allow the separation of the skins and seeds from the wine after fermentation. In the case of white wines, the must is sent to screens and presses for separation of grape skins and seeds prior to fermentation. After separation of the skins and seeds, the white must is transferred to a fermentation tank. White wine fermentation can be carried out in a tank without design provisions for solids separation since the skins and seeds have already been separated.

After transfer of the must (for red or white wine) to the fermentation tank, the must is inoculated with yeast which initiates the fermentation reactions. During fermentation, the yeast metabolizes the sugar in the grape juice, converting it to ethanol and carbon dioxide (CO_2) while releasing heat. Temperature is typically controlled by refrigeration, and is maintained at 45–65 °F for white wine fermentation and 70–95 °F for red wine fermentation. The sugar content of the fermentation mass is measured in °Brix (weight %) and is typically 22–26° for unfermented grape juice, dropping to 4° or less at the end of fermentation. Finished ethanol concentration is approximately 10 to 14 percent by volume. Batch fermentation requires 3-5 days per batch for red wine and 1-2 weeks per batch for white wine. VOCs are emitted during the fermentation process along with the CO_2. The VOCs consist primarily of ethanol along with small quantities of other fermentation byproducts.

Following the completion of fermentation, white wine is transferred directly to storage tanks. Red wine is first directed to the presses for separation of solids and then routed to the storage tanks. All tanks in the winery typically operate as two separate emissions units: (1) a fermentation operation during which the tank is vented directly to the atmosphere to release the evolved CO_2 byproduct from the fermentation reaction; and (2) a storage operation during

which the tank is closed to minimize contact with air and refrigerated to preserve the wine. Post-fermentation operations such as cold stabilization, racking, and filtration are conducted in the tanks, resulting in a number of inter-tank transfers during the period between the end of fermentation and bottling or bulk shipment. Storage operations are conducted year-round. VOC emissions occur primarily as a result of the inter-tank transfers which are necessitated by the post fermentation operations.

V. Equipment Listing

Permit #	Equipment Description
N-2321-801-0	652,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 1701 WITH PRESSURE/VACUUM VALVE AND INSULATION
N-2321-802-0	652,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 1702 WITH PRESSURE/VACUUM VALVE AND INSULATION
N-2321-803-0	652,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 1703 WITH PRESSURE/VACUUM VALVE AND INSULATION
N-2321-804-0	652,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 1704 WITH PRESSURE/VACUUM VALVE AND INSULATION
N-2321-805-0	108,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 412 WITH PRESSURE/VACUUM VALVE AND INSULATION
N-2321-806-0	108,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 414 WITH PRESSURE/VACUUM VALVE AND INSULATION
N-2321-807-0	108,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 416 WITH PRESSURE/VACUUM VALVE AND INSULATION

VI. Emission Control Technology Evaluation

VOCs (ethanol) are emitted from wine 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.

VII. General Calculations

A. Assumptions

- VOC emissions from all wine fermentation and wine storage operations at the facility will continue to be limited to no more than 1,167,178 lb-VOC/year
- Typically, for enclosed tanks with refrigeration and/or insulation (or equivalent) and P/V valves, breathing losses from storage of wine are assumed to be negligible
- The maximum ethanol content of the wine stored in the tanks is 20% by volume (per applicant)

- Maximum throughput of each 652,000 gallon wine storage tank: 652,000 gal/day (one turn/day) and 74,750,000 gal/year (per applicant)
- Maximum throughput of each 108,000 gallon wine storage tank: 432,000 gal/day (four turns per day) and 24,840,000 gal/year (per applicant)
- Post-project maximum storage tank liquid storage temperature = 77.3 °F (per FYI-295, for locations near Stockton)
- Post-project annual average storage tank liquid storage temperature = 61.6 °F for all tanks (per FYI-295, for locations near Stockton)

B. Emission Factors

Emission factors for the wine storage tanks are taken from District FYI-114, *VOC Emission Factors for Wine Fermentation and Storage Tanks* (6/13/2011), Table 1. For wine storage tanks located in San Joaquin County that store wine with a maximum ethanol content of 20%, the following VOC emissions factors are applicable:

VOC Emissions Factors for Wine and Spirits Storage Tanks in the San Joaquin Valley, Northern Region (lb-VOC per 1,000 gallons of throughput)		
Maximum % Volume Ethanol	**Annual EF**	**Daily EF**
20%	0.175	0.303

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since the tanks are new emissions unit, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

The daily and annual potential VOC emissions from the wine storage tanks are determined using the appropriate emission factors and the daily and annual throughput as follows:

Daily PE2 = EF (lb-VOC/1,000 gal) x daily throughput (gal/year)
Annual PE2 = EF (lb-VOC/1,000 gal) x annual throughput (gal/year)

The PE2 for the proposed tanks is shown in the table below.

Permit Unit	Daily EF	Annual EF	Tank Capacity	Max Daily Throughput	Max Annual Throughput	Daily PE	Annual PE
	(lb-VOC/1,000 gal)		(gallon)	(gal/day)	(gal/year)	(lb/day)	(lb/year)
N-2321-801-0			652,000	652,000	74,750,000	197.6	13,081
N-2321-802-0			652,000	652,000	74,750,000	197.6	13,081
N-2321-803-0			652,000	652,000	74,750,000	197.6	13,081
N-2321-804-0	0.303	0.175	652,000	652,000	74,750,000	197.6	13,081
N-2321-805-0			108,000	432,000	24,840,000	130.9	4,347
N-2321-806-0			108,000	432,000	24,840,000	130.9	4,347
N-2321-807-0			108,000	432,000	24,840,000	130.9	4,347
Total							65,365

The PE2 for each proposed tank is shown above. The new tanks will also be subject to existing specific limiting condition (SLC) that limits VOC emissions from all wine fermentation and wine storage operations at the facility to no more than 1,167,178 lb-VOC/year.

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

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

The only affected pollutant that the proposed project involves is VOC emissions. Facility 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 District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

The only affected pollutant that the proposed project involves is VOC emissions. Since facility emissions are already above the Offset and Major Source Thresholds for VOC emissions, SSPE2 calculations are not necessary.

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values.

For the purposes of determining major source status the following shall not be included:
- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

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.

Rule 2410 Major Source Determination:

As indicated above, this facility has an existing specific limiting condition (SLC) that limits VOC emissions from all wine fermentation and wine storage operations to 1,167,178 lb-VOC/year.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source threshold for VOC is applicable.

PSD Major Source Determination (tons/year)	
	VOC
Facility PE before Project Increase	583.6
PSD Major Source Thresholds	250
PSD Major Source?	**Yes**

As shown above, the facility is an existing Major Source for PSD for VOC. Therefore, the facility is an existing Major Source for PSD.

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 District Rule 2201, BE = PE1 for:
- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

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

Since these are new emission units, BE = PE1 = 0 for all pollutants.

7. SB 288 Major Modification

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

Since this facility is a major source for VOC, the total PE2 for the units in the project is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO_x	0	50,000	No
SO_x	0	80,000	No
PM_{10}	0	30,000	No
VOC	65,365	50,000	Yes

Since the total PE2 for the units in the project surpasses the SB 288 Major Modification Thresholds for VOC, the Net Emissions Increase (NEI) will be compared to the SB 288 Major Modification thresholds in order to determine if this project constitutes an SB 288 Major Modification.

Tanks operating at a winery are not completely independent emissions units since various processes at the facility may serve as a bottleneck to limit overall production. Therefore, the potential annual emissions must be established with consideration of all the other associated tanks in the facility. The total potential to emit from all of the proposed new tanks ($PE2_{New}$) is therefore determined as the difference between the post project and the pre project potential emissions from the wine production operation based on the collective physical capacity of the wine tanks at the facility.

$$NEI = \sum(PE2 - HE)$$

Since this project involves only new emissions units, and no change to the existing emission units. The historical emissions for these units are each equal to zero.

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

Where:
$HE_{New} = 0$
$NEI = \sum(PE2)_{New}$

Based on the collective physical capacity of the wine tanks in this facility, $PE2_{NewTanks}$ is calculated to 59,424 pounds VOC per year. See detail potential emissions calculations in Appendix A of this document.

$NEI = \sum(PE2)_{New} = 59,424$ lb-VOC/yr

SB 288 Major Modification Calculation and Determination					
Pollutant	PE2 (lb/yr)	PE1 (lb/yr)	NEI (lb/yr)	Thresholds (lb/yr)	SB2 88 Major Modification?
VOC	59,424	0	59,424	50,000	**Yes**

As demonstrated in the preceding table, this project does constitute an SB 288 Major Modification.

8. Federal Major Modification

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

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

As discussed above, the total combined emissions increases from the new tanks was calculated as 42,221 lb-VOC/yr, as shown in Appendix A. The project's combined total emissions increases are compared to the Federal Major Modification Thresholds in the following table.

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
VOC*	59,424	0	**Yes**

Since there is an increase in VOC emissions, this project constitutes a Federal Major Modification, and no further analysis is required.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to pollutants for which the District is in attainment or for unclasssified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO_2 (as a primary pollutant)
- SO_2 (as a primary pollutant)
- CO

- PM
- PM10
- Greenhouse gases (GHG): CO2, N2O, CH4, HFCs, PFCs, and SF6

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not (See Section VII.C.5 of this document).

In the case the facility is an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

In the case the facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

In the case the facility is new source, the second step of the PSD evaluation is to determine if this new facility will become a new PSD major Source as a result of the project and if so, to determine which pollutant will result in a PSD significant increase.

I.   Project Location Relative to Class 1 Area

As demonstrated in the "PSD Major Source Determination" Section above, the facility was determined to be a existing major source for PSD. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II.   Significance of Project Emission Increase Determination

a. Potential to Emit of attainment/unclassified pollutant for New or <u>Modified Emission Units vs PSD Significant Emission Increase Thresholds</u>

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no futher analysis will be needed.

As indicated above, the proposed wine storage tanks in this project will be subject to the existing SLC that limits VOC emissions from all wine fermentation and storage operations to 1,167,178 lb-VOC/year. The VOC emissions are assumed to consist of only ethanol. There is a direct relationship between the moles of ethanol and the moles of CO_2 produced during wine fermentation. Since there will be no increase in the potential to emit for VOC or ethanol under this project, there will not be any increase in the potential to emit for CO_2.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO2	SO2	CO	PM	PM10	CO2e
Total PE from New and Modified Units	0	0	0	0	0	0
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	N	N	N	N	N	N

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen.

Because the proposed wine storage tanks will be subject to the existing SLC that limits VOC emissions from all wine fermentation and wine storage operations at the facility, there will be no overall increase in potential to emit at the facility. Therefore, the QNEC is equal to 0 for each quarter for each permit unit.

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. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

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

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

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

As seen in Section VII.C.2 above, the applicant is proposing to install seven new wine storage tanks that have a PE greater than 2 lb/day for VOC from each tank. Therefore, BACT is triggered for each tank for VOC.

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

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

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 for modification of an emissions unit.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute an SB 288 and/or Federal Major Modification for VOC emissions. Therefore BACT is triggered for VOC for all emissions units in the project for which there is an emissions increase.

2. BACT Guideline

BACT Guideline 5.4.13 applies to the wine storage tanks. [Wine Storage Tanks] (See Appendix B)

3. Top-Down BACT Analysis

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

Pursuant to the attached Top-Down BACT Analysis (see Appendix 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 and achieve and maintain a continuous storage temperature not exceeding 75 °F within 60 days of completion of fermentation.

11

B. Offsets

1. Offset Applicability

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

As discussed above, the facility emissions are already above the Offset and Major Source Thresholds for VOC emissions; therefore, a determination of the quantity of offsets required must be performed.

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.

As seen 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.

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) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, 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 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)

There are no increases in Cargo Carrier emissions as result of this project, and the proposed new emissions units are located in the same stationary source, which result DOR = 1.0.

Emission offset = Σ (PE2 – BE) x 1.0 + 0

Emission offset = Σ (PE2 – BE)

According to engineering evaluation N-1120998, all existing tanks were considered Clean Emission Units since they meet the achieved-in-practice BACT requirements for wine storage and fermentation process. Thus, BE is set equal to PE1 for each existing tank.

Emission offset = Σ (PE2 – PE1)

The facility has an existing SLC of 1,167,178 pounds of VOC per year for wine fermentation and storage operations, and the applicant is not proposing any change to this limit as a result of this project. Therefore,

Emission offset = (1,167,178 – 1,167,178) lb-VOC/year
        = 0 lb-VOC/year

As demonstrated in the calculation above, the amount of offsets required is zero. Therefore, offsets will not be required for this project.

C. Public Notification

1. Applicability

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

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

As demonstrated in Sections VII.C.7 and VII.C.8, this project is an SB 288 and Federal Major Modification. Therefore, public noticing for SB 288 and Federal Major Modification purposes is required.

b. PE > 100 lb/day

The PE2 for the proposed 652,000 and 108,000 gallon wine storage tanks is compared to the daily PE Public Notice thresholds in the following table:

652,000 gallon Wine Storage Tanks PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO$_x$	0	100 lb/day	No
SO$_x$	0	100 lb/day	No
PM$_{10}$	0	100 lb/day	No
CO	0	100 lb/day	No
VOC	197.6	100 lb/day	**Yes**

108,000 gallon Wine Storage Tanks PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO$_x$	0	100 lb/day	No
SO$_x$	0	100 lb/day	No
PM$_{10}$	0	100 lb/day	No
CO	0	100 lb/day	No
VOC	130.9	100 lb/day	**Yes**

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

c. Offset Threshold

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

Offset Thresholds				
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 surpassing an offset threshold.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. As discussed above, the proposed tanks will be installed under an existing SLC for VOC emissions, so there will be no overall increase in VOC emissions as a result of the project.

The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds			
Pollutant	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	0	20,000 lb/year	No
SO_x	0	20,000 lb/year	No
PM_{10}	0	20,000 lb/year	No
CO	0	20,000 lb/year	No
VOC	0	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 SB 288 and Federal Major Modification purposes and for VOC emissions from emissions units in excess of 100 lb/day. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

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

Proposed Rule 2201 (DEL) Conditions

For the proposed wine storage tank emission units in this project, the DEL is enforced with the following conditions:

- This wine storage tank shall be used exclusively for wine storage operations only and not for fermentation. [District Rule 2201]

- The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rules 2201 and 4694, 5.2.2]

652,000 Gallon Wine Storage Tanks
- The maximum daily tank throughput shall not exceed 652,000 gallons. [District Rule 2201]

- The maximum annual wine throughput in this tank, calculated on a twelve month rolling basis, shall not exceed 74,750,000 gallons per year. [District Rule 2201]

<u>108,000 Gallon Wine Storage Tanks</u>
- The daily tank throughput, in gallons, shall not exceed four times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201]

- The maximum annual wine throughput in this tank, calculated on a twelve month rolling basis, shall not exceed 24,840,000 gallons per year. [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. Recordkeeping is also required for winery tanks pursuant to District Rule 4694, *Wine Fermentation and Storage Tanks*. For the proposed wine storage tanks, the following conditions will be listed on the permits to ensure compliance:

- The operator shall record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694, 6.4.2]
- Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 1070 and 2201]
- All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694]
- Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. 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 Title I 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 Section VIII above, this facility is an existing source and this project does constitute a Federal Major Modification, therefore this requirement is applicable. CBUS Ops Inc.'s (dba Woodbridge Winery) compliance certification is included in Appendix C.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install four (4) new 652,000 gallon wine storage tanks and three (3) new 108,000 gallon wine storage tanks.

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 project will provide wine storage tanks to be used at an existing facility, 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 on a much greater scale, and would therefore result in a much greater impact.

Rule 2410 Prevention of Significant Deterioration

The prevention of significant deterioration (PSD) program is a construction permitting program for new major stationary sources and major modifications to existing major stationary sources located in areas classified as attainment or in areas that are unclassifiable for any criteria air pollutant.

As demonstrated above, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

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). 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 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 storage tank operations.

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

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

Ethanol is the only pollutant that will be emitted by the proposed wine tanks. Ethanol is not a Toxic Air Contaminant (TAC) 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 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 all facilities with fermentation emissions in excess of 10 tons-VOC/year. The storage tank provisions of this rule apply to all tanks with capacity in excess of 5,000 gallons.

Section 5.1 requires the winery operator achieve Required Annual Emissions Reductions (RAER) equal to at least 35% of the winery's Baseline Fermentation Emissions (BFE). Per the definition of RAER in Section 3.25 of the Rule, the RAER may be achieved by any combination of Fermentation Emission Reductions (FER), Certified Emission Reductions (CER) or District Obtained Emission Reductions (DOER) as established in the facility's District-approved Rule 4694 Compliance Plan. Since the proposed tanks will be used only for storage, this section is not applicable; therefore, no further discussion is required.

Section 5.2 places specific restrictions on wine storage tanks with 5,000 gallons or more in capacity when such tanks are not constructed of wood or concrete. Section 5.2.1 requires these tanks to be equipped and operated with a pressure-vacuum relief valve meeting all of the following requirements:

- The pressure-vacuum relief valve shall operate within 10% of the maximum allowable working pressure of the tank,
- The pressure-vacuum relief valve shall operate in accordance with the manufacturer's instructions, and
- The pressure-vacuum relief valve shall be permanently labeled with the operating pressure settings.
- 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.

The following conditions will be listed on the permits for stainless steel tanks ≥ 5,000 gallons in capacity and used for storage to ensure compliance with the requirements of Section 5.2.1:

- 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 Rules 2201 and 4694]
- 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 Rules 2201 and 4694]

19

Section 5.2.2 requires that the temperature of the stored wine be maintained at or below 75° F. The following condition will be placed on the permits for stainless steel tanks ≥ 5,000 gallons in capacity and used for storage to ensure compliance with the requirements of Section 5.2.2:

- The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rule 4694]

Every three years, Section 6.1 and 6.2 require facilities with fermentation operations to submit a Three-Year Compliance Plan and a Three-Year Compliance Plan Verification respectively. The proposed tanks in this project are only for wine storage and since these sections are not applicable to wine storage operations, no further discussion is required.

Section 6.4 requires that records required by this rule be maintained, retained on-site for a minimum of five years, and made available to the APCO upon request. The following condition will be listed on each permit to ensure on-going compliance with this section:

- 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 2201 and 4694]

Section 6.4.1 requires that records be kept for each fermentation batch. Since the proposed tanks will be used only for storage, this section is not applicable.

Section 6.4.2 requires that weekly records be kept of wine volume and temperature in each storage tank. The following conditions will be listed on the permit for each storage tank to ensure compliance with the requirements of Section 6.4.2:

- The operator shall determine and record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694]

Section 6.4.3 requires that all monitoring be performed for any Certified Emission Reductions as identified in the facility's Three-Year Compliance Plan and that the records of all monitoring be maintained. Since this requirement is for operators mitigation fermentation emission and the proposed tanks are only for wine storage operations, this section is not applicable to wine tanks in this project. Therefore, no further discussion is required.

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. In addition, the proposed project will not result in an increase in Toxic Air Contaminants. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

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

San Joaquin County is the public agency having principal responsibility for approving the project. As such, San Joaquin County served as the Lead Agency (CCR §15367). In approving the project, the Lead Agency prepared and adopted a Negative Declaration. The Lead agency filed a Notice of Determination, stating that the environmental document was adopted pursuant to the provisions of CEQA and concluding that the project would not have a significant effect on the environment.

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), (CCR §15381). As a Responsible Agency the District complies with CEQA by considering the environmental document prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project (CCR §15096).

The District has considered the Lead Agency's environmental document and finds that it adequately characterizes the project's potential impact on air quality. In addition, the District has conducted an engineering evaluation of the project, this document, which demonstrates that all feasible and cost-effective control measures to reduce potential impacts on air quality resulting from project related stationary source emissions have been applied to the project as part of BACT. Thus, the District finds that through a combination of project design elements, compliance with applicable District rules and regulations, and compliance with District air permit conditions, project specific stationary source emissions would be reduced to lessen the impacts on air quality. The District does not have authority over any of the other project impacts and has, therefore, determined that no additional findings are required (CEQA Guidelines §15096(h)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATCs N-2321-801-0, -802-0, -803-0, -804-0, -805-0, -806-0, & -807-0 subject to the permit conditions on the attached draft ATC in Appendix D.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-2321-801-0	3020-05-F	652,000 gallon storage tank	$301.00
N-2321-802-0	3020-05-F	652,000 gallon storage tank	$301.00
N-2321-803-0	3020-05-F	652,000 gallon storage tank	$301.00
N-2321-804-0	3020-05-F	652,000 gallon storage tank	$301.00
N-2321-805-0	3020-05-E	108,000 gallon storage tank	$246.00
N-2321-806-0	3020-05-E	108,000 gallon storage tank	$246.00
N-2321-807-0	3020-05-E	108,000 gallon storage tank	$246.00

Appendixes

A: Winery Potential Emissions Increase Calculations
B: BACT Guideline 5.4.13 and Top-Down BACT Analysis
C: Compliance Certification
D: Draft ATC Permits

APPENDIX A
Winery Potential Emissions Increase Calculations

Winery Potential Emissions Increase Calculations

The purpose of the following calculations is solely to determine if the proposed project will trigger SB 288 Major Modification or Federal Major Modification. The increase (or difference) in emissions are calculated below using the current emission factors for wine tanks from District FYI-114. The facility has an existing specific limiting condition (SLC) that limits the total VOC emissions from all wine fermentation and storage operations at the facility to no more than 1,167,178 pounds of VOC per year for[1]. The existing SLC will not be changed with the addition of the seven (7) new wine storage tanks proposed under this project.

1. Potential to Emit (existing tanks)

The potential annual VOC emissions from the existing fermentation and storage operations at this winery are determined as follows:

White Wine Fermentation

$W1 = C \times D_w \times M$ (limited by crusher capacity)
$W2 = P \times D_w \times M$ (limited by pressing capacity)
$W3 = (V_{FW} \times D_w)/W_{FW}$ (limited by white fermenter volume)
$W4 = (V_T \times D_w)/R_{TW}$ (limited by overall tank processing)

Where:

C = grape crushing capacity
= 13,200 tons/day (per engineering evaluation N-1092377)
D_w = days in a white wine crush season
= 120 days
M = amount of juice produced per ton of grapes crushed
= 200 gal/ton
P = pressing capacity
= 8,400 tons/day (per engineering evaluation N-1092377)
W_{FW} = white fermentation period
= 10 days
R_{TW} = total winery retention time for white wine
= 40 days + 10 days = 50 days
V_{FW} = total volume of white wine fermenters
= 55,433,318 gal (per Project N-1130204)
V_T = total winery cooperage
= 55,504,890 gal (Project N-1130204 post-project cooperage)

Using the above parameters,

$W1 = (13,200 \times 120 \times 200)$ = 316.80×10^6 gal/year
$W2 = (8,400 \times 120 \times 200)$ = 201.60×10^6 gal/year
$W3 = (55,433,318 \times 120) / 10$ = 665.20×10^6 gal/year
$W4 = (55,504,890 \times 120) / 50$ = 133.212×10^6 gal/year

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[1] The calculation presented in this appendix differs from the SLC due to revised emission factors in FYI-114.

CBUS Ops Inc. is requesting to install seven new wine storage tanks. These tanks will result an increase facility's storage capacities, and no changes to the facility's fermentation, crushing or pressing capacities. Therefore crushing capacity and pressing capacity (W1 and W2) are not considered from the analysis. Only the fermenter volume and overall tank processing (W3 and W4) are compared.

$$W_W = W4 \text{ (lesser of W3, W4)}$$
$$= 133.212 \times 10^6 \text{ gal/year}$$

The potential white wine fermentation emissions would be:

$$PE1_{white} = E_{fw} \times W_W$$

Where:
E_{fw} = white wine emission factor
= 2.5 lb-VOC/1,000 gal (per District FYI-114)

$$PE1_{white} = (2.5 \text{ lb-VOC/1,000 gal}) \times (133.212 \times 10^6 \text{ gal/yr})$$
$$= 333,030 \text{ lb-VOC/year}$$

White Wine Storage Emissions:
Storage emissions are calculated as follows:

$$PE1_{white} = E_s \times T \times W_w$$

Where:
E_s = wine storage emission factor based on District FYI-114 (6/13/12). The existing tanks allow them to store up to 20% alcohol by volume. Thus, E_s is equal to 0.175 lb-VOC/1,000 gal.
T = total post fermentation inter-tank transfers per batch of wine
= 8
W_w = 133.212 x 10^6 gal/year (determined above)

$$PE1_{white} = (0.175 \text{ lb-VOC/1,000 gal}) \times (8) \times (133.212 \times 10^6 \text{ gal/year})$$
$$= 186,497 \text{ lb-VOC/year}$$

Total PE1 for White Wine Production:
Potential emissions from 100% white wine production scenario are then determined as follows:

$$PE1_{white} = PE1_{white\ fermentation} + PE1_{white\ storage}$$
$$= 333,030 \text{ lb-VOC/year} + 186,497 \text{ lb-VOC/year}$$
$$= 519,527 \text{ lb-VOC/year}$$

Red Wine Fermentation Emissions:

$W1 = C \times D_r \times M$ (limited by crusher capacity)
$W2 = P \times D_r \times M$ (limited by pressing capacity)
$W3 = (V_{FR} \times F \times D_r)/R_{FR}$ (limited by red fermenter volume)
$W4 = (V_T \times D_r)/R_{TS}$ (limited by overall tank processing)

Where:

C = grape crushing capacity
= 13,200 tons/day
D_r = days in a red wine crush season
= 120 days
F = Fill factor for red wine fermentation
= 80%
M = amount of juice produced per ton of grapes crushed
= 200 gal/ton
P = pressing capacity
= 8,400 tons/day
R_{FR} = red fermentation period
= 5 days
R_{TW} = total winery retention time for white wine
= 40 days + 5 days = 45 days
V_{FW} = total volume of red wine fermenters
= 55,433,318 gal
V_T = total winery cooperage
= 55,504,890 gal

Using the above parameters,

$W1 = (13,200 \times 120 \times 200)$ = 316.80×10^6 gal/year
$W2 = (8,400 \times 120 \times 200)$ = 201.60×10^6 gal/year
$W3 = (55,433,318 \times 0.8 \times 120) / 5$ = $1,064.32 \times 10^6$ gal/year
$W4 = (55,504,890 \times 120) / 45$ = 148.013×10^6 gal/year

CBUS Ops Inc. is requesting to install seven new wine storage tanks. These tanks will result an increase facility's storage and fermentation capacities, and no changes to the facility's crushing and pressing capacities. Therefore, crushing capacity and pressing capacity (W1 and W2) are not considered from the analysis. Only the fermenter volume and overall tank processing (W3 and W4) are compared.

W_R = W4 (lesser of W3, W4)
= 148.013×10^6 gal/yr

The potential red wine fermentation emissions would be:

$PE1_{red} = E_{fr} \times W_R$

Where:
E_{fr} = red wine emission factor

$$= 6.2 \text{ lb-VOC}/1,000 \text{ gal (per District FYI-114)}$$

$$PE1_{red} = (6.2 \text{ lb-VOC}/1,000 \text{ gal}) \times (148.013 \times 10^6 \text{ gal/yr})$$
$$= 917,681 \text{ lb-VOC/year}$$

Red Wine Storage Emissions:

Storage emissions are calculated as follows:

$$PE1_{red} = E_s \times T \times W_R$$

Where:

E_s = wine storage emission factor based on District FYI-114 (6/13/12). The existing tanks allow them to store up to 20% alcohol by volume. Thus, Es is equal to 0.175 lb-VOC/1,000 gal.

T = total post fermentation inter-tank transfers per batch of wine
= 8

W_R = 148.013×10^6 gal/yr (determined above)

$$PE1_{red} = (0.175 \text{ lb-VOC}/1,000 \text{ gal}) \times (8) \times (148.013 \times 10^6 \text{ gal/yr})$$
$$= 207,218 \text{ lb-VOC/year}$$

Total PE1 for Red Wine Production:

Potential emissions from 100% red wine production scenario are then determined as follows:

$$PE1_{red} = PE1_{red\ fermentation} + PE1_{red\ storage}$$
$$= 917,681 \text{ lb-VOC/year} + 207,218 \text{ lb-VOC/year}$$
$$= 1,124,899 \text{ lb-VOC/year}$$

Summary:

The facility's pre-project emissions potential for fermentation and storage operations is then taken to be the greater of the white or red emissions potential determined above.

$$PE1 = \text{greater of } PE1_{white} \text{ or } PE1_{red}$$
$$= \mathbf{1,124,899\ lb\text{-}VOC/year}$$

2. Potential to Emit (existing tanks plus new tanks)

The potential annual VOC emissions from the existing fermentation and storage operations and the proposed tanks at this winery are determined as follows:

White Wine Fermentation

$W1 = C \times D_w \times M$ (limited by crusher capacity)
$W2 = P \times D_w \times M$ (limited by pressing capacity)
$W3 = (V_{FW} \times D_w)/W_{FW}$ (limited by white fermenter volume)
$W4 = (V_T \times D_w)/R_{TW}$ (limited by overall tank processing)

Where:
C = grape crushing capacity

$\qquad$ = 13,200 tons/day
D_W = days in a white wine crush season
$\qquad$ = 120 days
M = amount of juice produced per ton of grapes crushed
$\qquad$ = 200 gal/ton
P = pressing capacity
$\qquad$ = 8,400 tons/day
W_{FW} = white fermentation period
$\qquad$ = 10 days
R_{TW} = total winery retention time for white wine
$\qquad$ = 40 days + 10 days = 50 days
V_{FW} = total volume of white wine fermenters
$\qquad$ = 55,433,318 gal
V_T = total winery cooperage
$\qquad$ = 58,436,890 gal

Using the above parameters,

$$W1 = (13{,}200 \times 120 \times 200) \quad = \quad 316.80 \times 10^6 \text{ gal/year}$$
$$W2 = (8{,}400 \times 120 \times 200) \quad = \quad 201.60 \times 10^6 \text{ gal/year}$$
$$W3 = (55{,}433{,}318 \times 120) / 10 \quad = \quad 665.20 \times 10^6 \text{ gal/year}$$
$$W4 = (58{,}436{,}890 \times 120) / 50 \quad = \quad 140.249 \times 10^6 \text{ gal/year}$$

CBUS Ops Inc. is requesting to install seven new wine storage tanks. These tanks will result an increase facility's storage and fermentation capacities, and no changes to the facility's crushing and pressing capacities. Therefore, crushing capacity and pressing capacity (W1 and W2) are not considered from the analysis. Only the fermenter volume and overall tank processing (W3 and W4) are compared.

$$W_W = W4 \text{ (lesser of W3, W4)}$$
$$= 140.249 \times 10^6 \text{ gal/year}$$

The potential white wine fermentation emissions would be:

$$PE2_{white} = E_{fw} \times W_W$$

Where:
$\qquad E_{fw}$ = white wine emission factor
$\qquad\qquad$ = 2.5 lb-VOC/1,000 gal (per District FYI-114)

$$PE2_{white} = (2.5 \text{ lb-VOC/1,000 gal}) \times (140.249 \times 10^6 \text{ gal/yr})$$
$$= 350{,}623 \text{ lb-VOC/year}$$

White Wine Storage Emissions:
Storage emissions are calculated as follows:

$PE2_{white} = E_s \times T \times W_w$

Where:

E_s = wine storage emission factor based on District FYI-114 (6/13/12). The tanks are allowed to store up to 20% alcohol by volume. Thus, Es is equal to 0.175 lb-VOC/1,000 gal.

T = total post fermentation inter-tank transfers per batch of wine
= 8

W_w = 140.249 x 10^6 gal/year (determined above)

$PE2_{white}$ = (0.175 lb-VOC/1,000 gal) × (8) × (140.249 x 10^6 gal/year)
= 196,349 lb-VOC/year

Total PE2 for White Wine Production:

Potential emissions from 100% white wine production scenario are then determined as follows:

$PE2_{white}$ = $PE2_{white\ fermentation}$ + $PE2_{white\ storage}$
= 350,623 lb-VOC/year + 196,349 lb-VOC/year
= 546,972 lb-VOC/year

Red Wine Fermentation Emissions:

$W1 = C \times D_r \times M$ (limited by crusher capacity)
$W2 = P \times D_r \times M$ (limited by pressing capacity)
$W3 = (V_{FR} \times F \times D_r)/R_{FR}$ (limited by red fermenter volume)
$W4 = (V_T \times D_r)/R_{TS}$ (limited by overall tank processing)

Where:

C = grape crushing capacity
= 13,200 tons/day

D_r = days in a red wine crush season
= 120 days

F = Fill factor for red wine fermentation
= 80%

M = amount of juice produced per ton of grapes crushed
= 200 gal/ton

P = pressing capacity
= 8,400 tons/day

R_{FR} = red fermentation period
= 5 days

R_{TW} = total winery retention time for white wine
= 40 days + 5 days = 45 days

V_{FW} = total volume of red wine fermenters
= 55,433,318 gal

V_T = total winery cooperage
= 58,436,890 gal

Using the above parameters,

$W1 = (13,200 \times 120 \times 200)$ = 316.80×10^6 gal/year
$W2 = (8,400 \times 120 \times 200)$ = 201.60×10^6 gal/year
$W3 = (55,433,318 \times 0.8 \times 120) / 5$ = $1,064.32 \times 10^6$ gal/year
$W4 = (58,436,890 \times 120) / 45$ = 155.832×10^6 gal/year

CBUS Ops Inc. is requesting to install seven new wine storage tanks. These tanks will result an increase facility's storage and fermentation capacities, and no changes to the facility's crushing and pressing capacities. Therefore, crushing capacity and pressing capacity (W1 and W2) are not considered from the analysis. Only the fermenter volume and overall tank processing (W3 and W4) are compared.

W_R = W4 (lesser of W3, W4)
    = 155.832×10^6 gal/year

The post-project potential red wine fermentation emissions would be:

$PE2_{red} = E_{fr} \times W_R$

Where:
    E_{fr} = red wine emission factor
        = 6.2 lb-VOC/1,000 gal (per District FYI-114)

$PE2_{red}$ = (6.2 lb-VOC/1,000 gal) $\times$ (155.832×10^6 gal/yr)
        = 966,158 lb-VOC/year

Red Wine Storage Emissions:
Storage emissions are calculated as follows:

$PE2_{red} = E_s \times T \times W_R$

Where:
    E_s = wine storage emission factor based on District FYI-114 (6/13/12). The tanks are allowed to store up to 20% alcohol by volume. Thus, Es is equal to 0.175 lb-VOC/1,000 gal.
    T = total post fermentation inter-tank transfers per batch of wine
        = 8
    W_R = 155.832×10^6 gal/yr (determined above)

$PE2_{red}$ = (0.175 lb-VOC/1,000 gal) $\times$ (8) $\times$ (155.832×10^6 gal/yr)
        = 218,165 lb-VOC/year

Total PE2 for Red Wine Production:
Potential emissions from 100% red wine production scenario are then determined as follows:

$PE2_{red}$ = $PE2_{red \; fermentation}$ + $PE2_{red \; storage}$

$\quad$ = 966,158 lb-VOC/year + 218,165 lb-VOC/year

$\quad$ = 1,184,323 lb-VOC/year

Summary:

The facility's post-project emissions potential for fermentation and storage operations is then taken to be the greater of the white or red emissions potential determined above.

$PE2$ $\quad$ = greater of $PE2_{white}$ or $PE2_{red}$

$\quad\quad$ **= 1,184,323 lb-VOC/year**

3. Potential to Emit (new tanks)

The potential emissions from new tanks would be calculated as the difference between the post project and pre project potential emissions based on physical capacity. Thus,

Potential Emissions Based on Physical Capacity of Wine Processing Equipment	
Category	Total (lb-VOC/yr)
Pre Project	1,124,899
Post Project	1,184,323
$PE2_{NewTanks}$	**59,424**

APPENDIX B
BACT Guideline 5.4.13 and Top-Down BACT Analysis

SJVAPCD Best Available Control Technology (BACT) Guideline 5.4.13*
Last Update 10/6/2009

Wine Storage Tank

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
VOC	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; and continuous storage temperature not exceeding 75 degrees F, achieved within 60 days of completion of fermentation.	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. Capture of VOCs and condensation or equivalent (70% control)	

** *Tanks made of heat-conducting materials such as stainless steel may be insulated or stored indoors (in a completely enclosed building, except for vents, doors and other essential openings) to limit exposure ot diurnal temperature variations. Tanks made entirely of non-conducting materials such as concrete and wood (except for fittings) are considered self-insulating.*

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 s 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

BACT Guideline 5.4.13

Top-Down BACT Analysis for VOCs from Wine Storage Operations

Step 1 - Identify All Possible Control Technologies

The SJVUAPCD BACT Clearinghouse guideline 5.4.13, identifies achieved in practice and technologically feasible BACT for wine storage tanks as follows:

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; and continuous storage temperature not exceeding 75 degrees F, achieved within 60 days of completion of fermentation.
2) Capture of VOCs and thermal or catalytic oxidation or equivalent (98% control)
3) Capture of VOCs and carbon adsorption or equivalent (95% control)
4) Capture of VOCs and absorption or equivalent (90% control)
5) Capture of VOCs and condensation or equivalent (70% control)

   **Tanks made of heat-conducting materials such as stainless steel 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. Tanks made entirely of non-conducting materials such as concrete and wood (except for fittings) are considered self-insulating.

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Rank by Control Effectiveness			
Rank	Option	Control	Overall Capture & Control Efficiency[2]
1	2	Capture of VOCs and thermal or catalytic oxidation or equivalent	98%
2	3	Capture of VOCs and carbon adsorption or equivalent	95%
3	4	Capture of VOCs and absorption or equivalent	90%
4	5	Capture of VOCs and condensation or equivalent	70%
5	1	Insulation or Equivalent, Pressure Vacuum Relief Valve (PVRV) set within 10% of the maximum allowable working pressure of the tank; "gas-tight" tank operation; and continuous storage temperature not exceeding 75 degrees F, achieved within 60 days of completion of fermentation	0% Baseline (Achieved-in-Practice)

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[2] Relative to "industry standard"

Step 4 - Cost Effectiveness Analysis

A cost-effective analysis is performed for each control technology which is more effective than meeting the requirements of District Rule 4694 plus tank insulation (achieved-in-practice BACT), as proposed by the facility.

Collection System Capital Investment (based on ductwork)

A common feature of all thermal or catalytic oxidation and 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.

Bases of Cost Information:
- The costs for the ductwork and the required clean-in-place system are based on information from the 2005 Eichleay Study and Projects C-1103740 and N-1133659. The 2005 Eichleay study was used in development of District Rule 4694 Wine Fermentation and Storage Tanks and includes substantial information on the costs and details of the potential application of VOC controls to wineries and addresses many of the technical issues of the general site specific factors for wineries.
- The proposed 652,000 gallon storage tanks and 108,000 gallon storage tanks are located in different areas of the facility and will therefore require separate ducting and control systems
- The collection system will consist of stainless steel place ductwork (stainless steel is required due to food grade product status) with isolation valving, connecting the 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 will be twelve inches in diameter at each 652,000 gallon tank and six inches in diameter at each 108,000 gallon tank to provide adequate strength for spanning between supports. The main header is twelve inches in diameter for the four 652,000 gallon tanks and six inches in diameter for the three 108,000 gallon tanks.
- A ducting system for winery tanks must include a Clean-in-Place (CIP) system to maintain sanitation and quality of the product. The CIP system consists of spray nozzles placed in specific locations in the ductwork for injecting sterilizing solutions into the system. 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. These costs may be significant.

Capital Cost of Ductwork for Four 652,000 Gallon Wine Storage Tanks

Connection from tanks to main duct = 4 tanks x 32 feet x $143.80/foot = $18,406
Main duct to control device = 195 feet x $143.80/foot = $28,041
Redundant main duct to control device = $28,041
Unit installed cost for 6 inch butterfly valve = $2,125/valve x 4 valves = $8,500
Unit installed cost one foot removable spool = $500/tank x 4 tanks = $2,000
Knockout drum = $46,300
Duct support allowance = $4,000/tank x 4 tanks = $16,000
Pipe support allowance 90 foot pipe bridge = $90,000

Total = $18,406 + 28,041 x 2 + $8,500 + $2,000 + $46,300 + $16,000 + $90,000 = $237,288

Capital Cost of Ductwork for Four 652,000 gal Wine Storage Tanks	
Cost Description	Cost ($)
Duct Estimate from Eichleay Study 2005 Data	$237,288
Adjusting factor from 2005 dollars to 2014 dollars (3% inflation per year)	1.305
Inflation adjusted duct cost	$309,661
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
Direct Costs (DC)	
Base Equipment Costs (Ductwork) See Above	$309,661
Instrumentation 10%	$30,966
Sales Tax 3%	$9,290
Freight 5%	$15,483
Purchased equipment cost	**$365,400**
Foundations & supports 8%	$29,232
Handling & erection 14%	$51,156
Electrical 4%	$14,616
Piping 2%	$7,308
Painting 1%	$3,654
Insulation 1%	$3,654
Direct installation costs	**$109,620**
Total Direct Costs	**$475,020**
Indirect Costs (IC)	
Engineering 10%	$36,540
Construction and field expenses 5%	$18,270
Contractor fees 10%	$36,540
Start-up 2%	$7,308
Performance test 1%	$3,654
Contingencies 3%	$10,962
Total Indirect Costs	**$113,274**
Total Capital Investment (TCI) (DC + IC)	**$588,294**

Capital Cost Clean-In-Place (CIP) System

A ducting system for winery tanks 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.

Clean-In-Place (CIP) System	
Cost Description	Cost ($)
2013 cost of CIP system	$200,000
The following cost data is taken from EPA Control Cost Manual, Sixth Edition	

Clean-In-Place (CIP) System	
(EPA/452/B-02-001).	
Direct Costs (DC)	
Base Equipment Costs (CIP System) See Above	$200,000
Instrumentation 10%	$20,000
Sales Tax 3%	$6,000
Freight 5%	$10,000
Purchased equipment cost	**$236,000**
Foundations & supports 8%	$18,880
Handling & erection 14%	$33,040
Electrical 4%	$9,440
Piping 2%	$4,720
Painting 1%	$2,360
Insulation 1%	$2,360
Direct installation costs	**$70,800**
Total Direct Costs	**$306,800**
Indirect Costs (IC)	
Engineering 10%	$23,600
Construction and field expenses 5%	$11,800
Contractor fees 10%	$23,600
Start-up 2%	$4,720
Performance test 1%	$2,360
Contingencies 3%	$7,080
Total Indirect Costs	**$73,160**
Total Capital Investment (TCI) (DC + IC)	**$379,960**

Annualized Capital Costs of Ductwork and CIP System for Four 652,000 Gallon Wine Storage Tanks

Two CIP systems are required for a redundant ducting system.

Total capital costs = Ductwork + CIP System (x 2)
= $588,294 + $379,960 x 2
= $1,348,214

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

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

Therefore,

Annualized Capital Investment = $1,348,214 x 0.163 = $219,759

Capital Cost of Ductwork for Three 108,000 Gallon Wine Storage Tanks

Connection from tanks to main duct = 3 tanks x 15 feet x $61.30/foot = $2,759
Main duct to control device = 160 feet x $61.30/foot = $9,808
Unit installed cost for 6 inch butterfly valve = $2,125/valve x 3 valves = $6,375
Unit installed cost one foot removable spool = $500/tank x 3 tanks = $1,500
Knockout drum = $46,300
Duct support allowance = $4,000/tank x 3 tanks = $12,000
Pipe support allowance 90 foot pipe bridge = $90,000

Total = $2,579 + 9,808 + $6,375 + $1,500 + $46,300 + $12,000 + $90,000 = $165,983

Capital Cost of Ductwork for Three 108,000 gal Wine Storage Tanks	
Cost Description	Cost ($)
Duct Estimate from Eichleay Study 2005 Data	$165,983
Adjusting factor from 2005 dollars to 2014 dollars (3% inflation per year)	1.305
Inflation adjusted duct cost	$216,608
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
Direct Costs (DC)	
Base Equipment Costs (Ductwork) See Above	$216,608
Instrumentation 10%	$21,661
Sales Tax 3%	$6,498
Freight 5%	$10,830
Purchased equipment cost	**$255,597**
Foundations & supports 8%	$20,448
Handling & erection 14%	$35,784
Electrical 4%	$10,224
Piping 2%	$5,112
Painting 1%	$2,556
Insulation 1%	$2,556
Direct installation costs	**$76,680**
Total Direct Costs	**$332,277**
Indirect Costs (IC)	
Engineering 10%	$25,560
Construction and field expenses 5%	$12,780
Contractor fees 10%	$25,560
Start-up 2%	$5,112
Performance test 1%	$2,556
Contingencies 3%	$7,668
Total Indirect Costs	**$79,236**
Total Capital Investment (TCI) (DC + IC)	**$411,513**

Capital Cost Clean-In-Place (CIP) System

As given above, the total capital investment cost for CIP system is assumed to be $379,960

Annualized Capital Costs of Ductwork and CIP System for Three 108,000 Gallon Wine Storage Tanks

Total capital costs = Ductwork + CIP System
= $411,513 + $379,960
= $791,473

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

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

Therefore,

Annualized Capital Investment = $791,473 x 0.163 = $129,010

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

The balanced chemical equation for combustion of ethanol is shown below.
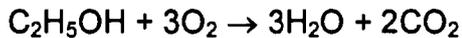
$C_2H_5OH + 3O_2 \rightarrow 3H_2O + 2CO_2$

Control by Thermal or Catalytic Oxidation for Proposed Four 652,000 Gallon Wine Storage Tanks

The total capital investment costs and operating costs for Regenerative Thermal Oxidizer (RTO) used in this evaluation are based on the information given in Project N-1133659, which began the initial public notice period on April 7, 2014. The RTO in Project N-1133659 was evaluated for the control of 24 56,000 gallon control wine fermentation tanks with a total potential to emit of 84,864 lb-VOC/yr. The total potential to emit for the proposed four 652,000 gallon wine storage tanks evaluated under this project is 52,324 lb-VOC/yr, which is approximately 62% of the emissions evaluated for control under Project N-1133659. Therefore, the capital and utility costs given in Project N-1133659 will be adjusted by a factor of 0.6 for purposes of this analysis. This is considered a conservative estimate since generally there would be greater costs per the amount of pollution controlled for the smaller unit based on economies of scale.

Estimated Total Capital Investment for RTO: $436,103

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

Therefore,
Annualized Capital Investment = $436,103 x 0.163 = $71,085

Fuel Cost = $214,434/year

Electricity Cost = $2,895/year

Total Operation and Maintenance Costs

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

Annual Costs for Thermal or Catalytic Incinerator			
Operator	0.5 h/shift	$18.5/h x 0.5 h x 365 days/yr	$3,376
Supervisor	15% of operator		$506
Maintenance			
Labor	0.5 h/shift	$18.5/h x 0.5 h x 365 days/yr	$3,376
Material	100% of labor		$3,376
Utility			
Natural Gas			$214,434
Electricity			$2,895
Indirect Annual Cost (IC)			
Overhead	60% of Labor Cost	0.6 x ($3,376 + $506 + $3,376)	4,355
Administrative Charge	2% TCI		$8,722
Property Taxes	1% TCI		$4,361
Insurance	1% TCI		$4,361
Total Annual Cost			249,762

Total Annual Cost

Total Annual Cost = (Ductwork + CIP System) + Regenerative Thermal Oxidizer System + Annual Cost
= $219,759 + $71,085 + $249,762
= $540,606

Emission Reductions

Annual VOC Emission Reductions   = Annual PE x 0.98
= 52,324 lb-VOC/year x 0.98
= 51,278 lb-VOC/year
= 25.64 tons-VOC/year

Cost Effectiveness

Cost Effectiveness = Total Annual Cost ÷ Annual Emission Reductions

Cost Effectiveness   = $540,606/year ÷ 25.64 tons-VOC/year
= $21,084/ton-VOC

The analysis demonstrates that the annualized purchase cost of the collection system ductwork, CIP system equipment, and regenerative thermal oxidizer system and the annual costs of a regenerative thermal oxidizer system result in costs that exceed the District's BACT Cost Effectiveness Threshold for VOC of $17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for the four proposed 652,000 gallon wine storage tanks evaluated under this project.

Control by Thermal or Catalytic Oxidation for Proposed Three 108,000 Gallon Wine Storage Tanks

The following analysis demonstrates that the cost of the ductwork alone for the three proposed 108,000 gallon wine storage tanks causes this option to exceed the District's BACT Cost Effectiveness Threshold for VOC; therefore, the capitol and annual operating costs of the control device did not need to be considered for these tanks.

Annualized Total Capital Investment Cost for Ductwork + CIP System
= $129,010

Emission Reductions

Annual VOC Emission Reductions
= Annual PE x 0.98
= 13,041 lb-VOC/year x 0.98
= 12,780 lb-VOC/year
= 6.39 tons-VOC/year

Cost Effectiveness

Cost Effectiveness = Annual Cost ÷ Annual Emission Reductions

Cost Effectiveness = $129,010/year ÷ 6.39 tons-VOC/year
= $20,189/ton-VOC

The analysis demonstrates that the annualized purchase cost of the collection system ductwork and CIP equipment alone results in costs that exceed the District's BACT Cost Effectiveness Threshold for VOC of $17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for the three proposed 108,000 gallon wine storage tanks evaluated under this project.

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

Control by Carbon Adsorption for Proposed Four 652,000 Gallon Wine Storage Tanks

The total capital investment costs for the carbon adsorption system used in this evaluation are based on the information given in Project N-1133659, which began the initial public notice period on April 7, 2014. The carbon adsorption system in Project N-1133659 was evaluated for the control of 24 56,000 gallon control wine fermentation tanks with a total potential to emit of 84,864 lb-VOC/yr. The total potential to emit for the proposed four 652,000 gallon wine storage tanks evaluated under this project is 52,324 lb-VOC/yr, which is approximately 62% of the emissions evaluated for control under Project N-1133659. Therefore, the flow rate given in

Project N-1133659 for the carbon adsorption system will be adjusted by a factor of 0.6 for purposes of this analysis.

Estimated Flow rate for Carbon Adsorption System: 4,156 cfm

Carbon Adsorption

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

The Carbon Containment hardware is about equal to the scrubber hardware. A tank is needed for the steam regenerated carbon bed. It is likely two beds will be needed to be able to be on line with one bed while the other is being regenerated.

The carbon bed operated with steam to regenerate the bed produces a water alcohol mixture. The waste stream or disposal costs have not been analyzed in this project.

Carbon Capital Cost

Annual VOC Emission Reductions $= PE \times 0.95$
$= 52,324 \text{ lb-VOC/year} \times 0.95$
$= 49,708 \text{ lb-VOC/year}$
$= 24.85 \text{ tons-VOC/year}$

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

Carbon required $= 49,708 \text{ lb-VOC/year} \times 1/0.20$
$= 248,540 \text{ lb-carbon}$

Carbon capital cost = $1.00/lb = $1.00/lb $\times$ 248,540 lb-carbon = $248,540

Carbon Adsorption	
Cost Description	Cost ($)
Carbon Adsorption cost (taken from Scrubber cost above 2003 dollars)	$108,500
Adjusting factor from 2003 dollars to 2014 dollars (3% inflation/year)	1.384
Inflation adjusted Carbon Adsorption cost	$150,164
Gas flow rate scfm	4,156
Size adjusted Carbon Adsorption cost [150,164 x (4,156÷750)$^{0.6}$]	$419,502
Water alcohol tank cost	$40,000
Size adjusted Carbon Adsorption + water alcohol tank cost	$459,502
Carbon Capital Cost (see above)	$248,540
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	

Carbon Adsorption	
Direct Costs (DC)	
Base Equipment Costs (Carbon Adsorption System + Carbon) See Above	$708,042
Instrumentation 10%	$70,804
Sales Tax 3%	$21,241
Freight 5%	$35,402
Purchased equipment cost	**$835,489**
Foundations & supports 8%	$66,839
Handling & erection 14%	$116,968
Electrical 4%	$33,420
Piping 2%	$16,710
Painting 1%	$8,355
Insulation 1%	$8,355
Direct installation costs	**$250,647**
Total Direct Costs	**$1,086,136**
Indirect Costs (IC)	
Engineering 10%	$83,549
Construction and field expenses 5%	$41,774
Contractor fees 10%	$83,549
Start-up 2%	$16,710
Performance test 1%	$8,355
Contingencies 3%	$25,065
Total Indirect Costs	**$259,002**
Total Capital Investment (TCI) (DC + IC)	**$1,345,138**

Annualized Capital Costs

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

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

Therefore,
Annualized Capital Investment = $1,345,138 x 0.163 = $219,257

Total Annualized Cost

Total Annual Cost = (Ductwork + CIP System) + Carbon Adsorption System Cost
= $219,759 + $219,257
= $439,016

Emission Reductions

Annual VOC Emission Reductions   = PE x 0.95
          = 52,324 lb-VOC/year x 0.95
          = 49,708 lb-VOC/year
          = 24.85 tons-VOC/year

Cost Effectiveness

Cost Effectiveness = Total Annual Cost ÷ Annual Emission Reductions

Cost Effectiveness   = $439,016/year ÷ 24.85 tons-VOC/year
          = $17,667/ton-VOC

The analysis demonstrates that the annualized purchase cost of the collection system ductwork, CIP system equipment, and carbon adsorption system, not considering annual operating costs, result in costs that exceed the District's BACT Cost Effectiveness Threshold for VOC of $17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for the four proposed 652,000 gallon wine storage tanks evaluated under this project.

Control by Carbon Adsorption for Proposed Three 108,000 Gallon Wine Storage Tanks

The following analysis demonstrates that the cost of the ductwork alone for the three proposed 108,000 gallon wine storage tanks causes this option to exceed the District's BACT Cost Effectiveness Threshold for VOC; therefore, the capitol and annual operating costs did not need to be considered for these tanks.

Annualized Total Capital Investment Cost for Ductwork + CIP System
= $129,010

Emission Reductions

Annual VOC Emission Reductions   = PE x 0.95
          = 13,041 lb-VOC/year x 0.95
          = 12,389 lb-VOC/year
          = 6.19 tons-VOC/year

Cost Effectiveness

Cost Effectiveness = Annual Cost ÷ Annual Emission Reductions

Cost Effectiveness   = $129,010/year ÷ 6.19 tons-VOC/year
          = $20,842/ton-VOC

The analysis demonstrates that the annualized purchase cost of the collection system ductwork and CIP equipment alone results in costs that exceed the District's BACT Cost Effectiveness Threshold for VOC of $17,500/ton-VOC. Therefore this option is not cost-

effective and will not be considered for the three proposed 108,000 gallon wine storage tanks evaluated under this project.

Collection of VOCs and control by absorption (90% collection and control)

Control by Absorption for Proposed Four 652,000 Gallon Wine Storage Tanks

The total capital investment costs for the absorption system used in this evaluation are based on the information given in Project N-1133659, which began the initial public notice period on April 7, 2014. The water scrubber absorption system in Project N-1133659 was evaluated for the control of 24 56,000 gallon control wine fermentation tanks with a total potential to emit of 84,864 lb-VOC/yr. The total potential to emit for the proposed four 652,000 gallon wine storage tanks evaluated under this project is 52,324 lb-VOC/yr, which is approximately 62% of the emissions evaluated for control under Project N-1133659. Therefore, the number of units given in Project N-1133659 for the absorption system will be adjusted by a factor of 0.6 for purposes of this analysis.

Capital Cost Water Scrubber

11 Reactor Units = $60,000 each
Portable Pumping Skids = $7,500 each
Total = $60,000 + $7,500 = $67,500

Total Adjusted Capital Cost = $67,500 x 11 units
= $742,500

Water Scrubber	
Cost Description	Cost ($)
Refrigerated Scrubber System (11 Units)	$742,500
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
Direct Costs (DC)	
Base Equipment Costs (Scrubber System) See Above	$742,500
Instrumentation ($2,000 per unit)	$22,000
Sales Tax 8.225%	$61,071
Freight (included)	-
Purchased equipment cost	**$825,571**
Foundations & supports (not required)	-
Handling & erection 2%	$16,511
Electrical 1%	$8,256
Piping 1%	$8,256
Painting (not required)	-
Insulation (not required)	-
PLC & Programming	110,000
Recovered Ethanol Storage Tank (installed)	$40,000

Water Scrubber	
Direct installation costs	**$183,023**
Total Direct Costs (TDC)	**$1,008,594**
Indirect Costs (IC)	
Engineering (5% of TDC)	$50,430
Construction and field expenses (2% of TDC)	$20,172
Permits (Building Department) (Allowance)	$10,000
Contractor fees (2% of TDC)	$20,172
Start-up (1% of TDC)	$10,086
Source Testing (11 units x $15,000/unit)	$165,000
Owner's Cost (Allowance)	$24,767
Total Indirect Costs	**$300,627**
Subtotal Capital Investment (SCI)	**$1,309,221**
Project Contingency (20% of SCI)	$261,844
Total Capital Investment (TCI) (DC + IC)	**$1,571,065**

Annualized Capital Costs

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

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

Therefore,
Annualized Capital Investment = $1,571,065 x 0.163 = $256,084

Wastewater Disposal Costs

The water scrubber will generate ethanol-laden wastewater containing 23.55 tons (47,092 lbs) of ethanol annually (52,324 lb/year (uncontrolled emissions) x 0.90 ÷ 2000). Assuming a 10% solution, approximately 71,148 gallons of waste water (47,092 lb-ethanol x 1 gal/6.62 lb ÷ 0.10) will be generated annually. Per a system supplier, an allowance of $0.08 per gallon is applied for disposal costs.

Annual disposal costs = 71,136 gallons x $0.08/gallon = $5,691

Annual Costs

Annual Costs for Water Scrubber			
Direct Annual Cost (DC)			
Operating Labor			
Operator	2 hr/day x 11 units x 365 days = 8,030 hr/year	$18.50/h	$148,555
Supervisor	15% of operator		$22,283
Maintenance			
Labor	1% of TCI		$15,711
Wastewater Disposal			
	10% Solution = 71,136 gal	$0.08/gal	$5,691
Utility			
Electricity	11 units x 2.5 hp x 0.746 kW/hp x 8,760 hr/yr = 179,711 kWh/yr	$0.102/kWh	$18,331
Total DC			$210,571
Indirect Annual Cost (IC)			
Overhead	60% of Labor Cost	0.6 x ($148,555 + $22,283 + $15,711)	$111,929
Administrative Charge	2% TCI		$31,421
Property Taxes	1% TCI		$15,711
Insurance	1% TCI		$15,711
Annual Source Test	One representative test/year @ $15,000		$15,000
Total IC			$189,772
Annual Cost (DC + IC)			**$400,343**

Total Annual Cost = Scrubber System Annualized Cost + Annual Operating Costs
= $256,084 + $400,343
= $656,427

Emission Reductions

Annual VOC Emission Reductions = PE x 0.90
= 52,324 lb-VOC/year x 0.90
= 47,092 lb-VOC/year
= 23.55 tons-VOC/year

Cost Effectiveness

Cost Effectiveness = Total Annual Cost ÷ Annual Emission Reductions

Cost Effectiveness = $656,427/year ÷ 23.55 tons-VOC/year
= $27,874/ton-VOC

The analysis demonstrates that the annualized purchase cost of the water scrubber system
and annual operating costs, not considering additional costs that may be required for ductwork,

result in costs that exceed the District's BACT Cost Effectiveness Threshold for VOC of $17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for the four proposed 652,000 gallon wine storage tanks evaluated under this project.

Control by Absorption for Proposed Three 108,000 Gallon Wine Storage Tanks

The following analysis demonstrates that the cost of the ductwork alone for the three proposed 108,000 gallon wine storage tanks causes this option to exceed the District's BACT Cost Effectiveness Threshold for VOC; therefore, the capitol and annual operating costs of the control device did not need to be considered for these tanks.

Annualized Total Capital Investment Cost for Ductwork + CIP System
= $129,010

Emission Reductions

Annual VOC Emission Reductions $\quad = PE \times 0.90$
$= 13,041 \text{ lb-VOC/year} \times 0.90$
$= 11,737 \text{ lb-VOC/year}$
$= 5.87 \text{ tons-VOC/year}$

Cost Effectiveness

Cost Effectiveness = Annual Cost ÷ Annual Emission Reductions

Cost Effectiveness $\quad = \$129,010/\text{year} \div 5.87 \text{ tons-VOC/year}$
$= \$21,978/\text{ton-VOC}$

The analysis demonstrates that the annualized purchase cost of the collection system ductwork and CIP equipment alone results in costs that exceed the District's BACT Cost Effectiveness Threshold for VOC of $17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for the three proposed 108,000 gallon wine storage tanks evaluated under this project.

Collection of VOCs and control by condensation (70% collection and control)

Control by Condensation for Proposed Four 652,000 Gallon Wine Storage Tanks

The total capital investment costs for the condensation system used in this evaluation are based on the information given in Project N-1133659, which began the initial public notice period on April 7, 2014. The water condensation system in Project N-1133659 was evaluated for the control of 24 56,000 gallon control wine fermentation tanks with a total potential to emit of 84,864 lb-VOC/yr. The total potential to emit for the proposed four 652,000 gallon wine storage tanks evaluated under this project is 52,324 lb-VOC/yr, which is approximately 62% of the emissions evaluated for control under Project N-1133659. Therefore, the number of units given in Project N-1133659 for the condensation system and installation costs will be adjusted by a factor of 0.6 for purposes of this analysis. In addition, no value will be given for the ethanol that is recovered from the condensation system since the recovered ethanol has not

been conclusively demonstrated to have a value in practice and could actually result in additional costs for disposal.

Capital Cost Refrigerated Condenser

Capital Cost of Each Condenser Unit = $475,318
Condenser Units required = 2

Total Capital Cost = $475,318 x 2 units
= $950,636

Condensation Units	
Cost Description	Cost ($)
Cost of Refrigerated Condenser system (2 Units)	$950,636
The following cost data is taken from EPA Control Cost Manual, Sixth Edition (EPA/452/B-02-001).	
Direct Costs (DC)	
Base Equipment Costs (Condenser) See Above	$950,636
Instrumentation (included)	-
Sales Tax 8.225% (included)	-
Freight (included)	-
Purchased equipment cost	**$950,636**
Labor (estimate)	$48,960
Installation Expense	$35,505
Subcontracts	$10,800
PLC/Programming	$24,000
Direct installation costs	**$198,775**
Total Direct Costs (TDC)	**$1,149,411**
Indirect Costs (IC)	
Engineering (5% of TDC)	$57,471
Permits (Building Department) (Allowance)	$10,000
Initial Source Testing (2 units x $15,000/unit)	$30,000
Owner's Cost (Allowance)	$60,000
Total Indirect Cost	**$157,471**
Subtotal Capital Investment (SCI)	**$1,306,882**
Project Contingency (20% of SCI)	$261,376
Total Capital Investment (TCI) (DC + IC + Contingency)	**$1,568,258**

Annualized Capital Costs

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

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

Therefore,
Annualized Capital Investment = $1,568,258 x 0.163 = $255,626

Annual Costs

Annual Costs for Condensation Units			
Direct Annual Cost (DC)			
Operating Labor			
Operator	1 hr/shift x 3 shifts/day x 2 units x 365 days = 2,190 hr/year	$18.50/h	$40,515
Supervisor	15% of operator		$6,077
Maintenance			
Labor	1% of TCI		$15,683
Chiller (Glycol)			
	52,324 lb/year (uncontrolled PE) x 0.70 ÷ 2000 = 18.31 ton-EtOH/yr	$270/ton-EtOH	$4,944
Utility			
Electricity		$0.102/kWh	$0
Total DC			$67,219
Indirect Annual Cost (IC)			
Overhead	60% of Labor Cost	0.6 x ($40,515 + $6,077 + $15,683)	$37,365
Administrative Charge	2% TCI		$31,365
Property Taxes	1% TCI		$15,683
Insurance	1% TCI		$15,683
Annual Source Test	One representative test/year @ $15,000		$15,000
Total IC			$115,096
Annual Cost (DC + IC)			**$182,315**

Total Annual Cost = Condenser System Annualized Cost + Annual Operating Costs
= $255,626 + $182,315
= $437,941

Emission Reductions

Annual VOC Emission Reductions   = PE x 0.70
= 52,324 lb-VOC/year x 0.70
= 36,627 lb-VOC/year
= 18.31 tons-VOC/year

Cost Effectiveness

Cost Effectiveness = Total Annual Cost ÷ Annual Emission Reductions

Cost Effectiveness = $437,941/year ÷ 18.31 tons-VOC/year
= $23,918/ton-VOC

The analysis demonstrates that the annualized purchase cost of the condenser cystem and annual operating costs, not considering additional costs that may be required for ductwork, result in costs that exceed the District's BACT Cost Effectiveness Threshold for VOC of $17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for the four proposed 652,000 gallon wine storage tanks evaluated under this project.

Control by Condensation for Proposed Three 108,000 Gallon Wine Storage Tanks

The following analysis demonstrates that the cost of the ductwork alone for the three proposed 108,000 gallon wine storage tanks causes this option to exceed the District's BACT Cost Effectiveness Threshold for VOC; therefore, the capitol and annual operating costs of the control device did not need to be considered for these tanks.

Annualized Total Capital Investment Cost for Ductwork + CIP System
= $129,010

Emission Reductions

Annual VOC Emission Reductions $= PE \times 0.70$
$= 13,041 \text{ lb-VOC/year} \times 0.70$
$= 9,129 \text{ lb-VOC/year}$
$= 4.56 \text{ tons-VOC/year}$

Cost Effectiveness

Cost Effectiveness = Annual Cost ÷ Annual Emission Reductions

Cost Effectiveness $= \$129,010/\text{year} \div 4.56 \text{ tons-VOC/year}$
$= \$28,292/\text{ton-VOC}$

The analysis demonstrates that the annualized purchase cost of the collection system ductwork and CIP equipment alone results in costs that exceed the District's BACT Cost Effectiveness Threshold for VOC of $17,500/ton-VOC. Therefore this option is not cost-effective and will not be considered for the three proposed 108,000 gallon wine storage tanks evaluated under this project.

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, insulated tank, pressure/vacuum valve set within 10% of the maximum allowable working pressure of the tank, "gas tight" tank operation and achieve and maintain a continuous storage temperature not exceeding 75 °F within 60 days of completion of fermentation. These BACT requirements will be listed on the permits as enforceable conditions.

APPENDIX C
Compliance Certification

San Joaquin Valley
Air Pollution Control District

TITLE V COMPLIANCE CERTIFICATION FORM

Received

OCT 2 1 2013

SJVUAPCD

I. TYPE OF PERMIT ACTION (Check appropriate box)

(4) 650K GAL AND (20) 108,000 gallon SS tanks

[ ] ADMIN. MODIFICATION   [X] MINOR. MODIFICATION   [ ] SIGNIFICANT MODIFICATION

COMPANY NAME: CBUS Ops Inc.(DBA Woodbridge Winery)	FACILITY ID: N — 2321

1. Type of Organization: [X] Corporation   [ ] Sole Ownership   [ ] Government   [ ] Partnership   [ ] Utility

2. Owner's Name: CONSTELLATION BRANDS U.S. OPERATIONS INC.

3. Agent to the Owner: JOSH SCHULZE

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial each circle for confirmation):

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

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

Based on information and belief formed after reasonable inquiry, the source identified in this application is not in compliance at the time of permit issuance with the applicable federal requirement(s),as identified in the Compliance Plan, and I have attached a compliance schedule.

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

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

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:
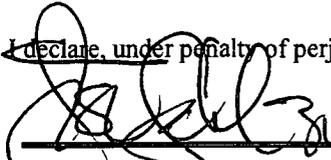
Signature of Responsible Official   Date: 10/4/13

JOSH SCHULZE

Name of Responsible Official (please print)

GENERAL MANAGER

Title of Responsible Official (please print)

Mailing Address: Central Regional Office * 1990 Gettysburg Avenue * Fresno, California 93726-0244 * (559) 230-5900 * FAX (559) 230-6061

TVFORM-005

APPENDIX D
Draft ATC Permits

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-2321-801-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CBUS OPS INC (DBA WOODBRIDGE WINERY)
MAILING ADDRESS: P O BOX 1260
WOODBRIDGE, CA 95258-1260

LOCATION: 5950 E WOODBRIDGE ROAD
ACAMPO, CA 95220

EQUIPMENT DESCRIPTION:
652,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 1701 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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

4. This wine storage tank shall be used exclusively for wine storage operations only and not for fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit

5. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

6. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-2321-801-0 : Apr 16 2014 3:50PM – NORMANR : Joint Inspection NOT Required

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rule 4694] Federally Enforceable Through Title V Permit

8. The maximum daily wine throughput in this tank shall not exceed 652,000 gallons per day. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The maximum annual wine throughput in this tank, calculated on a twelve month rolling basis, shall not exceed 74,750,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Total annual VOC emissions from all wine fermentation and wine storage operations at this facility shall not exceed 1,167,178 lb/year, calculated on a twelve (12) month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit

11. If the throughput or ethanol content calculated for any rolling 12-month period exceeds the annual throughput or ethanol content limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the throughput or ethanol content limits for that rolling 12-month period will be deemed to have occurred so long as the calendar year throughput and ethanol content are below the annual throughput and ethanol content limitations. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Total annual VOC emissions from wine storage operations may be determined using the total annual wine throughput and a single storage emissions factor, calculated using the equation(s) specified within this permit, based on the average ethanol content of the annual wine throughput; or using the throughputs for different batches of wine and batch-specific storage emissions factors, calculated using the equation(s) specified within this permit, based on the ethanol content of each batch. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The annual VOC wine storage emission factor for each wine ethanol content shall be calculated using the following equation: $EF = a * P^2 + b*P + c$; where EF is the VOC emission factor in pounds of VOC per 1,000 gallons of wine throughput; and P is the volume percent ethanol of the wine being transferred. For concentrations up to and including 24 volume % (when the ethanol content of wine is 20 volume %, P is equivalent to 0.20), $a = -0.38194$, $b = 0.97917$ and $c = 0$. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The operator shall determine and record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit

15. Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

16. The operator shall maintain records of the calculated 12 month rolling wine ethanol content and storage throughput rate (ethanol percentage by volume and gallons per 12 month rolling period, calculated monthly). [District Rule 2201] Federally Enforceable Through Title V Permit

17. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit

18. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

19. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit

DRAFT

AUTHORITY TO CONSTRUCT

PERMIT NO: N-2321-802-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CBUS OPS INC (DBA WOODBRIDGE WINERY)
MAILING ADDRESS: P O BOX 1260
WOODBRIDGE, CA 95258-1260

LOCATION: 5950 E WOODBRIDGE ROAD
ACAMPO, CA 95220

EQUIPMENT DESCRIPTION:
652,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 1702 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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

4. This wine storage tank shall be used exclusively for wine storage operations only and not for fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit

5. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

6. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-2321-802-0 : Apr 16 2014 3:50PM -- NORMANR : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rule 4694] Federally Enforceable Through Title V Permit

8. The maximum daily wine throughput in this tank shall not exceed 652,000 gallons per day. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The maximum annual wine throughput in this tank, calculated on a twelve month rolling basis, shall not exceed 74,750,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Total annual VOC emissions from all wine fermentation and wine storage operations at this facility shall not exceed 1,167,178 lb/year, calculated on a twelve (12) month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit

11. If the throughput or ethanol content calculated for any rolling 12-month period exceeds the annual throughput or ethanol content limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the throughput or ethanol content limits for that rolling 12-month period will be deemed to have occurred so long as the calendar year throughput and ethanol content are below the annual throughput and ethanol content limitations. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Total annual VOC emissions from wine storage operations may be determined using the total annual wine throughput and a single storage emissions factor, calculated using the equation(s) specified within this permit, based on the average ethanol content of the annual wine throughput; or using the throughputs for different batches of wine and batch-specific storage emissions factors, calculated using the equation(s) specified within this permit, based on the ethanol content of each batch. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The annual VOC wine storage emission factor for each wine ethanol content shall be calculated using the following equation: $EF = a * P^2 + b*P + c$; where EF is the VOC emission factor in pounds of VOC per 1,000 gallons of wine throughput; and P is the volume percent ethanol of the wine being transferred. For concentrations up to and including 24 volume % (when the ethanol content of wine is 20 volume %, P is equivalent to 0.20), $a = -0.38194$, $b = 0.97917$ and $c = 0$. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The operator shall determine and record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit

15. Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

16. The operator shall maintain records of the calculated 12 month rolling wine ethanol content and storage throughput rate (ethanol percentage by volume and gallons per 12 month rolling period, calculated monthly). [District Rule 2201] Federally Enforceable Through Title V Permit

17. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit

18. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

19. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit

DRAFT

AUTHORITY TO CONSTRUCT

PERMIT NO: N-2321-803-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CBUS OPS INC (DBA WOODBRIDGE WINERY)
MAILING ADDRESS: P O BOX 1260
WOODBRIDGE, CA 95258-1260

LOCATION: 5950 E WOODBRIDGE ROAD
ACAMPO, CA 95220

EQUIPMENT DESCRIPTION:
652,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 1703 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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

4. This wine storage tank shall be used exclusively for wine storage operations only and not for fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit

5. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

6. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-2321-803-0 : Apr 16 2014 3:50PM – NORMANR : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rule 4694] Federally Enforceable Through Title V Permit

8. The maximum daily wine throughput in this tank shall not exceed 652,000 gallons per day. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The maximum annual wine throughput in this tank, calculated on a twelve month rolling basis, shall not exceed 74,750,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Total annual VOC emissions from all wine fermentation and wine storage operations at this facility shall not exceed 1,167,178 lb/year, calculated on a twelve (12) month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit

11. If the throughput or ethanol content calculated for any rolling 12-month period exceeds the annual throughput or ethanol content limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the throughput or ethanol content limits for that rolling 12-month period will be deemed to have occurred so long as the calendar year throughput and ethanol content are below the annual throughput and ethanol content limitations. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Total annual VOC emissions from wine storage operations may be determined using the total annual wine throughput and a single storage emissions factor, calculated using the equation(s) specified within this permit, based on the average ethanol content of the annual wine throughput; or using the throughputs for different batches of wine and batch-specific storage emissions factors, calculated using the equation(s) specified within this permit, based on the ethanol content of each batch. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The annual VOC wine storage emission factor for each wine ethanol content shall be calculated using the following equation: $EF = a * P^2 + b*P + c$; where EF is the VOC emission factor in pounds of VOC per 1,000 gallons of wine throughput; and P is the volume percent ethanol of the wine being transferred. For concentrations up to and including 24 volume % (when the ethanol content of wine is 20 volume %, P is equivalent to 0.20), a = -0.38194, b = 0.97917 and c = 0. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The operator shall determine and record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit

15. Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

16. The operator shall maintain records of the calculated 12 month rolling wine ethanol content and storage throughput rate (ethanol percentage by volume and gallons per 12 month rolling period, calculated monthly). [District Rule 2201] Federally Enforceable Through Title V Permit

17. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit

18. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

19. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-2321-804-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CBUS OPS INC (DBA WOODBRIDGE WINERY)
MAILING ADDRESS: P O BOX 1260
WOODBRIDGE, CA 95258-1260

LOCATION: 5950 E WOODBRIDGE ROAD
ACAMPO, CA 95220

EQUIPMENT DESCRIPTION:
652,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 1704 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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

4. This wine storage tank shall be used exclusively for wine storage operations only and not for fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit

5. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

6. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-2321-804-0 : Apr 16 2014 3:50PM – NORMANR : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rule 4694] Federally Enforceable Through Title V Permit

8. The maximum daily wine throughput in this tank shall not exceed 652,000 gallons per day. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The maximum annual wine throughput in this tank, calculated on a twelve month rolling basis, shall not exceed 74,750,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Total annual VOC emissions from all wine fermentation and wine storage operations at this facility shall not exceed 1,167,178 lb/year, calculated on a twelve (12) month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit

11. If the throughput or ethanol content calculated for any rolling 12-month period exceeds the annual throughput or ethanol content limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the throughput or ethanol content limits for that rolling 12-month period will be deemed to have occurred so long as the calendar year throughput and ethanol content are below the annual throughput and ethanol content limitations. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Total annual VOC emissions from wine storage operations may be determined using the total annual wine throughput and a single storage emissions factor, calculated using the equation(s) specified within this permit, based on the average ethanol content of the annual wine throughput; or using the throughputs for different batches of wine and batch-specific storage emissions factors, calculated using the equation(s) specified within this permit, based on the ethanol content of each batch. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The annual VOC wine storage emission factor for each wine ethanol content shall be calculated using the following equation: $EF = a * P^2 + b*P + c$; where EF is the VOC emission factor in pounds of VOC per 1,000 gallons of wine throughput; and P is the volume percent ethanol of the wine being transferred. For concentrations up to and including 24 volume % (when the ethanol content of wine is 20 volume %, P is equivalent to 0.20), $a = -0.38194$, $b = 0.97917$ and $c = 0$. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The operator shall determine and record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit

15. Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

16. The operator shall maintain records of the calculated 12 month rolling wine ethanol content and storage throughput rate (ethanol percentage by volume and gallons per 12 month rolling period, calculated monthly). [District Rule 2201] Federally Enforceable Through Title V Permit

17. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit

18. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

19. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-2321-805-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CBUS OPS INC (DBA WOODBRIDGE WINERY)
MAILING ADDRESS: P O BOX 1260
WOODBRIDGE, CA 95258-1260

LOCATION: 5950 E WOODBRIDGE ROAD
ACAMPO, CA 95220

EQUIPMENT DESCRIPTION:
108,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 412 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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

4. This wine storage tank shall be used exclusively for wine storage operations only and not for fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit

5. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

6. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-2321-805-0 : Apr 16 2014 3:50PM – NORMANR : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rule 4694] Federally Enforceable Through Title V Permit

8. The daily tank throughput, in gallons, shall not exceed four times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The maximum annual wine throughput in this tank, calculated on a twelve month rolling basis, shall not exceed 24,840,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Total annual VOC emissions from all wine fermentation and wine storage operations at this facility shall not exceed 1,167,178 lb/year, calculated on a twelve (12) month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit

11. If the throughput or ethanol content calculated for any rolling 12-month period exceeds the annual throughput or ethanol content limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the throughput or ethanol content limits for that rolling 12-month period will be deemed to have occurred so long as the calendar year throughput and ethanol content are below the annual throughput and ethanol content limitations. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Total annual VOC emissions from wine storage operations may be determined using the total annual wine throughput and a single storage emissions factor, calculated using the equation(s) specified within this permit, based on the average ethanol content of the annual wine throughput; or using the throughputs for different batches of wine and batch-specific storage emissions factors, calculated using the equation(s) specified within this permit, based on the ethanol content of each batch. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The annual VOC wine storage emission factor for each wine ethanol content shall be calculated using the following equation: $EF = a * P^2 + b*P + c$; where EF is the VOC emission factor in pounds of VOC per 1,000 gallons of wine throughput; and P is the volume percent ethanol of the wine being transferred. For concentrations up to and including 24 volume % (when the ethanol content of wine is 20 volume %, P is equivalent to 0.20), a = -0.38194, b = 0.97917 and c = 0. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The operator shall determine and record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit

15. Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

16. The operator shall maintain records of the calculated 12 month rolling wine ethanol content and storage throughput rate (ethanol percentage by volume and gallons per 12 month rolling period, calculated monthly). [District Rule 2201] Federally Enforceable Through Title V Permit

17. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit

18. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

19. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit

DRAFT

AUTHORITY TO CONSTRUCT

PERMIT NO: N-2321-806-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CBUS OPS INC (DBA WOODBRIDGE WINERY)
MAILING ADDRESS: P O BOX 1260
WOODBRIDGE, CA 95258-1260

LOCATION: 5950 E WOODBRIDGE ROAD
ACAMPO, CA 95220

EQUIPMENT DESCRIPTION:
108,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 414 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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

4. This wine storage tank shall be used exclusively for wine storage operations only and not for fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit

5. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

6. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director/APCO

Arnaud Marjollet, Director of Permit Services
N-2321-806-0 : Apr 16 2014 3:50PM – NORMANR : Joint Inspection NOT Required

7.   The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rule 4694] Federally Enforceable Through Title V Permit

8.   The daily tank throughput, in gallons, shall not exceed four times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit

9.   The maximum annual wine throughput in this tank, calculated on a twelve month rolling basis, shall not exceed 24,840,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Total annual VOC emissions from all wine fermentation and wine storage operations at this facility shall not exceed 1,167,178 lb/year, calculated on a twelve (12) month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit

11. If the throughput or ethanol content calculated for any rolling 12-month period exceeds the annual throughput or ethanol content limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the throughput or ethanol content limits for that rolling 12-month period will be deemed to have occurred so long as the calendar year throughput and ethanol content are below the annual throughput and ethanol content limitations. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Total annual VOC emissions from wine storage operations may be determined using the total annual wine throughput and a single storage emissions factor, calculated using the equation(s) specified within this permit, based on the average ethanol content of the annual wine throughput; or using the throughputs for different batches of wine and batch-specific storage emissions factors, calculated using the equation(s) specified within this permit, based on the ethanol content of each batch. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The annual VOC wine storage emission factor for each wine ethanol content shall be calculated using the following equation: $EF = a * P\text{\textasciicircum}2 + b*P + c$; where EF is the VOC emission factor in pounds of VOC per 1,000 gallons of wine throughput; and P is the volume percent ethanol of the wine being transferred. For concentrations up to and including 24 volume % (when the ethanol content of wine is 20 volume %, P is equivalent to 0.20), $a = -0.38194$, $b = 0.97917$ and $c = 0$. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The operator shall determine and record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit

15. Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

16. The operator shall maintain records of the calculated 12 month rolling wine ethanol content and storage throughput rate (ethanol percentage by volume and gallons per 12 month rolling period, calculated monthly). [District Rule 2201] Federally Enforceable Through Title V Permit

17. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit

18. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

19. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-2321-807-0   **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CBUS OPS INC (DBA WOODBRIDGE WINERY)
MAILING ADDRESS: P O BOX 1260
WOODBRIDGE, CA 95258-1260

LOCATION: 5950 E WOODBRIDGE ROAD
ACAMPO, CA 95220

EQUIPMENT DESCRIPTION:
108,000 GALLON STAINLESS STEEL ENCLOSED TOP WINE STORAGE TANK 416 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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

4. This wine storage tank shall be used exclusively for wine storage operations only and not for fermentation. [District Rule 2201] Federally Enforceable Through Title V Permit

5. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

6. 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 Rules 2201 and 4694] Federally Enforceable Through Title V Permit

<div align="center">CONDITIONS CONTINUE ON NEXT PAGE</div>

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
N-2321-807-0 : Apr 16 2014 3:50PM – NORMANR : Joint Inspection NOT Required

7. The temperature of the wine stored in this tank shall be maintained at or below 75 degrees Fahrenheit. The temperature of the stored wine shall be determined and recorded at least once per week. For each batch of wine, the operator shall achieve the storage temperature of 75 degrees Fahrenheit or less within 60 days after completing fermentation, and shall maintain records to show when the required storage temperature of 75 degrees Fahrenheit or less was achieved. [District Rule 4694] Federally Enforceable Through Title V Permit

8. The daily tank throughput, in gallons, shall not exceed four times the maximum nominal tank capacity stated in the equipment description. [District Rule 2201] Federally Enforceable Through Title V Permit

9. The maximum annual wine throughput in this tank, calculated on a twelve month rolling basis, shall not exceed 24,840,000 gallons per year. [District Rule 2201] Federally Enforceable Through Title V Permit

10. Total annual VOC emissions from all wine fermentation and wine storage operations at this facility shall not exceed 1,167,178 lb/year, calculated on a twelve (12) month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit

11. If the throughput or ethanol content calculated for any rolling 12-month period exceeds the annual throughput or ethanol content limitations of this permit, in a crush season in which the start of the crush season (defined as the day on which the facility's seasonal crushing/fermentation operations commence) occurs less than 365 days after the start of the previous crush season, then no violation of the throughput or ethanol content limits for that rolling 12-month period will be deemed to have occurred so long as the calendar year throughput and ethanol content are below the annual throughput and ethanol content limitations. [District Rule 2201] Federally Enforceable Through Title V Permit

12. Total annual VOC emissions from wine storage operations may be determined using the total annual wine throughput and a single storage emissions factor, calculated using the equation(s) specified within this permit, based on the average ethanol content of the annual wine throughput; or using the throughputs for different batches of wine and batch-specific storage emissions factors, calculated using the equation(s) specified within this permit, based on the ethanol content of each batch. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The annual VOC wine storage emission factor for each wine ethanol content shall be calculated using the following equation: $EF = a * P^2 + b*P + c$; where EF is the VOC emission factor in pounds of VOC per 1,000 gallons of wine throughput; and P is the volume percent ethanol of the wine being transferred. For concentrations up to and including 24 volume % (when the ethanol content of wine is 20 volume %, P is equivalent to 0.20), a = -0.38194, b = 0.97917 and c = 0. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The operator shall determine and record, on a weekly basis, the total gallons of wine contained in the tank and the maximum temperature of the stored wine. [District Rule 4694] Federally Enforceable Through Title V Permit

15. Daily throughput records, including records of filling and emptying operations, the dates of such operations, a unique identifier for each batch, the volume percent ethanol in the batch, and the volume of wine transferred, shall be maintained. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

16. The operator shall maintain records of the calculated 12 month rolling wine ethanol content and storage throughput rate (ethanol percentage by volume and gallons per 12 month rolling period, calculated monthly). [District Rule 2201] Federally Enforceable Through Title V Permit

17. Records shall be maintained that demonstrate the date of each year's start of crush season. [District Rule 2201] Federally Enforceable Through Title V Permit

18. Records of total annual fermentation and total annual storage emissions, including calculation methods and parameters used, shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit

19. All records shall be retained on-site for a period of at least five years and made available for District inspection upon request. [District Rules 1070, 2201 and 4694] Federally Enforceable Through Title V Permit

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