UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

June 16, 2014

Dave Warner
Deputy Air Pollution Control Officer
San Joaquin Valley Air Pollution Control District
1990 East Gettysburg Avenue
Fresno, CA 93726

Dear Mr. Warner,

Thank you for the opportunity to provide comments on your Preliminary Decision for a significant title V permit modification and to issue an Authority to Construct (ATC) for installation of twenty-nine (29) additional wine storage/fermentation tanks at the Bear Creek Winery facility located at 11900 N. Furry Road, Lodi, CA (Project # N-1133555).

EPA has three primary concerns with the evaluation performed for this project. First, the analysis provided in both Appendixes F and G of the evaluation assume that the only "achieved-in-practice" level of control is what is stated in the 2009 version of the District's BACT guidelines for Wine Storage and Fermentation tanks. The evaluation does not consider or evaluate whether any additional control level has been achieved in practice. Second, the "technically feasible" analysis provided includes several assumptions that are not justified and are inconsistent with EPA's Cost Manual guidance. These assumptions led to increased cost-effective rates. Third, the evaluation incorrectly applies the definition of Baseline Emissions found in Rule 2201 to determine the quantity of offsets required for this project. A discussion of each issue is provided below.

Evaluation of Achieved in Practice Controls

On May 5, 2014, EPA provided the District with a comment letter regarding the requirement to adequately evaluate whether any control technology has been "achieved in practice" for wine fermentation/storage tanks. In that letter, we expressed our concerns with the methodology and criteria the District used to perform the achieved in practice analysis. For this proposed permit, the evaluation is deficient because it relies on the achieved in practice determination, as stated in the District's Best Available Control Technology (BACT) Guideline 5.4.14, dated 10-6-2009 and provides no new analysis to determine if any additional emission reduction controls have been achieved in practice. Therefore EPA is requesting that the District revise the evaluation for this project to provide a complete achieved in practice analysis, consist with the comments and guidance provided in our May 5th letter.

Evaluation of Technically-Feasible Controls

While the District's evaluation adequately identifies and ranks technically feasible control technologies (Steps 1-3 in a top-down BACT analysis), the cost-effective analysis in Step 4 is flawed for several reasons. First, it does not use the best cost data available for technically feasible controls identified for the proposed project. For example, in estimating the capital investment costs of a thermal oxidizer, the District uses a cost in 1999 dollars and then adjusts it to 2014 dollars by applying an average annual escalation rate of 2.75%. No specific basis was provided for the 2.75% escalation rate. The District

should use the most recent cost data available, and if necessary adjust those costs to current year dollars using an appropriate cost index, such as the Chemical Engineering Project Cost Index. Generally it is the responsibility of the applicant to supply project specific information as part of their application, and the Districts responsibility to review and confirm this information.

EPA also notes that for the fermentation tanks, compared to the storage tanks, the District uses a completely different methodology to calculate the cost of a regenerative thermal oxidizer unit. Given these inconsistencies, EPA is requesting that the District obtain newer cost data for thermal oxidizer installations and apply a consistent methodology for estimating overall costs. Second, there are several deviations from the methodology in EPA's Cost Manual. A 7% interest rate should be used for these calculations, as this rate is both consistent with OMB guidance and provides consistency with other permit actions being evaluated nationwide. Making this revision to the interest rate would change the CRF from 0.163 to 0.1424 (assuming a 10 year equipment life). This will lead to a 13% reduction in the annualized capital costs.

Under the Cost Manual methodology, "Owner's Cost" is often not allowed, as it may double-count engineering fees and contractors fees. Before it is included, the District must specify what is included in these costs and ensure they are not double counted elsewhere. EPA believes a project contingency of 20% is too high, and a better estimate would be in the range of 10-15% of Total Capital Investment. In addition, the evaluation does not provide any explanation as to what is covered by the project contingency costs to ensure these are appropriate costs. Engineering costs are usually estimated as a percentage of purchased equipment costs, (usually 10% or less) and not total direct costs. In addition, these costs are not defined. The permit applicant should provide a basis for these estimates and what actions/costs are specifically included.

The District's evaluation of both condensation and absorption control technologies rely on previous cost and operation estimates for a different wine fermentation and storage facility. The District uses the six-tenths rule to determine size adjusted cost estimates for several types of equipment. In general this estimation technique (six-tenths) should only be used when no other information is available to estimate these costs. There can be a high degree of variability and uncertainty when applying the six-tenths rule in this way and its use is generally considered acceptable only when cost estimates within plus/minus 20% are desired. Even with a study-level cost estimate, use of the six-tenths rule must be applied with caution.

Another example is the District's use of a 10 year equipment life for the waste fermentation tanks seems to be arbitrary, and not based on the vendors persuasive estimates for a 25 year equipment life. The evaluation should explain why the District chose only a 10 year equipment life when the equipment vendor has stated it has an expected life of 25 years. For this project, a more accurate approach would be for the source to obtain project specific control equipment and cost information from the control equipment vendors. In this case, EPA notes that two separate control equipment vendors have provided public comments on this project, providing more detailed cost information. A project specific cost-effective analysis is always preferred when making a case-by-case BACT determination, which is required for this project.

Third, on pages 10 and 11, and in Appendix E of the evaluation, the requirements and calculations necessary to determine if the project will result in a Federal Major Modification (FMM) are laid out. The evaluation states that the Net Emission Increase (NEI) for the project is 16,762 lb/yr of VOC and that the project is thus "determined to be a FMM for VOC." EPA notes that in the evaluation, the District

correctly notes that these are "new emission units in this project" and therefore the Baseline Actual Emissions are zero. EPA believes this part of the evaluation correctly calculates the baseline emissions and determines that the project will result in a FMM.

On pages 14 and 15 of the evaluation, the District lays out the offset calculations for this project; after determining that the facility is an existing Major Source for VOC and the post-project stationary source potential to emit (SSPE2) is greater than the offset thresholds specific in Rule 2201. The following equation is provided to calculate the amount of offsets required:

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

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

and

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)

EPA notes that the above definition of Baseline Emissions (BE), mostly summarizes the definition of this term in Rule 2201, Section 3.7, but does not provide the specificity regarding the fact that for all the units, except those located at a non-Major source, the *unit* must also have Specific Limiting Condition (SLC). (*Emphasis added*) EPA has always understood that the District has interpreted this provision to mean that if an existing emissions unit met any of these requirements, then the Baseline Emissions for the existing unit would be its pre-project potential to emit. This interpretation is supported by the fact that only existing units could already have a SLC. The baseline emissions for a new unit, which by definition is not one of types of units listed, would then default to HAE, which are always zero for a new unit. given that by definition a new unit has never operated and thus has never had any emissions. EPA also notes that in the stated equation the abbreviation is for "PE2", defined as Potential to Emit (as indicated by the PE) and post-project (as indicated by the 2). This is different than the abbreviation of "SSPE2", which is defined as Stationary Source (SS) post-project Potential to Emit (PE2). Thus it is our understanding that the amount of offsets required for new equipment must be based only on the increased emissions, with no regard for the existing amount of emissions emitted or permitted (under a SLC) for the facility (or group of emission units).

However, instead of applying the definition of BE as described above, the District's evaluation refers to Appendix C for discussion and states:

> ...potential emissions from wine tanks must be determined with consideration of the total tank population at the facility. As established in District Project N-1100320, all tanks at this facility meet the District' determination of achieved-in- practice BACT (and are thus Clean Emission

Units), therefore ΣBE is taken to be the pre-project Potential to Emit of all wine tanks at the facility which is given by the existing Specific Limiting Condition on the permits.

First, EPA notes that there is no discussion in Appendix C. Instead Appendix C is simply a list of the daily post-project potential to emit (PE2) for the fermentation tanks. In addition, there is no explanation for the first statement, and EPA disagrees that the "potential emissions from wine tanks must be determined with consideration of the total tank population at the facility." Second, as discussed by EPA above, Rule 2201 and the CAA[1] do not allow the consideration of existing emissions when determining emission increases from new emission units. Therefore we believe that the amount of offsets required, as calculated on the bottom of page 15 of the evaluation is incorrect and that the correct calculation should be as follows, using the same equation provided above:

Offsets Required (lb/year) = (Σ[PE2 - BE] + ICCE) x DOR
Where: PE2 = 16,762 lb/yr of VOC
BE = 0
ICCE = 0
DOR = 1.5

Offsets Required (lb/year) = 25,143 lb/yr of VOC

In light of the issues discussed above, EPA is requesting that the District provide us with a revised achieved in practice analysis (and if necessary a revised cost analysis) that addresses the issues raised above for this proposal prior to issuing the ATC. We are concerned that the facility is subject to offset requirements and that such offsets are currently not being required. The source must also provide the necessary offsets, as calculated above, prior to the District issuing the ATC for this project. If you have any questions, please contact Laura Yannayon at (415) 972-3534 or myself at 415-972-3974, if you have any questions related to this matter.

Sincerely,

Gerardo C. Rios
Chief, Permits Office
Air Division

Enclosure

cc: Arnaud Marjollet, Director of Permit Services, SJV District
cc: Mike Tollstrup, CARB
cc: Matt Salazar, Enforcement Division, EPA

[1] See CAA Section 182(e)(2).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

May 8, 2015

Arnaud Marjollet
Director of Permit Services
San Joaquin Valley Air Pollution Control District
1990 East Gettysburg Avenue
Fresno, CA 93726

Dear Mr. Marjollet,

Thank you for the opportunity to provide comments on your Preliminary Decision to issue an Authority to Construct (ATC) to modify twelve (12) existing 350,000 gallon wine storage tanks currently installed at the E & J Gallo (Gallo) facility located at 5610 E. Olive Ave, Fresno, CA (Project # N-1133347). The project would add fermentation capability to tanks that are currently used for wine storage.

Because this project will result in emission increases that constitute a federal major modification, as defined in Rule 2201, a valid ATC for this project must comply with a determination of the lowest achievable emission rate (LAER) (defined in Rule 2201 as BACT). LAER requires "the most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent." Thus, a key element of a LAER determination is the level of control achieved by a similar class or category of source. As discussed below, other wine fermentation operations have achieved emission reductions through the use of add-on controls. The District's draft ATC for this project does not require Gallo to achieve similar emission reductions, and EPA believes that the accompanying analysis does not adequately support for this determination. Please see also our comment letter dated May 5, 2014 regarding a different Gallo project that identifies similar issues.

Appendix A of the permit evaluation for this project, "BACT Guideline 5.4.14 and Top Down BACT Analysis" summarizes the potential controls for wine fermentation tanks. The District identifies as "Achieved in Practice or contained in the SIP," temperature-controlled open top tanks with maximum average temperature of 95 degrees F. The District also identifies as "Technologically Feasible" several control techniques involving the capture and control of VOC emissions such as thermal or catalytic oxidation, adsorption, absorption, and condensation. The District concluded that the source could utilize the identified achieved in practice controls and determined that none of the technologically feasible control options were cost-effective.

Attachment B of Appendix A, "Achieved in Practice Analysis for Emission Control Technologies Used to Control VOC Emissions from Wine Fermentation Tanks" (AIP Memo) states on page 4:

> The District considers the following when determining whether a control technology has been successfully operated for achieved in practice BACT determinations:
>
> 1. Was the control technology operated in the same manner that would be required by the District if the control technology was required for BACT?

2. How reliable has the control technology been over the life of its use?
3. Has the control technology been verified to perform effectively over the range of operation expected for that type of equipment? Was the effectiveness verified by performance test(s), when possible, or using other performance data?

Other typical considerations that the District considers when making an achieved in practice BACT determination include:

1. Is the control technology commercially available from at least one vendor?
2. On what class and category of source has the control technology been demonstrated?

EPA is concerned that the District's AIP analysis applies the first criterion to exclude technologies that have achieved actual emission reductions that would not have otherwise occurred on the ground that the controls were not used during the entire batch fermentation process or as part of a BACT determination. EPA believes the use of this factor might inappropriately exclude some controls from the achieved in practice determination. For example, if a control device is capable of reducing emissions by 90%, and is used for only part of the batch fermentation process (which may range from 2 to 21 days), the quantity of emissions reduced while the control device is in use represents the overall control efficiency rate. Therefore, the allowable emission rate would be calculated using the overall control efficiency rate, and should be included as part of the LAER analysis since LAER is an emission rate that reflects the most stringent emission limitation that has been achieved in practice.

Regarding the District's second criterion, EPA agrees that control technology reliability is an important consideration. EPA has not identified any specific issues regarding the reliability of the emissions control technology used at the Central Coast Winery Services (CCWS), and the District's analysis does not point to any such concerns. Although the Terravant facility appears to have difficulty maintaining the control efficiency required by its permit, the technology (water scrubber) is well established as capable of achieving the permitted emission rate. At a minimum, the District should consider the emission rate that the control technology has been able to consistently achieve. EPA notes that, in all emission tests, the source was able to maintain a control efficiency rate of at least 47.6%, which the District should evaluate as LAER.

Regarding the District's third criterion, the "range of operation" appears to relate to the size of the emission unit. For this project, EPA does not agree that the size of the emission unit is an appropriate basis for determining what constitutes LAER. While larger fermentation tanks will have higher hourly emission rates, water scrubbers are a well-established VOC control technology that has successfully been scaled up to handle larger flow rates. Another alternative is the use of multiple emission control units to handle large volume air streams. EPA is unaware of any technical reason why ethanol emissions from wine fermentation tanks of any size could not be controlled effectively through the use of some type of scrubber system.

Regarding the question whether effectiveness has been verified by performance testing, in 2013, BAAQMD conducted a performance test of the NoMoVo system. The test results show that the NoMoVo system is capable of achieving a 99.4% control efficiency. EPA notes that the second NoMoVo system used at the CCWS facility is the exact same unit tested by BAAQMD while installed at the Kendall Jackson facility. According to CCWS records maintained for the 2014 crush season, CCWS was able to achieve a 76.6% overall control efficiency rate (captured emissions compared to

calculated emissions using emission factors) on all red wine fermentation tanks. Due to the batch nature of the fermentation process and the simultaneous use of a single control device on multiple tanks, only an overall control efficiency can be determined for this type of operation.

Regarding the District's fourth and fifth criteria, the District's Top Down BACT Analysis acknowledges that at least two different companies manufacture and market control devices specifically for wine fermentation operations, and EPA has previously stated that the appropriate class and category of source for a LAER determination for wine fermentation tanks is simply wine fermentation operations. The class or category of source is not dependent on the size of the emission unit.

EPA requests that, prior to issuing the ATC for this project, the District provide for our review a revised LAER analysis for this project that relies on criteria appropriate to LAER determinations. If you have any questions related to this matter, please contact Laura Yannayon of my staff at (415) 972-3534.

Sincerely,

Gerardo C. Rios
Chief, Permits Office
Air Division

Enclosure

cc: Mike Tollstrup, CARB