

**United States Environmental Protection Agency,  
Region IX, Air Division**

**Technical Support Document  
for  
EPA's Proposed Rulemaking**

**on revisions to the**

**California State Implementation Plan (SIP)**

**regarding**

**San Joaquin Valley Unified Air Pollution Control District  
Rule 4695  
Brandy Aging and Wine Aging Operations**

**April 2011**

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**Agency:** San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD).

**Rule 4695:** Brandy Aging and Wine Aging Operations.

**SJVUAPCD Adoption:** September 17, 2009.

**California Air Resources Board (CARB) Submittal:** May 17, 2010.

**EPA Completeness Finding:** June 8, 2010.

This is the first version of this rule adopted by SJVUAPCD and submitted to EPA by CARB for inclusion into the SIP.

## **BACKGROUND**

SJVUAPCD has primary responsibility for regulating air pollution in the San Joaquin Valley, which is classified as an extreme nonattainment area for the federal eight-hour ozone standard (40 CFR 81.305). Therefore, as required by section 182(b)(2) of the Clean Air Act (CAA), SJVUAPCD must implement Reasonably Available Control Technology (RACT) for all stationary sources with a potential to emit more than 10 tons per year (t/y) of volatile organic compounds (VOC). SJVUAPCD's staff report for Rule 4695 identifies five brandy aging operations that emit above 10 t/y of VOC.<sup>1</sup> Therefore, Rule 4695 must implement RACT for at least these facilities.

On December 20, 2005, prior to adoption of Rule 4695, SJVUAPCD adopted local Rule 4694, Wine Fermentation and Storage Tanks. While not specifically required by 4694, controls were installed on four of the major source brandy aging operations in response to an alternative compliance option in Rule 4694.<sup>2</sup> Regardless of why these controls were initially installed, SJVUAPCD estimates that controls needed to comply with 4695 result in 4.5 ton per day (t/d) VOC reductions from the four facilities and will reduce an additional 0.12 t/d from the fifth. The 2007 Ozone Plan estimates a 2012 brandy aging and wine aging VOC emission baseline of 2.30 tons per day.<sup>3</sup>

## **RULE SUMMARY**

Rule 4695 limits VOC emissions from large brandy aging and wine aging operations.

- The major rule requirements vary based on throughput and associated VOC emissions from brandy and wine aging operations as summarized in the table below:

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<sup>1</sup> Final Staff Report, Rule 4695 (Brandy Aging and Wine Aging Operations), SJVUAPCD, September 17, 2009, p. 11.

<sup>2</sup> Id. at p. 4.

<sup>3</sup> Id. at Appendix B, p. B-3.

Product Type	Total Annual Aging Inventory (gal/yr)	Uncontrolled Aging Emissions (lbs/yr)	Requirements
Brandy	< 40,000	< 8,000	Records and work practices
	≥ 40,000	≥ 8,000	Records, work practices and PTE vented to a control device
Wine	< 590,000	< 16,000	Records and work practices
	≥ 590,000	≥ 16,000	Records, work practices and temperature control

- For sources needing an emission control device, section 5.5 requires that all brandy aging operations be conducted in a warehouse that is certified and maintained as a Permanent Total Enclosure (PTE) pursuant to EPA Method 204.
- 40 CFR 51, Appendix M, Method 204, section 6 requires PTEs to meet the following criteria:
  1. Any natural draft opening (NDO) shall be at least four equivalent opening diameters from each VOC emitting point.
  2. The total area of all NDO's shall not exceed 5% of the surface area of the enclosure's walls, floor and ceiling.
  3. The average facial velocity (FV) of air through all NDOs shall be at least 3,600 meters per hour into the enclosure.
  4. All access doors and windows not included in the 5% and FV calculations shall be closed during routine operation.
  5. All VOC emissions must be captured and contained in a control device.
- Rule 4695 section 5.5.2 additionally requires continuous monitoring of the negative gauge pressure at the fan inlet pressure point “to qualify the warehouse as a PTE pursuant to EPA Method 204.” However, negative pressure at the fan inlet pressure control point is not an indicator of the PTE described in 40 CFR 51, Appendix M.
- Section 5.8 requires that wine aging in a non-porous tank at an affected facility must be equipped and operated with a pressure-vacuum relief valve, and the temperature of the aging wine must be maintained at or below 75 degrees.

## EVALUATION CRITERIA

EPA is primarily using the following three criteria to evaluate Rule 4695:

**1. Enforceability** – The Bluebook (*Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations*, EPA, May 25, 1988) and the Little Bluebook (*Guidance Document for Correcting Common VOC & Other Rule Deficiencies*, EPA Region 9, August 21, 2001) were used to help evaluate compliance with the CAA §110(a)(2)(A) requirement for enforceability.

**2. Anti-backsliding** - CAA §110(l) states that “the Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of this chapter.”

**3. RACT** – CAA Section 182(b)(2) directs nonattainment areas like SJVUAPCD to adopt and submit SIP provisions implementing RACT for all major stationary sources of VOC. CAA Section 182(b)(2) states that “RACT is “the lowest emission limitation that a particular source can meet using control technology that is reasonably available, considering technological and economic feasibility.”

### **EPA Evaluation**

**1. Enforceability** – The rule requirements are clear, and the PTE certification, monitoring and recordkeeping requirements generally ensure that the submitted rule can be enforced.

**2. Anti-backsliding** – Since there is no SIP-approved version of Rule 4695, this rule strengthens the SIP by requiring controls on sources previously uncontrolled.

**3. RACT** – SJVUAPCD claims that Rule 4695 is the first prohibitory rule of its kind anywhere that requires control of VOC emissions from brandy and wine aging operations. *Id.*, p. 4. We are similarly not aware of any other existing federal, state or local regulation or guidance to help define RACT for brandy and wine aging operations. SJVUAPCD analyzed possible controls for brandy and wine aging and projected that requirements of Rule 4695 will cost approximately \$26,700/ton for wine aging operations and \$24,600 per ton for brandy aging operations of VOC reduced. *Id.*, p. Appendix C, p. 2. Approximately 98% of the brandy aging emissions in SJVUAPCD are already controlled in accordance with the requirements of the rule. Implementation of this rule is expected to require emission controls on one additional brandy aging facility, resulting in the additional annual emission reduction of 0.12 tons per day attributable to the brandy aging rule. For reasons summarized above, we concur with SJVUAPCD's conclusion that Rule 4695 meets or exceeds CAA RACT requirements for brandy aging operations. Wine aging emission reductions are currently achieved in practice and are considered RACT. SJVUAPCD has not claimed credit for emission reductions from wine aging for Rule 4695. *Id.*, p. 20.

### **EPA Recommendations**

The following recommendations do not justify rule disapproval at this time, but are suggested for the next rule revision.

1. In various places including paragraphs 3.11, 3.15, 5.5.2 and 5.7.2, Rule 4695 refers to monitoring of the negative gauge pressure at the fan inlet pressure control point in reference to demonstrating continued compliance with Method 204. This language is not in strict conformance with Method 204 and could be read to suggest that fan inlet pressure is an acceptable alternative for Method 204 in various applications, and should be removed or modified the next time the District amends Rule 4695. For example, we recommend revising paragraph 3.11 as follows:

3.11 Fan Inlet Pressure Control Point: the pressure monitor for controlling the induced draft fan for purposes of maintaining negative pressure on the warehouse adequate to ensure the warehouse meets the criteria of a Permanent Total Enclosure (PTE) pursuant to EPA Method 204: Criteria for and Verification of a Permanent or Temporary Total Enclosure.

2. We recommend removing mention of RACT and BARCT in paragraphs 5.2 and 5.3, particularly since both RACT and BARCT can change over time.

## **EPA ACTION**

The submitted revisions to Rule 4695 strengthen the SIP. The rule satisfies the relevant CAA §110 and part D requirements including RACT and enforceability. EPA staff recommends approval of Rule 4695 pursuant to CAA §110(k) (3) and §301(a).

## **Attachments**

1. SJVUAPCD Rule 4695, Brandy Aging and Wine Aging Operations, adopted September 17, 2009.
2. “Final Staff Report, Rule 4695 (Brandy Aging and Wine Aging Operations),” SJVUAPCD, September 17, 2009.
3. “Reasonably Available Control Technology (RACT) Demonstration for Ozone State Implementation Plans (SIP)” SJVAPCD, April 16, 2009. (cover only)

## **Other References**

1. “Issues Relating to VOC Regulation Cutpoints, Deficiencies, and Deviations,” (Bluebook) EPA OAQPS, May 25, 1988.
2. “Guidance Document for Correcting Common VOC & Other Rule Deficiencies,” (Little Bluebook), EPA Region 9, August 21, 2001.
3. Portions of the proposed post-1987 ozone and carbon monoxide policy that concern RACT, 52 FR 45044, November 24, 1987.
4. “State Implementation Plans, General Preamble for the Implementation of Title I of the Clean Air Amendments of 1990,” 57 FR 13498, April 16, 1992.
5. “Preamble, Final Rule to Implement the 8-hour Ozone National Ambient Air Quality Standard,” 70 FR 71612; November 29, 2005.

