

BAY AREA AIR QUALITY MANGEMENT DISTRICT

Memorandum

To: Chairperson Haggerty and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer / APCO

Date: September 8, 2004

Re: Public Hearing to Consider Proposed Amendments to Regulation 8, Rule 8: Wastewater (Oil-Water) Separators and Regulation 8, Rule 18: Equipment Leaks

RECOMMENDED ACTION:

Staff recommend that the Board take the following actions:

1. Adopt proposed amendments to District Regulation 8, Rule 8: Wastewater (Oil – Water) Separators and the associated amendment to Regulation 8, Rule 18: Equipment Leaks;
2. Approve a Negative Declaration pursuant to the California Environmental Quality Act (CEQA) for this rule-making activity.

BACKGROUND:

Further Study Measure FS 9 in the 2001 Ozone Attainment Plan examined the potential for volatile organic compound (VOC) emission reductions from refinery wastewater systems. The proposed amendments to Regulation 8, Rule 8: Wastewater (Oil-Water) Separators and the associated amendment to Regulation 8, Rule 18: Equipment Leaks are the result of that study. Staff formed and have worked with a technical workgroup consisting of industry, an environmental group, Air Resources Board staff and Regional Water Quality Control Board staff to develop sampling plans, computer modeling, emissions estimates and the proposed rule amendments.

Refinery wastewater systems span large areas and consist of multiple drains from refinery process blocks and tank farms and include piping, junction boxes, manholes, gravity sumps and lift stations. Once collected, the oily wastewater is piped to a physical separation process (oil – water separator) and is then chemically and biologically treated to meet wastewater discharge standards. Organic compounds can volatilize and be emitted from various open points along the collection system. Regulation 8, Rule 8 already controls the oil-water separators and other equipment associated with physical separation. The proposed amendments address emissions from the collection system. Emissions from the treatment process, including wastewater ponds, are the subject of further study.

DISCUSSION:

The proposed amendments to Regulation 8, Rule 8 will:

- Expand Regulation 8, Rule 8 to encompass refinery wastewater collection systems.
- Impose a 500 ppm leak standard on wastewater collection components (process drains, trenches, manholes, junction boxes, reaches, sumps and lift stations).
- Require refineries to install controls on components found leaking in excess of the 500 ppm standard.

- Require refineries to perform inspection and maintenance programs on wastewater components to ensure that the standards are being met.
- Require documentation of leaking components and maintenance performed at facilities to ensure ongoing compliance with the 500 ppm leak standard.

The proposed amendment to Regulation 8, Rule 18: Equipment Leaks merely clarifies that wastewater emissions are subject to Rule 8 and not Rule 18.

These amendments will reduce VOC emissions by approximately 65% or 2.1 tons per day. The cost effectiveness is approximately \$1,900 to \$4,300 per ton of volatile organic compound emissions reduced. A socioeconomic analysis found that the proposed amendments would not have a significant economic impact on the impacted businesses. A California Environmental Quality Act analysis found that there would be no significant adverse impacts on the environment as result of the proposal.

Draft rule amendments, a staff report, the socioeconomic analysis, and CEQA negative declaration are attached. Staff conducted two public workshops on April 27 and May 18, 2004. In addition, staff met with the technical workgroup 15 times during the past two years to discuss a variety of technical issues and with Communities for a Better Environment (CBE) on three separate occasions.

ISSUES:

A number of issues have been raised during the development of this proposal. The following summarizes the issues and staff's rationale for the proposal:

Cost Effectiveness: The representative from Valero Refining has argued that the costs of the program are too high, given that many of the required controls are already installed in the Valero facility resulting in few emissions reductions at Valero. The cost effectiveness calculation of \$1900 – \$4300 per ton of emissions reduced includes equipment costs to control emission points. If controls are already installed at Valero, the costs would be significantly less for that facility.

Effective Date of the Rule: At the May 24, 2004 meeting of the Stationary Source Committee the refiners stated that a two year implementation time period is necessary for effective planning, fabrication and installation of the controls necessary to meet the requirements in the rule. CBE argued that the compliance date in the rule should be one year or less. At a subsequent workgroup meeting, the refineries agreed to meet the requirements in a shorter time frame, but not as early as CBE recommended. Staff again met with CBE and the technical workgroup and determined that the proposed implementation period is appropriate: compliance within 15 months with a rule provision that allows some components to be uncontrolled provided they do not emit, compliance within two and a half years for refiners who choose to control all components.

Inspection Frequency: The proposed amendments require an initial inspection of all components before the effective date for controls so that refiners can check their assumptions about what portions of their systems need controls. Then, bi-monthly inspections are required during the first year the requirements are in place and semi-annual inspections are required thereafter. Any uncontrolled component found exceeding the leak standard must be re-inspected monthly and controlled if the leaking continues. CBE argued that the components should be inspected monthly for at least two years to catch all leaking components. Inspection programs at refineries with thousands of components are expected to be time and labor intensive. Staff expect that the implementation period will be used to find and control all components with the potential to leak. In addition to the inspection and

maintenance program required of the refiners, District staff will also be inspecting these components. Should District staff discover leaking components, repairs must be made more quickly, which is an incentive for refiners to conduct a robust inspection program.

Safety: The comparable South Coast rule has an exemption for components determined by the refinery to be unsafe to control. Refiners requested a similar provision be added to the proposed rule. Discussion with South Coast staff revealed that this exemption has never been utilized by refiners. Although staff will continue to discuss any individual safety concerns, given the ambiguous requirement for the South Coast exemption and its lack of use in practice, a similar exemption is not included in the proposed rule amendments.

System Segregation: CBE argued that the refinery wastewater systems should be considered in total, that the proposal should include control requirements on the wastewater treatment systems, including wastewater ponds. Staff's response is that segregating refinery wastewater systems into two portions, collection systems (controlled by this proposal) and treatment systems, allows collection system emissions reductions to become effective much earlier. Staff have begun to study treatment system emissions, and a further study measure regarding treatment systems will be included in the draft 2004 Ozone Strategy.

A more detailed discussion of these issues is contained in the staff report.

CONCLUSION:

In the development of this regulatory proposal, staff have undertaken an extensive analysis of refinery wastewater systems. This work included developing emissions models and verifying emissions estimates with the extensive help of CARB staff, consultants and with the cooperation of the refiners. Staff have spent considerable time evaluating technical issues associated with implementation of the control proposals and conducting an inclusive, open process to consider all viewpoints. Staff recommend adoption of the proposed amendments to Regulation 8, Rule 8, the amendment to Regulation 8, Rule 18, and adoption of a CEQA negative declaration for the proposed amendments.

Respectfully submitted,

Jack P. Broadbent
Executive Officer / APCO

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Attachments:

Proposed Amendments to Regulation 8, Rule 8 and Regulation 8, Rule 18
Staff Report for Regulation 8, Rule 8

Appendices:

1. Socioeconomic Analysis
2. California Environmental Quality Act Analysis and Negative Declaration
3. Comments and Responses