

**SANTA BARBARA COUNTY
AIR POLLUTION CONTROL DISTRICT
POLICIES AND PROCEDURES**

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Topic:	<u>Rule 331 Emission Reduction Allowance for Fugitive Hydrocarbon I&M Programs</u>	
Distribution:	<u>APCD Staff</u>	

This Policy and Procedure document provides guidance for the determination of ROC control efficiency for implementation of an APCD-approved I&M program meeting the requirements of Rule 331.

BACKGROUND:

Rule 331 Fugitive Emissions Inspection and Maintenance (adopted 12/10/91) requires industry to supply the APCD with component counts* for equipment in hydrocarbon service. Rule 331 also requires an APCD-approved I&M plan which includes regularly scheduled compliance verification inspections for most components. These Rule 331 component counts do not account for fugitive emissions from: (1) liquids in sumps, pits, well cellars, or waste water tanks, and (2) the leak paths on individual components (unlike the detailed component counts for the newer NSR facilities). The APCD uses the CARB/KVB statistical model (per Engineering Division Policy No. 6100.022) to estimate fugitive emissions from facilities without detailed component counts, such as oil and gas production fields. The staff report for Rule 331 anticipated an 80% overall reduction of fugitive hydrocarbons within facilities operating consistent with the requirements of Rule 331.

POLICY:

Fugitive ROC emission estimates, which are currently used for calculating emission fees, should be reduced by 80% for all facilities implementing an APCD-approved I&M program consistent with Rule 331 (including facilities with I&M plans prior to adoption of Rule 331, which have been subsequently updated to be consistent with the requirements of Rule 331). However, the 80%

* This component count is different from the one used for calculating emissions (i.e., total leak paths are not required on components).

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reduction is not allowed on fugitive emissions associated with sumps, pits, well cellars, wastewater tanks and components in ROC service which are classified as unsafe to monitor. The 80% reduction can be reflected in the PTO under two circumstances:

- 1) The source submits an application to lower their currently permitted fugitive emissions based on applying the 80% I&M credit for implementing an APCD-approved Rule 331 I&M program.
- 2) The permitted fugitive emissions would be reduced for components in the I&M program based on the 80% credit during the next reevaluation.

CALCULATIONS

- A. Fugitive emissions from sumps, pits, well cellars and wastewater tanks must be backed-out from the currently permitted emission level before applying the 80% I&M credit. These fugitive emissions are backed-out because they are not part of a Rule 331 I&M program. Use the CARB/KVB model to calculate the emissions from sumps, pits, well cellars and waste water tanks consistent with Engineering Policy No. 6100.022.
- B. Fugitive emissions from components in ROC service (as defined in Rule 331.C.29) which have been classified unsafe to monitor in accordance with Rule 331.B.4 should also be backed-out before applying the 80% I&M credit. Use detailed component counts which account for leak paths to quantify fugitive emissions whenever available (as in the case of the newer NSR facilities which have submitted such detailed counts). If detailed component counts are not available, as in the case of an oil and gas production field, then a prorated share of the CARB/KVB emission total for the entire facility shall be used. This should be based on the percent of unsafe to monitor components as compared to the facility's total Rule 331 component count.
- C. Components which qualify for the B.3.a) heavy oil exemption from routine monitoring are included in the fugitive emissions liability, either through detailed component counts or through the CARB/KVB model (which includes all components). These components are still subject to all other provisions of Rule 331 and remain part of the source's I&M plan. As a result, such components in heavy oil service qualify for the 80% I&M credit covered by this policy and procedure document.
- D. Components in non-ROC service (as defined in Rule 331.C.29) are not normally included in the fugitive emissions liability when detailed component counts are used for newer NSR projects. No emissions liability results from these components since they do not emit ROCs, and therefore no reduction credit is possible. If non-ROC service components were previously included as ROC service components in a source's emission liability, they should be removed from the emissions liability (i.e. 100% reduction credit).

EXAMPLE CALCULATION

An oil and gas facility without a detailed component count gets an 80% reduction credit (less sumps, pits, well cellars, waste water tanks, and unsafe to monitor components) on their current fugitive hydrocarbon (ROC) emissions.

- Prior to implementing a Rule 331 I&M plan, an oil and gas production facility had total permitted fugitive emissions equal to 120 tons ROC/year. 20 of the 120 tons comes from sumps, pits, well cellars and waste water tanks, as calculated by the CARB/KVB model. Unsafe to monitor components equal 2% of the total components (2% x 100 = 2 tons). In this case, the new fugitive emissions level for the permit would equal 41.6 tons ROC/year calculated as follows:

Fugitive emissions from facility with I&M program:

$$\begin{aligned} (120 - 20) \times (100\% - 2\%) \times (100\% - 80\%) &= 19.6 \text{ TPY} \\ \text{plus fugitive emissions from sumpsetc} &= 20.0 \text{ TPY} \\ \text{plus fugitive emissions from 2\%} \\ \text{unsafe to monitor components} &= \underline{2.0 \text{ TPY}} \\ &= 41.6 \text{ TPY} \end{aligned}$$

