

David Joe

From: ARB District Rules <districtrules@arb.ca.gov>
Sent: Friday, July 10, 2020 8:21 AM
To: David Joe; ARB District Rules
Subject: FW: Request for Comments on Draft Amendments to Rule 6-5

Hi David,

Thank you for the opportunity to review the draft amendments for Rule 6-5. CARB staff has returned the following comment on the Staff Report:

1. "From the perspective of regional haze,...it's positive that they're amending requirements to reduce refinery PM emissions, both direct and condensable portions. There's a connection here with AB 617, which they discuss in the report, but no mention of the potential benefits to visibility, which would have been good to include."

If you have any questions regarding this comment, please let me know.

Thank you,
-Alyssa

Alyssa Rhodes

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David Joe

From: Sehgal, Ben@ARB <ben.sehgal@arb.ca.gov>
Sent: Tuesday, July 14, 2020 8:01 AM
To: David Joe
Subject: RE: CARB, Enforcement Division has a few comments on the draft amendments to Rule 6-5.

CARB's comments on the draft amendments to BAAQMD Regulation 6-5:

a. FCCU Total PM10 Emission Limits - CARB recommends that the BAAQMD revise the staff report to provide a more comprehensive and transparent analysis of the proposed total PM10 limit of 0.02 grains per dry standard cubic foot (gr/dscf) established in section 6-5-301.3. This analysis should account for differences in source test methodologies that may result in an apples-to-oranges comparison. CARB recommends that BAAQMD include a thorough evaluation of total PM10 results from refinery FCCUs across California and the US and provide a detailed analysis on the proposed total PM10 limit for this draft amendment.

The staff report accompanying BAAQMD draft amendment Regulation 6, Rule 5, stated the BAAQMD reviewed source test data from FCCUs at refineries throughout California and the US. Emissions performance at these existing facilities varied, with measured total PM10 levels ranging from 0.008 to 0.034 gr/dscf. BAAQMD did not document this analysis or how the district determined that a standard of 0.02 gr/dscf was the most appropriate and effective limit for sources in BAAQMD.

To understand how the proposed limit BAAQMD presented compared to other California refineries, CARB evaluated the emissions from facilities in the South Coast Air Quality Management District (SCAQMD) regulated by SCAQMD Rule 1105.1. Rule 1105.1 established a PM10 limit of 0.005 gr/dscf for filterable PM10 from FCCUs at refineries with electrostatic precipitators or wet gas scrubbers. SCAQMD Rule 1105.1 has a limit for filterable PM10, while the BAAQMD proposed amendment that addresses total PM10 (which includes both filterable and condensable particulate matter). At a minimum, BAAQMD should present an apples-to-apples comparison of total PM10 emissions from FCCUs regulated to the total PM10 emission limits currently being considered.

b. Standardizing Total PM10 Reference to Percent Oxygen - CARB recommends that the BAAQMD draft amendments require an owner/operator of a FCCU to comply with a total PM10 limit in gr/dscf be corrected to 3 percent Oxygen. This will account for any dilution air in the exhaust stream of the unit

undergoing testing/monitoring and will standardize reporting for all FCCUs for total PM10 referenced to percent Oxygen.

c. Ammonia Slip Averaging Time - CARB recommends that the BAAQMD change the ammonia slip limit averaging period from a daily average to a 60-minute average.

Draft amendment BAAQMD Regulation 6, Rule 5, Section 6-5-301.1 requires an ammonia slip limit of 10 parts per million, volumetric dry basis (ppmvd) corrected to 3 percent oxygen, based on as a daily average. As per the associated staff report, the ammonia limit of 10 ppmvd is equivalent to the ammonia limit for FCCUs adopted by SCAQMD in their Rule 1105.1, which has been achieved by multiple refineries with electrostatic precipitators or wet gas scrubbers. However, SCAQMD Rule 1105.1 ammonia limit for FCCUs is averaged over a 60-minute period which is more stringent than a daily average. This 60-minute average has been achieved-in-practice since the SCAQMD rule was adopted in November 7, 2003.

d. Phase-in Installation of Ammonia CEM Systems - CARB recommends that the ammonia slip monitoring requirements be revised to include a required phase-in schedule for the installation of dedicated ammonia Continuous Emissions Monitoring (CEM) systems. This revision would require all subject facilities to install ammonia CEM systems according to a schedule linked to the final approval of the performance specifications for these ammonia CEM systems.

The draft amended BAAQMD Regulation states that the owner/operator of a petroleum refinery that includes an FCCU subject to the ammonia emission limit in Section 6-5-301.1 shall no later than January 1, 2018, requires an ammonia monitoring program to ensure compliance with the above ammonia slip limit by choosing between a parametric type ammonia mass balance monitoring system or a NOx and Oxygen CEM type mathematical calculation type system. The draft amended regulation also allows the use of other types of ammonia slip monitoring system if approved in writing by BAAQMD. Due to the accuracy issues associated with both the parametric and NOx/Oxygen CEM system ammonia slip monitoring approaches, and given the rapid current development of ammonia performance specifications for direct measurement of a dedicated ammonia CEM systems, due consideration should be made in the draft amendments to include a phase-in installation of ammonia CEM systems.

e. Time-weighted Average - CARB recommends that a definition of "time-weighted average" be included in the draft amended regulation. This will

clarify how the "time-weighted average" will be used to determine compliance with the limit in the regulation.

Draft amendment BAAQMD Regulation 6, Rule 5, Section 6-5-301.3 requires a total PM10 limit of 0.020 gr/disc, based on a rolling 4-quarter average. In addition, the staff report refers to a "time-weighted average" of the quarterly particulate test results to determine compliance with this PM10 limit. However, it is unclear on how this "time-weighted average" will be calculated.

With sincere regards.

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