

BOARD MEETING DATE: July 11, 2014

AGENDA NO. 37

PROPOSAL: Report on Hexavalent Chromium Monitoring at Cement Manufacturing Facilities, Development of Cement Facility Closure Plan, and Recommendations Regarding Future Rulemaking Efforts

SYNOPSIS: In 2009, the Board adopted amendments to Rule 1156 - Further Reductions of Particulate Emissions from Cement Manufacturing Facilities to address the elevated hexavalent chromium (Cr^{+6}) ambient concentrations found through MATES III sampling efforts. The amended rule requires the facilities to conduct ambient monitoring for Cr^{+6} . Pursuant to the resolution commitments, staff presents the second biannual report to the Board on the monitoring results at the two impacted facilities. The resolution also required the development of a facility closure plan in the event a facility ceases all or partial operations. This report will discuss potential amendments to Rule 1156 to address monitoring requirements and the closure plan.

COMMITTEE: Stationary Source, June 20, 2014, Reviewed

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:PF:TG:LP

Background

Rule 1156 - Further Reductions of Particulate Emissions from Cement Manufacturing Facilities was adopted by the SCAQMD Board in November 2005. Rule 1156 requires cement manufacturing facilities to comply with specific requirements applicable to various operations, including material handling, storage, and transport at the facilities.

Riverside Cement Company (TXI) in Riverside and California Portland Cement Company (CPCC) in Colton are the two cement manufacturing facilities in the SCAQMD's jurisdiction subject to Rule 1156.

Rule 1156 was amended in 2009 due to unexpected elevated ambient concentrations of the potent carcinogen hexavalent chromium (Cr^{+6}) observed at the Rubidoux monitoring station as part of the third Multiple Air Toxics Emissions Study (MATES III). These elevated concentrations, in large part, were traced back to the cement manufacturing operations through an extensive investigation and monitoring effort.

To ensure public health protection, the amended Rule 1156 takes additional steps to further reduce particulate emissions and Cr^{+6} from cement manufacturing facilities. The amended rule requires various protections (total enclosure with contingencies, three-sided barrier with roof, wind fence, and/or tarping) at clinker storage and handling areas as well as wind monitoring. Rule 1156 also requires ambient Cr^{+6} monitoring at the property fence line on a one-in-three-day schedule. A fenceline standard of 0.7 nanograms per cubic meter (ng/m^3), not including background levels, based on a 30-day rolling average, was established in the amended rule. Less frequent monitoring of once every six days can be conducted and the averaging period would change to a 90-day average if there are no Cr^{+6} exceedances during twelve continuous months of monitoring.

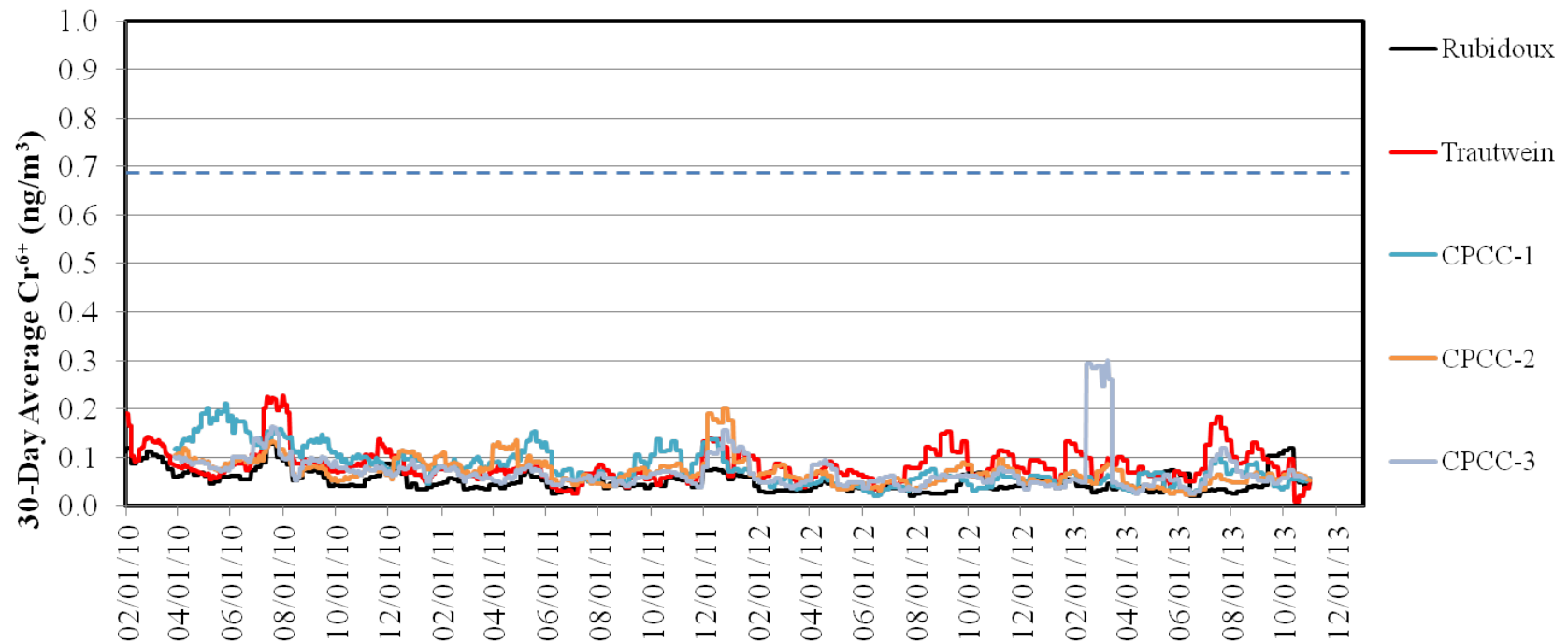
Ambient Monitoring Summary

The monitoring network was established at both cement manufacturing facilities. Since its start in March 2010 and after 46 months of data collection, there have been no exceedances of the threshold. The sampling schedule was changed to one-in-six-days in April of 2011 due to no prior exceedances of Cr^{+6} standard. It should be noted that TXI, in fall 2012, had single 24-hour readings in excess of $0.7 \text{ ng}/\text{m}^3$ and the facility reverted back to a 1:3 monitoring schedule. However, the 30-day average was not exceeded and the facility was found to be in compliance with applicable rule requirements.

Neither facility is manufacturing clinker presently. TXI no longer has such capability and has focused their operation solely on processing (grinding, blending) clinker from their Mojave Desert Plant and packaging cement for sale. CPCC is also only processing clinker brought from their Mojave Plant, but may consider starting one or both kilns when demand is sufficient.

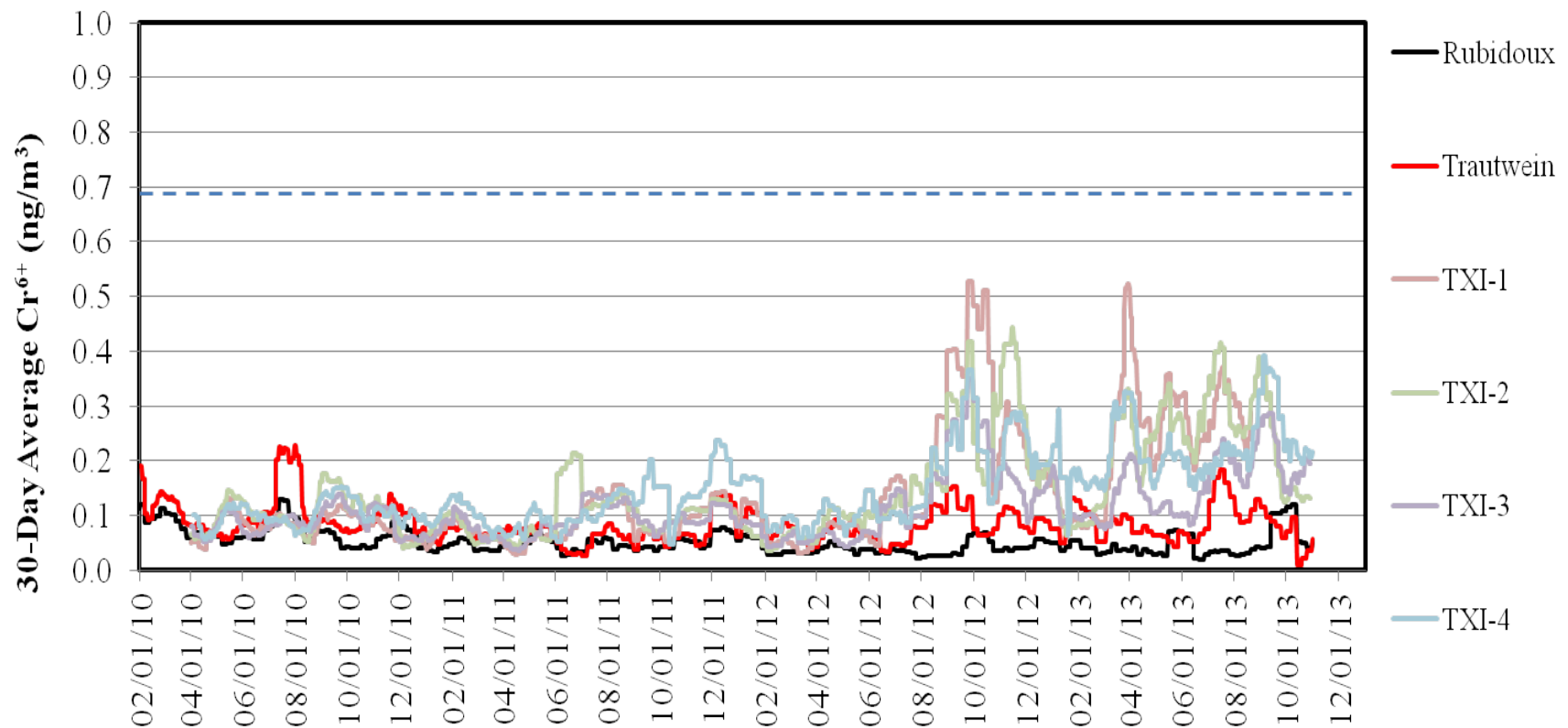
The following charts summarize the 30-day average ambient Cr^{+6} concentrations at both cement manufacturing plants during the last 46 months. For comparison, data from the SCAQMD Rubidoux monitoring station, as well as another hexavalent chromium monitoring station located between the two plants (Trautwein) are provided.

Rule 1156 Monitoring (Cal-Portland)



Note: Includes Background

Rule 1156 Monitoring (TXI - Riverside Cement)



Note: Includes Background

Conclusion

The monitoring data indicates that neither facility has exceeded the 30-day average 0.7 ng/m³ standard of Rule 1156. However, it should be noted that neither plant has been manufacturing clinker and both facilities are only processing clinker from other plants into cement product. The local demand is being met through clinker cement product imports into the region from Mojave Desert plants.

This report is part of an adopted resolution commitment to provide monitoring status reports to the Stationary Source Committee and bi-annual reports to the Board on Cr⁺⁶ monitoring. Also, pursuant to the adoption resolution, staff is committed to reevaluate the continued need for Cr⁺⁶ monitoring after 5 years of sampling and analysis, and the development of a rule amendment if needed. Staff is also committed to continuing development of a Cement Facility Closure Plan, a guideline for cement manufacturing facilities in the event of partial or complete facility shut down.

A working group comprised of representatives from CPCC and TXI, as well as staff from the Santa Ana Regional Water Quality Control Board, the San Bernardino County Land Use Services Department, and other agencies was established and provided input on the draft Closure Plan document. At that time, there was less than one year's worth of data, the facilities were virtually inactive due to the economy, and future activities were uncertain. As a result, the Draft Closure Plan was not submitted to the Board for consideration after review by the Stationary Source Committee in March 2011. Staff presented the first bi-annual report in April 2012 and due to continued lack of activity, no report to the Committee was made in 2013.

Currently, monitoring is in its fifth year. CPCC may restart their clinker manufacturing in the future and TXI will continue cement processing operations. Staff plans to re-engage the Working Group and finalize the Closure Plan document in conjunction with amendments to Rule 1156 in early 2015, considering sunset conditions for monitoring and other conditions of facility closure.