

From: Stephen N Goodrich [steve.goodrich@cemex.com]
Sent: Monday, June 22, 2009 3:56 PM
To: Lee Gribovicz
Cc: cdtaipal@cdphe.state.co.us; Amarjit S Gill; Monica Sowders
Subject: Supplemental Information for Four-Factor Analysis for Selected Individual Facilities,
Dated May 22, 2009

Mr. Lee Gribovicz
Western Regional Air Partnership and Western Governor's Association
1600 Broadway, Suite 1700
Denver, CO 80202

Dear Mr. Gribovicz: Thank you for the opportunity to review and comment on this report. Our comments are specifically related to the section on Cement Manufacturing.

GENERAL COMMENT

First, we recognize that this study was commissioned to provide reliable information for policymakers' use in establishing reasonable progress goals. Unfortunately, because of a multitude of the technical and textual errors, the Cement Manufacturing section falls short of this objective. It is too inaccurate, and consequently unhelpful, for its intended purpose. In particular, the "cost of technologies" and "cost effectiveness of reductions" are grossly misstated, as well as inconsistent with, several more useful reports (including those cited in this survey study). There are no supporting explanations or calculations that might help dispel the confusion.

SPECIFIC COMMENTS

The study considers only two of the three cement plants located in Colorado. There is no explanation why the GCC plant in Pueblo is not considered. The report discusses wet kilns, which are not present in Colorado. CEMEX emissions for the PM2.5 and PM10 are stated to come from the 2002 EPA NEI, and appear to be emissions from sources in addition to the kiln as they do not match any APENs filed, or stack test results. Further, PM2.5 is stated to be higher than PM10, which as it is simply not possible, is a glaring error. PM2.5 emissions are not even considered for the Holcim plant. Holcim plant capacity is stated in tons of clinker. On the other hand, CEMEX capacity is expressed in tons of kiln feed, which is substantially higher than clinker production rates.

Baseline emissions for the CEMEX plant are stated to come from the 2002 WRAP site, but the version utilized is not identified. NOx and SO2 emissions for Holcim are reportedly from CDPHE, the regulatory agency, but emissions for PM10 provided by the Colorado State [University?] (this is not clear in the report). No explanation is provided as to why inconsistent sources are used for emissions for the two plants reviewed, or from CEMEX for different categories of emissions, or why 2002 is used as baseline in 2008.

The permit reference provided for Holcim is actually the CEMEX Title V Operating Permit. In

fact, the Holcim Title V permit application has not been processed by the CDPHE. We understand that the Holcim plant is currently operating under a construction permit that was issued several years ago, rather than an operating permit.

The report states, “BART level control [sic] using SNCR to be added in the future, thus SNCR is not analyzed as it is now a required, not optional, control technology.” While this is true for CEMEX, Holcim was not subject to BART rulemaking and so not required to install SNCR. No justification is given as to why SNCR is not then a considered control technology for Holcim.

Further, as a new NO_x control level with SNCR is mandated for CEMEX, why isn't the required resulting emissions level of 901 tons per year (50% reduction from 1802 ton/year BART baseline) used as the CEMEX baseline condition? Correct application of the emissions reduction benefit of mandated SNCR installation and operation would correspondingly reduce the potential tons per year emissions reduction expected with all other control technologies listed, significantly altering the cost effectiveness analysis (if that analysis were accurate enough to be used). Alternatively, emissions reduction with installation of SNCR should be evaluated.

In addition, concerning NO_x, in table 4.1 Existing Control Measures, pre-SNCR NO_x emission numbers are used for the potential reduction for CEMEX. The report then applies an 80% potential reduction from pre-SNCR emissions for CEMEX. However, despite the same 80% reduction value in the table for Holcim, for Holcim the potential emissions reduction with SCR presented is only 40% and this inexplicably changes later in table 4.3 Estimate Energy and Non-Air Impacts to only about a 5% reduction.

The particulate analysis in the Existing Control Measures table represents that reductions of 95% could be achieved from the baseline emissions with baghouses. However, both facilities reviewed already operate fabric filter baghouses. Reported emissions already reflect greater than 95% control (98 – 99%) with the existing fabric filter baghouses. In addition, it is inconsistent and unclear why both fabric filter baghouse and dry ESP are presented as options for CEMEX, while only a fabric filter baghouse option is reviewed for Holcim.

Unfortunately, as there is no supporting explanation as to how costs were derived, or what assumptions were made, it is not possible to unravel the inaccuracies in the comparative costs analysis. As one example, is plain that a cost factor of \$32 per ton for SCR for CEMEX is wrong, especially when compared with other control technology reports, including those cited by this study.,,,

One more example of the confusion inherent in trying to make extract value from this report is the statement that, “[V]endors provided costs figures for precalciner kilns; however these costs were not available and only cost effectiveness figures for precalciner kilns were reported.” Whatever this was meant to say, the fact is that costs for SNCR for all kiln types are widely available. The recent, detailed BART analysis completed by Trinity Consultants on behalf of CEMEX specifically addresses the cost of SNCR at the CEMEX facility now under review.

Finally, the assumption of an infinite lifetime for the cement kilns considered falls far short of an adequate analysis of remaining useful life, the fourth factor in the analysis.

RECOMMENDATION

As it pertains to cement kilns, the above referenced Four Factor Analysis for Selected Individual Facilities in Colorado is confusing and inaccurate, and does not provide any useful explanations or calculations to help unravel the errors. It uses inconsistent baseline sources and reported data. Most telling, it presents data that directly conflicts with the cited sources. Consequently, the Commission should not place any confidence in this report. Instead, to provide sound reasonable progress goals the Commission should consider using the better prepared and much more accessible original sources cited in this study. Thank you again for the opportunity to submit our comments on the Four Factor Analysis. Sincerely, Steve Goodrich/Plant Manager

1. BBC Research and Consulting, June 27, 2008. "Summary of Research on Potential Control Options, Emission Reductions and Costs for Reducing SO₂ and NO_x from Major Existing Colorado Point Sources, Final Report." Prepared for APCD, CDPHE.
2. ERG, Inc. July 14, 2006. "Assessment of NO_x Emission Reduction Strategies for Cement Kilns - Ellis County, Final Report" TCEQ Contract No.582-04-65589.
3. ENVIRON, International Corporation and Sierra Nevada Air Quality Group, LLC, June, 2004. "Evaluation of Potential Control Technologies for Oxides of Nitrogen from Point Sources in Ellis County, Texas.
4. Lake Michigan Air Directors Consortium, Interim White Paper, March 6, 2006 "Midwest RPO Candidate Control Measures"
5. Trinity Consultants, July 2007, "BART Four Factor Analysis," Prepared for APCD CDPHE on behalf of CEMEX.

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