



July 20, 2009

Dr. Sue Shallal
Designated Federal Officer
EPA Science Advisory Board (1400F)
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C.

Re: Comments on EPA's Risk and Technology Review Report

Dear Dr. Shallal:

Pursuant to the Federal Register notice dated June 10, 2009, Lafarge Building Materials is submitting the enclosed comments on the above referenced report. As discussed in the enclosed comments, the emissions used in the EPA report are not appropriate for several pollutants and ignore data submitted to EPA which would have produced risks for the Ravenna plant more appropriate for a residual risk analysis. In particular, the dioxin/furan (D/F) emissions used in the risk analyses for the Lafarge Ravenna cement manufacturing plant are not based on actual compliance testing data previously submitted to EPA, and in fact the data used would violate the National Emission Standard for Hazardous Air Pollutants (NESHAPS) applicable to cement plants. Thus, the risks are substantially overestimated.

We are providing these comments via e-mail and by hard copy.

If you have any questions, please contact me at (518) 756-5026.

Sincerely yours,

John F. Reagan
Environmental Manager

Enclosure

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**COMMENTS ON EPA REPORT ENTITLED
“RISK AND TECHNOLOGY REVIEW (RTR)
RISK ASSESSMENT METHODOLOGIES: FOR
EPA REVIEW BY THE EPA’S SCIENCE
ADVISORY BOARD”**

Submitted by:

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July 21, 2009

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SECTION 1

INTRODUCTION

In June 2009, the U.S. Environmental Protection Agency (EPA) issued a report entitled Risk and Technology Review (RTR) Risk Assessment Methodologies: For Review by EPA's Science Advisory Board (SAB). The report was developed to assist the SAB in reviewing the risk assessment approach used by EPA for its residual risk assessments in the RTR program.

Section 112 of the Clean Air Act (CAA) establishes a two-stage regulatory process for addressing emissions of Hazardous Air Pollutants (HAPs) from stationary sources. In the first stage, the CAA requires EPA to set technology-based standards for various stationary source categories (e.g., Portland cement plants) that reflect the use of Maximum Achievable Control Technology (MACT). EPA has largely completed the MACT-based standards. In the second stage, EPA is required to assess the health and environmental risks that remain after sources comply with the MACT-based standards (i.e., the residual risk assessment) and to set additional standards as necessary to protect public health and prevent adverse environmental effects. The risk-based standards must be completed within 8 years of the technology-based standards.

The EPA report illustrates their RTR program using residual risk assessments previously performed or currently underway to support residual risk rulemaking. The two example residual risk analyses are for Petroleum Refining Sources and for Portland Cement Manufacturing. Appendices I and J of the EPA report present a detailed multi-pathway human health risk assessment and ecological risk assessment resulting from estimated air emissions of mercury (Hg) and dioxins and furans (D/F) from Lafarge's Portland cement manufacturing plant located near Ravena, New York.

Appendix G presents the maximum individual risk (MIR) cancer risks (inhalation pathway only) for 91 US cement plants due to estimated emissions of Polonium (Po) 210 and Radon (Rn) 222. Four plants in California had an estimated MIR exceeding 10^{-4} , while the Ravena Plant had an MIR of 4.5×10^{-6} .

SECTION 2

COMMENTS ON EMISSIONS AND OTHER INPUTS TO RISK ASSESSMENTS FOR RAVENA

2.1 Multi-Pathway Human Health and Ecological Risk Assessments

2.1.1 Mercury

Table 3-5 of the EPA Report presents the emissions used in the Hg and D/F risk assessments for the Ravenna plant. The total Hg was 0.225 tons/yr or 450 lb/yr, 75 percent of which was assumed to be elemental and 25 percent was divalent. (The Hg emissions in Exhibit 1.3-1 of Appendix I are apparently incorrect due to a decimal point error in the elemental Hg.) Lafarge has submitted a report to the New York State Department of Environmental Conservation (NYSDEC) and EPA presenting the results of a comprehensive study to measure Hg inputs and stack emissions (3 stack test events) at the Ravenna Plant. The estimated emissions at a clinker rate of 1.604 million tons/yr were 151 lb/yr (using the mass balance tests) and 180 lb/yr (using the 3 stack test events). The stack emissions were shown to be 98.7 percent elemental Hg. The Lafarge Hg report is attached.

Because elemental Hg does not contribute to local Hg risks, the EPA health risk assessment was based on the calculated divalent Hg emissions of 112.5 lb/yr (25% of 450). Using the actual stack test data, the divalent emissions from the Ravenna plant are less than 3 lb/yr. Thus, even the low Hg health and ecological risks estimated in the EPA report are overstated by roughly a factor of 50.

2.1.2 D/F

Lafarge has submitted to EPA source testing results for D/F to demonstrate compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Portland cement plants at 40 CFR Part 60, Subpart LLL (the most recent test was in March 2008). Based on the NESHAP compliance testing, Lafarge has submitted to EPA annually D/F emission information as part of their Toxic Release Inventory (TRI) Report. Despite having site-specific

source test data to use in the Ravenna health and ecological risk assessments, the EPA report instead calculates a mean and 95th percent upper confidence limit (UCL) emission factor for different types of kilns using 2002-2006 TRI data reported for 60 cement plants. The mean and UCL emission factors used in the Ravenna health risk assessment were 0.768 and 1.877 ng/kg of clinker [expressed as the Toxic Equivalent (TEQ) to the most toxic D/F isomer, 2,3,7,8-TCDD]. The 2008 D/F source test, expressed in ng TEQ/kg clinker, was 0.305 and thus the emission factors (and resulting risks) used in the health and ecological risk assessments for Ravenna are over estimated by a factor of 2.5 to 6, and in fact would not be in compliance with the NESHAP. For a residual risk assessment, EPA should, at a minimum, have assumed emissions that comply with the NESHAP.

2.2 Radionuclide Health Risks

No testing of radionuclide emissions has been conducted at Ravenna or at other US plants, as far as is known. The radionuclide risks in the EPA report are based on an emission factor developed from a 1990 source test on one cement plant in the Netherlands. Because the Po and Rn content of the limestone used in cement manufacturing would be expected to vary substantially throughout the country, the radionuclide risks based on the Netherlands data are highly uncertain. The statement that “Radionuclide emissions may therefore be the HAP emissions of greatest concern from Portland cement facilities” is highly speculative and unwarranted.

SECTION 3
CONCLUSIONS

The risks estimated in the EPA report for the Lafarge Ravena Plant should have represented the residual risks of the current plant after compliance with currently-applicable MACT rules that apply to “existing” kilns. The emissions used in the EPA risk analysis do not reflect the current emissions from the existing plant and considerably overestimate the resulting risks, especially for Hg and D/F.

Attachment 1