



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
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IN REPLY REFER  
TO:

FWS/RIFO

February 28, 2007

Ms. Pamela Blakley  
Chief Air Permits Section  
U.S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Dear Ms. Blakley:

This responds to your October 12, 2006 letter with biological evaluation and February 21, 2007 letter with supplemental information. You requested our concurrence in these letters pursuant to Section 7 of Endangered Species Act for the Prevention of Significant Deterioration (PSD) permit related to the proposed modifications at the Lafarge Midwest, Inc. Cement Plant in Joppa, Illinois. We have reviewed the information you provided and have coordinated with your staff. We concur with your findings that approval of this PSD permit will not likely adversely affect the federally listed species in the action area as defined in the biological evaluation materials.

The biological evaluation materials provide the results of air quality modeling and contaminant deposition rates to area soils, aquatic sediments, and surface water. We have not reviewed the air quality model and depend on your agency and the state agency for this technical review and approval. The biological evaluation materials also provide a comparison of the resulting maximum concentrations of lead and the hazardous air pollutants in the soils, sediments, and surface water to ecotoxicological thresholds published in the literature. In addition, we evaluated food chain exposure using the available mercury deposition data (See enclosure). Based on these analyses, we conclude that local fauna including federally listed species will be exposed to contaminants from the proposed future emissions from this plant. However, this exposure we believe, based on the best available information, will not elicit a detectable negative response from the listed species. Specifically, the increment of change anticipated over the next thirty years when added to the baseline condition, which includes background and past emissions deposition, is not likely to negatively affect the survival or reproduction of any federally listed species within the action area.

Ms. Pamela Blakley

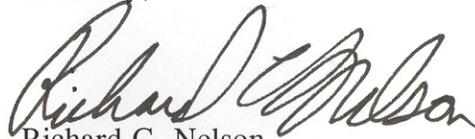
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Analyses of the cumulative effects from regional deposition outside of the action area and from gaseous emissions into the airshed are beyond the scope of this Section 7 review, and thus, were not evaluated.

This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. Should the project be modified or new information indicate endangered species may be affected, consultation should be initiated. This letter provides comments under the authority of and in accordance with provisions of the Endangered Species Act of 1973, as amended (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*)

Thank you for the opportunity to coordinate with you on this matter. Please feel free to call me at extension 201 or Mike Coffey of my staff at extension 206 if you have any questions or wish to discuss this further.

Sincerely,

A handwritten signature in cursive script, appearing to read "Richard C. Nelson".

Richard C. Nelson  
Field Supervisor

Enclosure

Clean Air Act permit Endangered Species Act consultation  
 Indiana bat (*Myotis sodalis*) food exposure pathway risk calculations  
 Chemical: Total Mercury  
 LaFarge Joppa

Future Emissions Enrichment - Soil	0.0270000000	mg/Kg dw
Past Emissions Enrichment - Soil	0.2300000000	mg/Kg dw
Background Soil Concentration	0.05	mg/Kg dw
Soil to Invert Bioaccumulation Factor	8.5	unitless
Future Emissions Enrichment - Sediments	0.00087	mg/Kg dw
Past Emissions Enrichment - Sediments	0.0015	mg/Kg dw
Background Sediment Concentration	0.1	mg/Kg dw
Sediment to Invert Bioaccumulation Factor	0.48	unitless
Future Emissions Enrichment - Water	0.000000130000	mg/L
Past Emissions Enrichment - Water	0.000000220000	mg/L
Background Water Concentration	0.00000066	mg/L
Water to Invert Bioaccumulation Factor	55000	unitless
Normalized Food Ingestion Rate	0.333	Kg/Kg-bw/d ww
Percent terrestrial insects	0.33	%
Percent epifaunal aquatic insects	0.34	%
Percent infaunal aquatic insects	0.34	%
Normalized Water Intake Rate	0.16	L/Kg-bw/d
Area Use Factor	1	unitless
Seasonal Use Factor	1	unitless
Safety Factor	1	unitless
Incidental Exposures (e.g on insects)	0.01	% of food rate
Methyl Mercury	0.65	% of total Hg
Body Weight	0.0075	Kg
Toxicity Reference Value NOAEL	0.032	mg/Kg-bw/d
Toxicity Reference Value LOAEL	0.16	mg/Kg-bw/d
Soil to invertebrate burden	2.6095	mg/Kg/d
Sediment to invertebrate burden	0.0491376	mg/Kg/d
Water to invertebrate burden	0.38225	mg/L/d
Normalized Food dose	0.335436031	mg/Kg-bw/d
Drinking water dose	0.00000002080	mg/Kg-bw/d
Normalized Food & Water Dose	0.338790412	mg/Kg-bw/d
Hazard Quotient NOAEL	6.8817	unitless
Hazard Quotient LOAEL	1.3763	unitless

Soil enrichment percent background 54.0 %  
 Water enrichment percent background 2.0 %  
 Sediment enrichment percent background 0.9 %  
 Water enrichment HQ USEPA wildlife criteria 202.8  
 Water enrichment HQ Mich. wildlife criteria 0.1  
 Sediment concentration is an actual baseline measurement  
 piscivorous wildlife water criteria 0.00000000641 mg total mercury / L (USEPA 1997)  
 piscivorous wildlife water criteria 0.0000013 mg total mercury / L (Michigan numeric)

These three values must be ≤ 1

TRVs for methylmercury chloride from Sample et al. 1996 (rat) - primary reference Verschuuren et al. 1976. USEPA 1997 provides chronic NOAEL 0.018 mg/Kg-bw/d  
 Food ingestion and water intake rates from Sample et al. 1996 for little brown bat  
 [Sum (Abiotic Media Concentration X Bioaccumulation Factor) X Ingestion or Intake Rate / Body Weight] X Use Factors = Dose / Toxicity Reference Value = Hazard Quotient  
 Modeled on dry weight basis (dw to ww conversion use X 0.2978)

- 1 ng = 0.001 µg = 0.00001 mg
- 1.5E-03 = 0.0015
- ppm = mg/Kg = µg/g = ng/mg = 1000 ppb
- ppb = µg/Kg = ng/g = pg/mg 0.001 ppm
- ppt = ng/Kg = pg/g = fg/mg = ng/L
- ppq = pg/L