

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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May 28, 2008

Ms. Jane Patarcity
Beazer East, Inc.
One Oxford Centre, Suite 3000
Pittsburgh, PA 15219-6401

Subject: Off-Property Ecological Risk Assessment
Koppers Inc., Superior, Wisconsin Facility
BRRTs: 02-16-000484

Dear Ms. Patarcity:

This letter is to provide comments regarding the September 24, 2007 letter with the subject heading, "Off-Property Ecological and Human Health Risk Assessment Approach Memoranda, Koppers Inc. Superior, WI Facility". This letter will provide the Department's comments regarding the Off-Property Ecological Risk Assessment only. A separate letter was sent on May 12, 2008 regarding the Human Health Risk Assessment. These comments apply specifically to the offsite contamination which discharged from the on-site ditch and is associated with the surface waters including the unnamed tributary, Crawford Creek, and potentially the Nemadji River.

The document proposes the use of Exposure Point Concentrations (EPC) to assist in the determination of risk at the site. In general, benthic organisms have a limited range such that they have a limited or narrow range of contaminant concentration exposure and the nearest sample would typically be representative of their exposure. Therefore, a calculation of an EPC by arithmetical averaging of samples or other averaging method over an area which exceeds their typical range is inappropriate.

The Document proposes using Equilibrium Partitioning Sediment Benchmarks (ESBs) for the site. According to EPA's *Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures* ESB require analysis for 34 Polynuclear Aromatic Hydrocarbons, have all 34 PAHs been collected at the site? We could consider fewer PAHs if a strong correlation is demonstrated between the EPA recommended 34 PAHs and a lesser quantity of analyzed PAH compounds at this site.

Again, please refer to EPA's *Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures* which states:

These ESBs do not consider the antagonistic, additive or synergistic effects of other sediment contaminants in combination with PAHs or the potential for bioaccumulation and trophic transfer of PAHs to aquatic life, wildlife or humans. Consistent with the recommendations of EPA's Science Advisory Board, publication of these documents does not imply the use of ESBs as standalone, pass-fail criteria for all applications;

rather, ESB exceedances could be used to trigger the collection of additional assessment data. ESBs apply only to sediments having 0.2% organic carbon by dry weight.

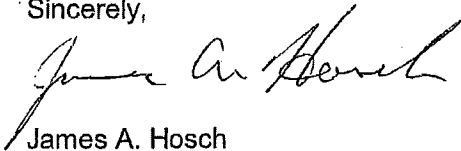
The contaminants of concern include PAHs in the sediments which may have photo enhanced toxicity to aquatic species exposed to ultraviolet light. Other additive or synergistic effects may be species specific. As such, consistent with EPA's Science Advisory Board, we consider ESBs a complement to existing sediment assessment tools, to help assess the extent of sediment contamination, to help identify chemicals causing toxicity, and to serve as targets for pollutant loading control measures.

We consider exceedances to ESBs and Consensus Based Sediment Quality Guidelines (CBSQGs) a trigger for the need for additional assessment data. A full evaluation and accounting of the contaminants toxic properties including ultraviolet phototoxicity should be taken into account. Because the site exceeds CBSQGs we require a weight of evidence approach which considers chemistry, toxicity, and benthic community studies from affected sites and non-affected reference sites in determining the need for further action at the site. No single line of evidence would be used to drive decision-making. Each line of evidence should be evaluated for the 1) adequacy and quality of the data, 2) degree and type of uncertainty associated with the evidence, and 3) relationship of the evidence to the potential degree of impact being estimated. All of the lines of evidence will be integrated to characterize risk based on: 1) concurrence of all line of evidence results 2) preponderance of the evidence, 3) magnitude in comparison to reference sites, 4) extent, and 5) strength of relationships between the exposure and the effects data.

Therefore we consider the use of the Department's Consensus Based Sediment Quality Guidelines or EPA's Equilibrium Based Sediment Partitioning Benchmarks as appropriate methods as a component of the weight of evidence approach. The Department may consider the use of a mean based on the 95% upper confidence limit for select species where appropriate for the site.

Thank you for opportunity to provide these comments regarding the Off-Property Ecological Risk Assessment Approach Memorandum. If you have any questions, please feel free to call me at (715)-392-0802.

Sincerely,



James A. Hosch
Hydrogeologist

cc: John Robinson – Rhinelander
Mark Gordon – RR/3
Jeff Holden- BBL
Henry Nehls-Lowe - DHFS
Bob Egan - EPA Region 5
Brian Magee – AMEC

References:

Hanson DJ, DiToro DM, McGrath JA, Swartz RC, Mount DR, Spehar RL, Burgess RM, Ozeretich RJ, Bell HE, Linton TK. 2003. Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures. EPA-600-R-02-013. U.S. EPA, Office of Research and Development, Washington, DC.)

Aartilla T, Hosch J, Niesta L, Amrhein J, Janisch T, O'Connor K, Brunette M, Killian J, Pelczar J, Fitzpatrick B, Lynch E, Schrank C, Galarneau S, Luebke P, Talbot L, Grefe B, Nass A, Zhang X. 2003. Consensus Based Sediment Quality Guidelines Recommendations for Use & Application Interim Guidance. Wisconsin Department of Natural Resources WT-732 2003