

## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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July 23, 2008

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

Subject: Off-site Human Health Risk Assessment  
Koppers Inc., Superior, Wisconsin Facility  
BRRTs: 02-16-000484

Dear Ms. Patarcity:

The Department received an e-mail on June 25 to our letter of May 12, 2008 regarding the Human Health Risk Assessment (HHRA). The HHRA is under consideration for approval by the Department for the development of environmental standards per the requirements of s. NR 722.11 Wisconsin Administrative Code. Please refer to s. NR 722.11(2) Wis. Admin. Code which states:

*If the Department authorizes the use of a risk assessment to develop environmental standards, the responsible parties shall utilize standard exposure assumptions approved by the Department. The Department may approve, modify or disapprove of the risk assessment prepared by the responsible parties and shall provide a written explanation to the responsible parties. (Emphasis added)*

As a courtesy we are informing you of the conditions at this time:

**Condition 1:** The HHRA will be modified by Beazer to use EPA's default Absorption Adjustment Factors (AAFs) of 0.13 for all PAHs and 0.25 for pentachlorophenol.

**Explanation:** AMEC in "Table 3 - Absorption Adjustment Factors", proposed the use of dermal AAFs for PAHs and pentachlorophenol, which were listed as 0.1/0.02 and 0.03, which are unacceptable to the Department.

The AMEC-authored risk assessment memorandum departs from the standard default absorption factors (AF) provided in the 2004 U.S. EPA Risk Assessment Guidance for Superfund, Part E, Supplemental Guidance for Dermal Risk Assessment (<http://www.epa.gov/oswer/riskassessment/ragse/index.htm>) when calculating health risks associated with dermal exposures to impacted soils. This EPA guidance established an AF of 0.13 for polycyclic aromatic hydrocarbons (PAHs), and the HHRA used an adjusted AF of 0.02 for carcinogenic PAHs and 0.1 for noncarcinogenic PAHs. For pentachlorophenol, the U.S. EPA guidance also the set default AF at 0.25, while the HHRA used an adjusted AF of 0.03.

As we have stated in earlier correspondence, Henry Nehls-Lowe of the Wisconsin's Department of Health and Family Services consulted with an EPA Region V toxicologist and senior staff at the Agency for Toxic Substances and Disease Registry (ATSDR).

Henry sought Mario Mangino's comments regarding the 2004 EPA Guidance for Dermal Risk Assessment related to the recent Kopper's on-site Human Health Risk Assessment, particularly AMEC's points of departure from the guidance. As a toxicologist with EPA, Mario supports the recommendation that the HHRA use the default PAH and pentachlorophenol dermal absorption factors and default PAH dermal permeability coefficient factor cited in the EPA guidance. The Region 5 RCRA program supports the use of the 2004 EPA RAGS Part E "Supplemental Guidance for Dermal Risk Assessment," and requires Responsible Parties to employ that guidance for risk assessments.

Henry also discussed this with Mark Johnson, previously an EPA toxicologist and currently senior staff in the ATSDR Region V office. Mark participated on the workgroup that reviewed this guidance and also supported this above recommendation.

The recommended soil dermal absorption factors for PAHs and Pentachlorophenol were derived from published peer reviewed studies on dermal absorption in appropriate laboratory model systems. Consequently, there is adequate support for the values adopted in the Guidance.

**Condition 2:** The HHRA shall be modified to include an exposure frequency for a Trapper of not less than once per day and duration of 2 hours.

Explanation: Beazer asserts that a frequency of one visit per day is "unreasonable". Wisconsin trapping regulations require a *minimum* of one visit per day for dry and wet sets. In fact, a DNR Warden would issue a citation to a trapper if they visited their traps at any less frequency.

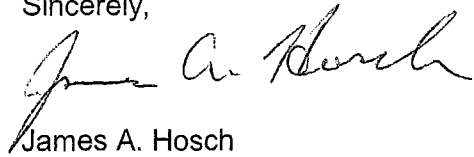
**Condition 3:** The Adult Recreational Visitor/Resident Exposure Scenario to Crawford Creek, its floodplain, and the unnamed tributary. For soil NR 720.19 Wisconsin Administrative Code states standard exposure assumptions of 200 mg of soil per day of a 15 kg child for 350 days each year and inhalation of particulate matter shall be assumed to occur at the inhalation rate of 20 m<sup>3</sup> of air per day with a concentration of 1.4 ug/m<sup>3</sup> of contaminated soil particles less than 10 um in diameter for 350 days each year.

**Explanation:** AMEC has suggested using 12 days as the exposure frequency. The Department suggested using a central-tendency and a reasonable maximum exposure scenario. No data has been provided to the Department establishing central tendency.

As referenced above, s. NR 722.11(2) Wis. Admin. Code states, "...the responsible parties *shall utilize standard exposure assumptions approved by the department.*" In accordance with Wisconsin Administrative Code we are selecting standard exposure assumptions found in NR 720 Wis. Admin. Code that are accepted by the Department as protective. AMEC in its letter references described the tributary as having "deep incised banks". Although steep in some locations there are also locations where the grade of banks allows easy access to the tributary. These locations allow a person access the channel, once in the channel it is possible to walk the length of the tributary as a number of department staff have done in the past. In addition, it was noted that a small foot bridge was located on the tributary. It would be reasonable to assume a person to go to the expense of placing a foot bridge would be visiting the site on a frequent basis.

If you have any questions, please contact me at 715-392-0802.

Sincerely,

A handwritten signature in cursive script, appearing to read "James A. Hosch".

James A. Hosch  
Hydrogeologist

cc: John Robinson – Rhinelander  
Mark Gordon – RR/3  
Jeff Holden- BBL  
Henry Nehls-Lowe - DHFS  
Bob Egan - EPA Region 5  
Paul Anderson – AMEC  
Vicki Drake – Douglas County