

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

SUBJECT: NSW, Indian Head
Remedial Investigation, Sites 12, 39/41, 42, 44

DATE: June 25, 1999

FROM: Alvaro Alvarado, Ph.D. 
Toxicologist
Technical Support Section (3HS41)

TO: Dennis Orenshaw, RPM
Federal Facilities Branch (3HS50)

I have reviewed the Remedial Investigation for NSW, Indian Head, with particular attention to toxicological and risk assessment issues. The following comments are offered for your consideration:

In general, the Remedial Investigation is thorough. While I have some specific comments regarding the risk assessment, I agree with the conclusions of the document.

Site 12

1. The IEUBK model for lead exposure to children: The model was run using the maximum detected lead concentration in groundwater, which resulted in a risk greater than EPA's target risk level of 10 µg/dl blood lead concentration in greater than 5% of the exposed children. The model is meant to run with the average lead concentration in groundwater. I input the average concentration (15.6 µg/l) into the model which results in an acceptable risk for children.
2. Table 4-17: A spot check of the risk calculations revealed several errors:
 - a. The ICR for the adolescent trespasser due to fish ingestion should be 2.5 E-5 instead of 2.5 E-3. This may just be a transcription error.

The RfD for di-n-butylphthalate (DnBP) was ten times higher than it should have been. A RfD of 1.0 mg/kg-day was used instead of 0.1 mg/kg-day. This results in a 10 fold greater hazard index for both the lifetime resident (2.8) and adolescent trespasser (4.6) due to fish ingestion.

3. Since the HI for fish ingestion is greater than 1.0, I recommend that text be added to the document to point out the uncertainty associated with HI due to fish ingestion. For example, Fish tissue was not sampled for DnBP. The concentration in fish tissue was estimated based on a bioconcentration factor. Also, The risk is based on one detection (22 µg/l) of DnBP out of six surface water samples. Phthalates in general are common laboratory contaminants and it is common to find 22 µg/l in laboratory blanks.
4. As was stated in previous comments, there were no subsurface soil samples. Consequently, the risks due to subsurface soil is unknown. Given this data gap, I recommend that institutional controls be considered in the FS to prohibit disturbance of the subsurface.
5. Table 4-12 and Table 4-13 are duplicates. I think one should be the table for the selection of COPCs in fish tissue.

Site 39/41

6. Section 5.8.3, bullet 3: Arsenic and iron are the main contributors to the HI for soil and arsenic is the risk driver for groundwater.
7. 5.8.5 Recommendations: The risks to full-time employees, construction workers, and future residents exceed EPA's target range. I recommend that the FS address all three receptors, not just full-time employees.

Site 42

8. Table 6-22, Estimated ICR and HI: There is an error in the total of all media row for construction worker and maintenance worker. The HI should be less than 1.0 for the maintenance worker.

If you have any questions concerning the above comments, please e-mail me (Alvarado.Alvaro@epa.gov) or call me at 215-814-2709.

cc: Eric Johnson