

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

**SUBJECT:** Indian Head NSWC: Draft RI for Sites 12, 39/41, 42, and 44      **DATE:** 9/15/98  
**FROM:** Barbara Okorn, Coordinator  
Biological Technical Assistance Group (BTAG)  
**TO:** Dennis Orenshaw, RPM  
Federal Facilities Branch (3HS50)

The BTAG has reviewed the subject document and offers the following comments on behalf of NOAA and EPA members.

**GENERAL APPROACH**

#1  
The presentation of the methods for conducting ERA's should more accurately describe the process outlined in Ecological Risk Assessment for Superfund: Process for Designing and Conducting Ecological Risk Assessments, June 1997 (EPA 540-R-97-006). Specifically the document should identify the purpose of the screening level ERA following this guidance (i.e. Steps 1 and 2 which are described) and outline the remainder of the process (. Steps 3-8 which are not described). Currently the document indicates that conducting an ERA is only a two step process under this guidance. The overall effects appears to be that too much time and effort were expended for the screening level ERA and that considerable time and effort has been expended in the remaining steps without proper dialogue at the first Site Management Decision Point. The document does provide an adequate summary of the tiered approach included within the DOD Guidance for Conducting ERA's.

#2  
The document provides a screening level ERA using conservative benchmarks. However alternate guidelines (i.e. screening levels) are used in a risk management fashion. As is pointed out, these alternate guidelines are less conservative than the values used in the screening process and are based on different effect levels. However these guidelines were not developed for and are not appropriate to use as site specific preliminary remediation goals. Site specific ecologically based PRG's should be developed through the site specific ERA process. These guidelines may be appropriate to use in a comparative fashion when developing the site specific PRG's. Other risk management considerations were also used in evaluating the ERA results, including background (site specific and regional), the magnitude of hazard quotient values, habitat quality and quantity, and the significance of groundwater exceedances noting a lack of direct exposure. These considerations were used in a somewhat capricious fashion and need further discussion. For example, a hazard quotient of 3 was

deemed insignificant in a site specific application without any supporting discussion. Also, site specific background and regional background seem to carry equal weight when evaluating background. It should be noted that technically risk management is not an integral part of the screening process and normally is addressed in Step 8 of the ERA Superfund process.

#3 { Screening levels for surface water were not adjusted using site specific water hardness data as the author proposes that the AWQC values have enough inherent conservatism. Water hardness can be a critical factor in the toxicity of many contaminants in surface water and at a minimum a general discussion of the importance water hardness should be provided.

#4 The report does not present the input parameters used in the food web modeling because they have been in previous submissions of the foodweb modeling package to EPA Region III. It is not clear if this is in reference to Indian Head but nonetheless in order to have the RI more complete these parameters should be presented. In addition the example equations provided in Section 2.6.1.3.2 include a component (CF) which is not defined. Screening levels, models and input parameters, assessment and measurement endpoints should have been agreed by all parties. Once again, the scientific management decision points have been ignored.

#5 The risk calculation section (2.6.1.4) presents the concept of a hazard index which may be used to assess potential additive effects. The report states that the completed assessment indicated that, for the most part, PCOC's that were selected have different, or partially different modes of action. The level of effort devoted to addressing this issue as well as some level of substantiation should be provided to support this statement. The insinuation that the ERA is complete after the screening steps (Steps 1 and 2) further indicates a lack of complete understanding of the two step screening process.

#6 The uncertainty section presented is biased by placing an emphasis on factors which are conservative and portrays a negative connotation on the process. This again reflects a lack of understanding of the intent of the screening ERA, which is to identify, with a relatively high degree of certainty, contaminants which do not pose ecological risk rather than identify contaminants which may pose ecological risk and propose remediation goals for them. Some statements are frankly unprofessional. To say that, for example, "most screening levels are based on the most conservative assumptions possible" (Section 2.6.1.5.2) or that in some instances stakeholders, in particular the public, often view the ERA process as cumbersome, lacking common sense, too rigid, and too conservative to be practical (Section 2.6.2 Risk Management) shows that the ecological risk assessors lack of understanding and frustration with the process may prevent an impartial assessment. Factors such as the paucity of long term chronic effects data, the effect of multiple contaminants and there interaction, the use of single species to represent broader guilds, and evaluating limited endpoints which may bias risk estimates low should be presented to provide more balance to the discussion.

Considering the comments above on the general approach for conducting ERA's for specific sites, this review will not reiterate these comments by identifying site specific applications rather the focus will be on the preliminary risk characterizations and recommendations for future action for the sites in the report.

## TOWN GUT LANDFILL - SITE 12

A significant potential for ecological risks for this site was identified from sediments in the adjacent pond from PAH's and mercury. Additional investigation at the site is not recommended due to the results of a separate biomonitoring investigation in the adjacent pond being conducted in connection with Site 8. Although we agree that this effort may provide good information in addressing risks from Site 12, insufficient information is presented on the biomonitoring effort to concur with the recommendation at this point. This information should be used in a site specific evaluation for Site 12.

The potential for ecological risk was also identified in surface soil and surface water at the site. These risks were discounted in the risk management section. Due to the fact that there are many exceedances of site related contaminants and the risk management criteria are not well defined it is recommended that further evaluation of the site be conducted.

## SITE 39/41 Organics Plant/Scrap Yard

The screening ERA identified potential risk from several contaminants in surface soil and sediment at the site. Further assessment of sediments in Mattawoman Creek is recommended; no further assessment for surface soil is recommended based on risk management considerations (i.e. limited habitat quality). However, the further assessment in Mattawoman Creek is proposed to be independent of Site 39/41. Based on the information provided, we recommend that further assessment at Sites 39/41 be required and a revised conceptual model for the site be developed based on the results of the screening level ERA in order to evaluate Site 39/41 as a source area.

## Site 42 Olson Road Landfill

The screening level ERA identified several contaminants in sediments which pose ecological risk. A specific recommendation for a feasibility study or removal action for silver in drainage swales is recommended. The other contaminants are dismissed via risk management. Several contaminants were identified in groundwater. The results of the surface soil screening is severely limited due to a lack of inorganic data.

Based on the information presented in the screening level ERA, we recommend that site specific ERA work be conducted at the site. We do not disagree with the recommendation for a removal action for silver in the drainage swales, however it may be beneficial to complete the ERA at the site, in a timely manner, in order to develop a more comprehensive response action.

## Site 44 - Soak Out Area

No ecological risk assessment was performed for Site 44 because the site was deemed to have no significant ecological component. Evidently this was agreed to in the 1997 workplan.

The 6/25/96 BTAG comments do not state this. However, if it was agreed to then we can support the no further action at this site from an ecological perspective. The area is described as flat grassy, and open and has a drainage ditch which extends along the southeastern edge of the site. The site description raises questions regarding the lack of a significant ecological component, however the site contaminant data is relatively. This issue should be clarified.

#### ADDITIONAL SPECIFIC COMMENTS

Section 2.1.3 The methods for collecting surface water and sediment should be provided.

Section 2.4 A definition of a bioaccumulation factor (BAF) should be presented particularly since a definition of a bioconcentration factor is provided.

Thank you for the opportunity to offer these comments. If you have any questions, please contact me at x3330.