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Project Number 7129

Mr. Robert A. Sadorra
Engineering Field Activity, Chesapeake
Naval Facilities Engineering Command
Building 212
901 M Street S.E.
Washington, DC 20374-2121

Reference: CLEAN Contract No. N62472-90-D-1298
Contract Task Order No. 245

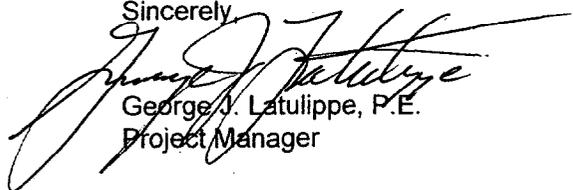
Subject: Indian Head Division, Naval Surface Warfare Center
Sites 12, 39/41, 42 and 44
Response to USEPA Region III BTAG Comments on
Draft Remedial Investigation Report

Dear Mr. Sadorra:

Forwarded herewith is the response to the September 15, 1998, USEPA Region III BTAG comments regarding the draft Remedial Investigation Report for Sites 12, 39/41, 42 and 44 at Indian Head Division, Naval Surface Warfare Center.

If you have any questions regarding the report, please contact me at 412-921-8684.

Sincerely,



George J. Latulippe, P.E.
Project Manager

GJL/gi

Enclosure

cc: Mr. Roger Boucher, NORTHDIV (w/o enclosures)
Mr. John Trepanowski, P.E., Tetra Tech NUS, King of Prussia
Mr. Matt Bartman, Tetra Tech NUS, Pittsburgh
Project File 7129

RESPONSES TO USEPA REGION III BTAG COMMENTS
DRAFT REMEDIAL INVESTIGATION REPORT
SITES 12, 39/41, 42 AND 44
INDIAN HEAD DIVISION, NAVAL SURFACE WARFARE CENTER
INDIAN HEAD, MARYLAND

The following paragraphs respond to the September 15, 1998, comments from the USEPA Region III BTAG regarding the draft Remedial Investigation Report for Sites 12, 39/41, 42 and 44 at the Indian Head Division, Naval Surface Warfare Center (IHDIV-NSWC), Indian Head, Maryland. The comment numbers appearing below correspond to the hand-entered numbers on the BTAG comments provided herewith for reference as Attachment A.

General Comments

Comment 1 Response:

Agreed. Additional discussion of the purpose of the screening-level ERA and description of the entire 8-step ERA process for Superfund will be added to the text. It should be noted that a description of the steps 3 through 8 was omitted due to BTAG comments on similar documents that stated that a discussion of steps 3 through 8 was premature until those steps were undertaken.

Comment 2 Response:

Agreed. When possible, site-specific data will be collected to develop site-specific ecological PRG's. The risk management tools used in the ERA may appear to have been applied arbitrarily. However, since all risk management tools did not apply at each site or for each chemical, not all tools were used except in instances where they were all necessary. This may account for the perception that their use appeared to be capricious. Nonetheless, additional discussion of the risk management tools and their use will be added to the text. As stated in the last sentence of Section 2.6.2, it is understood that risk management is normally addressed in Step 8 of the process, although the "Process Document" allows for flexibility in the performance of the steps in the process.

Comment 3 Response:

Agree. A discussion of the relationship between surface water hardness and toxicity will be added to the text. Another reason for the omission of hardness from the calculations was due to the screening-level, "first cut" nature of the assessment. If additional study of surface water is performed, hardness will be quantitatively evaluated.

Comment 4 Response:

Agree with modifications. The foodchain modeling spreadsheets, their exposure parameters, and their toxicity values were provided to the Navy by Region III BTAG for general use. This will be clarified in the text. Discussions have been held with BTAG regarding the sources of all data in the spreadsheets during which BTAG provided reports that were presumed to contain the data. Attempts to verify the source of all the data in the spreadsheets using these reports proved unsuccessful. The spreadsheets were based on published ERT reports and have been used by other Navy contractors. Therefore, the presumption has been that the toxicity data and input parameters were acceptable. The Navy will provide these data in the report if BTAG can provide a complete list of their sources.

The "CF" term in the exposure equations was superfluous and will be removed.

As stated in the November 11, 1998 conference call between the Navy and BTAG, scheduling requirements necessitated initiation of the ERA prior to complete dialogue among all parties regarding certain aspects of the ERA process. BTAG's input will be sought and is welcomed at the appropriate decision points during the remainder of the process.

Comment 5 Response:

Although Section 2.6.1.4 presents a discussion of additive ecological effects and resultant calculations to quantify additive effects, the Navy ultimately decided that these issues were too complex and lengthy to warrant quantitative analysis and in-depth discussion in the screening-level ERA. If additional ecological study is needed at any of the sites, a more detailed discussion of additive ecological effects will be included. Additional discussion will be added to explain the issue raised in the comment.

It was not the Navy's intent to imply that the ERA is complete after the first two steps in the ERA process. On the contrary, the draft RI concluded that the ERA should be continued at 3 of the 4 sites assessed. The draft RI will be revised to more clearly state the options after the first two steps in the ERA process are completed.

Comment 6 Response:

Agreed. The uncertainty section will be revised to present a more balanced discussion of uncertainties. The intent of several statements in this section was to better help the public understand the Navy's commitment to common-sense environmental stewardship, not express discontent over difficulties in the process or regulatory review.

Specific Comments:

Comment 7 Response:

Town Gut Landfill – Site 12

Agree. Additional discussion of the previous biomonitoring will be added to the text and a summary report of the biomonitoring will be provided to BTAG. The results and endpoints from the biomonitoring will be incorporated into revised and most appropriate assessment endpoints.

Most of the exceedances for surface soil were confined to one sample, indicating that the contamination and related risks may be localized, minimizing widespread, population-level effects. This, combined with the results of the biomonitoring, was the basis for the recommendation for no additional ecological study at Site 12. A landfill cap may be necessary at the site due to ARARs independent of the ERA, which could provide *de facto* elimination of the surface soil exposure pathway. If so, an ecological PRG or some type of remedial guideline will be needed. It is possible that PRG's could be developed for the relevant COC's using existing data and information about the site.

Comment 8 Response:

Organics Plant/Scrap Yard - Site 39/41

Agree with modifications. Additional ecological study of Mattawoman Creek, particularly sediments appears to be necessary. This additional study will be performed as part of a base-wide study of Mattawoman Creek planned to begin next year that will incorporate all potential contaminant sources to the creek. The focus of this RI for Sites 39/41 was to determine if these sites were contaminant sources to the creek and determine the risks from the sources themselves.

Comment 9 Response:

Olson Road Landfill – Site 42

Agree with modifications. Potential risks are present at the site, due primarily to silver in the drainage swale. Other exceedances of conservative screening levels were present for contaminants other than silver. Yet, with the exception of one detection of zinc, no other chemicals had maximum concentrations in excess of probable-effects levels (e.g., ER-Ms, SEL's). The potential risks from silver may facilitate a removal action of site sediments and surface soils. The physical-chemical nature of the drainage area (gravelly substrate) poses difficulties in determining if site-specific tests are feasible at the site that could be used to develop PRG's. Further discussions with BTAG are necessary following their December 1998 site visit to determine the nature of additional study or PRG calculation.

Several contaminants were present in groundwater. However, no strong correlation exists between the chemicals and their concentrations in groundwater with those in drainage swale sediments. Inorganics were not analyzed for in landfill surface soils since the results of previous studies indicated that inorganics were not of concern.

Comment 10 Response:

Soak Out Area – Site 44

Agree. The determination and earlier decision to exclude Site 44 from the ERA process will be confirmed during the December 1998 site visit.

Additional Specific Comments

Comment 11 Response:

The text in Section 2.1.3 of the draft Remedial Investigation Report will be expanded to describe the methods employed to collect the surface water and sediment samples.

Comment 12 Response:

The text of Section 2.4 in the draft Remedial Investigation Report will be modified to add a definition of bioaccumulation factor.

ATTACHMENT A

**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

7 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

8 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

9 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

10 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

11

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

12

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.