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July 29, 2003

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Commanding Officer
Chesapeake Division NFEC
Attention: Code 181, Mr. Walter Legg
Washington Navy Yard, Building 212
1314 Harwood, St. S.E.
Washington, DC 20374-5018

Dear Mr. Legg:

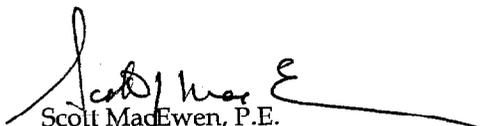
Subject: CH2M HILL Responses to Comments from the BCT on the
Draft Final Feasibility Study for Operable Unit 1, NSWC - White Oak
Contract N62470-95-D-6007
Navy CLEAN II Program, Contract Task Order 0101

Enclosed for your files are CH2M HILL's responses to comments on the draft final Feasibility Study Report for Operable Unit 1 from:

- EPA Region III
- Tetra Tech NUS

Each comment is repeated in its entirety followed by CH2M HILL's response. Any questions can be directed to me at (703) 471-6405, extension 4332.

Sincerely,
CH2M HILL


Scott MacEwen, P.E.
Project Manager

Enclosure 1 - Responses to EPA Region III Comments
Enclosure 2 - Responses to Tetra Tech NUS Comments
cc: Mr. Bruce Beach/USEPA Region III
Mr. Mark Callaghan/MDE
Mr. Bob Ridgway/Identix
Mr. Scott Nesbit/Tetra Tech NUS
File (cover letter only)

**CH2M HILL/Navy Responses to EPA Region 3 Comments
on the
Draft Final Feasibility Study for Operable Unit No. 1
NSWC-White Oak, Silver Spring, Maryland
dated March, 2003**

Comments dated: 6/4/03

Responses dated: 6/23/03

GENERAL COMMENTS

1 This was a very good job of bringing together a clear discussion of a complex analysis of several alternatives for multiple sites, nicely done.

Response to 1. No response required.

2 In the discussion of the LUCIPs, it would be a good idea to change some of the language as was discussed in the May 2003 Partnering meeting.

Response to 2. The requested changes have been made in the LUCIP discussions for Sections 5, 6, 7, 8 and 9 of the Final FS.

3 Several figures need to be relabeled because the cross-sections do not agree with the associated map in terms of cross-section direction.

Response to 3. The requested changes have been made in the Final FS.

4 Several areas in the text need to be changed to update the estimated time to meet PRGs in the dissolved plume based on the new location of the alternative 7 extraction wells.

Response to 4. The requested changes have been made in the Final FS.

5 There are several pages with sentences that have words missing, or need editorial changes; several examples are provided below.

Response to 5. We have reviewed the document and made corrections to all observed omissions.

SPECIFIC COMMENTS

6 Executive Summary, Summary of Findings, Second Paragraph, Page XVI. There appear to be words missing from the first line, maybe "above MCLs" after "concentrations." Also, the reference to Figure 1-3 in the second line might be 1-4.

Response to 6. The requested correction has been made in the Final FS.

7 Section 3.3.2 Preliminary Remediation Goals for Site 4 Subsurface Soils, Second Paragraph, Page 3-9. Should PCA be discussed in this paragraph.

Response to 7. This section has been revised to also address PCA.

- 8 Figure 5-2. Please reverse the lettering that identifies the B-B' cross-section.
Response to 8. The requested correction has been made in the Final FS.
- 9 Section 6.3 Remedial Alternatives for Groundwater, First Paragraph, Page 6-3. The reference to Section 13 should be Section 4.0.
Response to 9. The requested correction has been made in the Final FS.
- 10 Section 6.4.2 Alternative 2 – Institutional Controls with Long-Term Monitoring, Third Paragraph, Page 6-4. As discussed in the May Partnering Meeting, word changes such as “would” and “could” should be made and the last sentence in this paragraph should be dropped.
Response to 10. This section, as well as the discussion on ICs in Section 9.4.2, Alternative 2, has been revised as discussed in the Partnering Meeting. Among other wording changes, “would ” has been changed to “could”.
- 11 Figure 6-1. Please reverse the lettering that identifies the C-C' cross-section.
Response to 11. The requested correction has been made in the Final FS.
- 12 Section 7.4.2 Alternative 2 – Institutional Controls, Fourth Paragraph, Page 7-5. The last sentence in this paragraph could be dropped.
Response to 12. The requested change has been made in the Final FS.
- 13 Section 7.4.3.1 MNA and the Attenuation of Explosive Compounds, Fourth Paragraph, Page 7-6. Please add “naturally occurring” before the word “anaerobic” in the last line.
Response to 13. The requested change has been made in the Final FS.
- 14 Section 7.5 Comparative Analysis and Summary, Third Paragraph, Page 7-18. Please change “DU” to “DO.”
Response to 14. The requested correction has been made in the Final FS.
- 15 Section 8.5 Comparative Analysis and Summary, Page 8-13. Please add “with Long-Term Monitoring” to each name of the listed alternatives.
Response to 15. The requested change has been made in the Final FS.
- 16 Section 9.1 Nature and Extent of Contamination in the Dissolved-Phase Plume at Sites 4, 7, and 46, Second Paragraph, Page 9-3. Please add a reference to the new, deep well at Site 7.
Response to 16. The requested change has been made in the Final FS.
- 17 Section 9.4.2 Alternative 2 – Institutional Controls, Third Paragraph, Page 9-7. As discussed in the May Partnering Meeting, word changes such as “would” and “could” should be made and the next to last sentence in this paragraph should be dropped.
Response to 17. The requested change has been made in the Final FS as discussed in the response to Comment 10 above.

18 Section 9.4.4.7 Institutional Controls, Page 9-15. Drop the unbolded 9.4.4.8 and reformat the paragraph. Also, the next subsection will need to be renumbered to 9.4.4.8.

Response to 18. The requested correction has been made in the Final FS.

19 Section 9.5 Comparative Analysis and Summary, Page 9-24. Please drop the repeated 9.5 and more importantly, please reverse the name associated with the bulleted alternatives 5 and 6.

Response to 19. The requested correction has been made in the Final FS.

20 Appendix G, on page 3 of this appendix there are missing figure and table numbers.

Response to 20. The requested correction has been made in the Final FS.

**CH2M HILL/Navy Responses to Comments by Tetra Tech NUS
on the
Draft Final Feasibility Study for Operable Unit No. 1
NSWC-White Oak, Silver Spring, Maryland
dated March, 2003**

Comments dated: 4/17/03

Responses dated: 6/23/03

1. In general this FS report is well-presented and well-written. The range of treatment technologies and remedial alternatives considered and evaluated appears to be sufficiently complete and appropriate. The appendices are quite informative and provide complete back-up information (conceptual design and cost estimates) for each alternative evaluated.

Response to 1. None required

2. The concept of tabular detailed screening of treatment technologies (Section 4, Table 4-1) and detailed analysis of remedial alternatives (Section 5, Table 5-8; Section 6, Table 6-4; Section 7, Table 7-5, Section 8, Table 8-3; and Section 9-2) is very interesting and very practical.

Response to 2. None required

3. An explanation of the numerical ranking of remedial alternatives, with each evaluation criterion rated from 0 to 5, should be furnished in the introductory sections or in a separate appendix. Also, it is not believed that all evaluation criteria be given the same weight (i.e., a 0 to 5 rating). For example, the two threshold criteria (Overall Protection of Human Health and the Environment and Compliance with ARARs) should be given greater weight than the five balancing and two modifying criteria.

Response to 3. An explanation of the ranking system has been provided in the final FS. We do not feel that the two threshold criteria should weigh more heavily in the ranking than the balancing criteria. However, if an alternative does not meet the two threshold criteria to a minimum degree, then it should be discarded (and would not appear in the FS).

4. The site-specific nature and extent of contamination of each component site of OU 1 (Site 4 soil source, Site 13 groundwater source, Site 7 groundwater source, Site 9 groundwater source, and Sites 4, 7, and 46 groundwater dissolved plume) should be further discussed in Section 3, rather than as an introduction to each of the section discussing the evaluation of remedial alternatives for these component sites (Sections 5 to 9). In particular, Section 4 should clearly identify site-specific COCs and volume

of contaminated media. Possibly, Section 3 should include a summary table somewhat comparable to Table ES-1 and listing COCs for each site with corresponding range of detections, location of maximum detection, and cleanup criterion.

Response to 4. We feel that the presentation of nature and extent as provided in the draft final FS, i.e.: providing all of the important information on each area of remediation in a single chapter of the document rather than spread throughout various parts of the very large FS is more reader friendly. While the suggested presentation format has its benefits and may be more practical in some areas, we feel that any drawbacks of the current format are not significant enough to warrant a reorganization of the report.

5. Section 4 does not discuss or screen the soil treatment technologies used to develop the Site 4 soil source remedial alternatives presented and evaluated in Section 5. This can be confusing as Table 4-2 lists many groundwater treatment technologies as retained for Site 4 (4th column from left) and comments on the applicability of these technologies for Site 4 soil (last column on the right) but does not list or evaluate any soil treatment technologies.

Response to 5. Section 4 has been revised to explain that the soil treatment technologies selected for generating remedial alternatives for Site 4 soil were done so using a streamlined approach, and a comprehensive technology screening was not conducted.

6. Alternative 2 (Institutional Controls & Monitoring) and Alternative 3 (Monitored Natural Attenuation) should be consolidated for the evaluation of groundwater remedial alternatives presented in Sections 6 to 9. These two alternatives use the same activities and natural attenuation will take place whether it is monitored or not.

Response to 6. There is a difference between MNA and ICs with LTM, both with the extent of monitoring required and the expectations of the outcomes. Under MNA the Navy would outline timeframes for achieving cleanup which would trigger contingency remedies if not achieved in a reasonable manner. Under LTM, there is no agreed to time frame for remediation.

7. There is some confusion as to whether the "Non-Source Area Groundwater" OU 1 component listed in Table 4-2 (8th column from the left) and Section 4.3 (5th bullet) is the same as the "Dissolved-Phase Plume at Sites 4, 7, and 46" for which remedial alternatives are identified and evaluated in Section 9. There should be consistency in the designation of this OU 1 component.

Response to 7. The final FS has been revised to remove this inconsistency.

8. The list of acronyms and abbreviations presented on pages xiii and xiv does not appear to be complete. A cursory check reveals that such acronyms as "ERD", "ICs", "ISCO", "LTM", "MNA", "NAPL", "PRG", and "P&T", are not included in this list.

Response to 8. The acronyms list has been revised in the final FS to include the noted abbreviations and others that were omitted in the draft final FS.