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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

June 30, 1994

Mr. Robert Krivinskas
U.S. Department of the Navy
Northern Division - NAVFAC
10 Industrial Highway
Code 1823 - Mail Stop 82
Lester, PA 19113-2090

Re: Draft Detailed Analysis of Alternatives, Site 10 & 11, Naval Construction Battalion Center, RI

Dear Mr. Krivinskas:

Pursuant to § 7.6 of the NCBC Federal Facility Agreement (FFA), please find attached the Environmental Protection Agency's (EPA) comments on the above referenced document.

Overall I found the timing of the subject document premature. The Remedial Investigation (RI) has not yet been finalized. The conclusions that have been based on the draft RI are preliminary and therefore so are the conclusions in this draft FS.

The "Big Picture" also needs to be looked at. The Areas of Contamination (AOC) have been evaluated as individual entities. The upgradient groundwater contamination is dismissed as not being site related, but no explanation as to the source of contamination provided. The report must include, at the very least, the Navy's plan for addressing the investigation of the source. This is particularly important when evaluating ground water since ground water contamination cannot be examined solely on geographic location.

Based on my review of Sites 6, 13, and 11, a better approach to developing ground water remedial objectives and alternatives for these sites would be to treat the ground water as one operable unit rather than several unconnected sites. As the FSs for these sites are currently written, determining the extent of contamination, and whether or not the contamination is at naturally occurring background concentrations is difficult.

Upgradient wells are referred to often in this and other reports. A graphic of the locations of all the wells referred to as Upgradient would be helpful to the public for clarity. This graphic should include the COCs detected and the range of analytical results in the sampling.

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I look forward to discussing these comments at your earliest convenience. Please contact me at (617) 573-5736.

Sincerely,

Christine A.P. Williams
Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Richard Gottlieb, RIDEM
Lou Fayan, NCBC
Tim Prior, US F&W
Mary Sanderson, EPA/Federal Facilities Superfund
Beth Tomasello, EPA/ORC
Patti Tyler, EPA/Biology

GENERAL COMMENTS

1. This Detailed Analysis of Alternatives Report for Sites 10 and 11 was written prior to completion of the response to comments on the draft Remedial Investigation (RI). Therefore, conclusions based on the draft RI are preliminary and changes will be required once the report has been completed and approved. Issues potentially having the greatest impact on the detailed analysis of alternatives and subsequent recommendation of a preferred remedy are the following:

   - Risks associated with the inhalation of volatile emissions by a worker in a trench (see "Responses to USEPA and RIDEM Comments on the Draft Remedial Investigation Report," March, 1994, pg. 3).

   - Changes to the ecological risk assessment (this may not significantly affect sites 10 and 11).

   The Navy should thoroughly review the comments on the draft RI together with the comments on this document and incorporate any changes required as a result of both sets of comments.

2. Section 2.0 does not summarize the RI data in a way that makes it easy for the reader to quickly understand what the concerns are regarding the site. This could be corrected by presenting summary figures indicating the extent of contamination in excess of cleanup levels, and the range of analytical results for each sampling point.

3. The methodology used to determine background concentrations of inorganics and PAHs is not presented. A thorough discussion of background concentrations should be included in Section 2.0.

4. The discussion of the cleanup levels in the various media would be strengthened by adding a table that presented the Contaminants of Concern (COCs) used in the Risk Assessment and the reason why they were included or eliminated as COCs in the FS. Tables presenting the cleanup levels for each media should also be added.

5. The description of the alternatives and the evaluation of the alternative against the NCP evaluation criteria is very cursory and should be enhanced. The description of the alternatives should include a more complete presentation of the Navy's remedial action. For example, a figure should be included showing the anticipated area where required deed restrictions would be instituted, and the required timeframe for remedial action implementation and completion.

6. The assessment of the alternatives against the NCP evaluation criteria should compare the level of future risks from the site with and without the implementation of remedial action.

7. Based on my review of Sites 6, 13, and 11, a better approach to developing ground water remedial objectives and alternatives for these sites would be to treat the ground water as one operable unit rather than several unconnected sites. As the FSs for these sites are currently written, determining the extent of contamination, and whether or not the contamination is at naturally occurring background concentrations is difficult. Sites with similar soil contamination could also be grouped together into a larger operable unit and would receive synergistic cost benefits. However, this approach is more important for ground water than for soils.

8. Upgradient wells are referred to often in this and other reports. A graphic of the locations of all the wells referred to as Upgradient would be helpful to the public for clarity. This graphic should include the COCs detected and the range of analytical results in the sampling.

9. A similar graphic for the soil background sample locations and analytical results should be included in the FS reports.

SPECIFIC COMMENTS

Executive Summary

1. Include a few sentences of the base wide COCs for the orientation of the reader.

2. Page ES-2, Third Paragraph - The last sentence may be of concern as it is written, Were the cans disposed of properly or just left somewhere?

3. Page ES-3, Second Paragraph - The paragraph does not address the possibility of groundwater to migrate from Site 10 to the proposed public water supply well location or the private potable wells.

4. Page ES-4, First Sentence - The relationship of the upgradient wells to the firing range should be noted on a figure.

5. Page ES-5, Last Sentence - Has this Deed restriction requirement been put into the transfer documents?

6. Page ES-10, First Full Paragraph - Provide a brief statement as to why the Navy feels Antimony does not appear to be attributable to site contamination.

Volume I

1. Page 1-5, First Sentence - Please explain how a civilian presence will be maintained at or **near** NCBC. Is there a plan to remove the people there now?

2. Figure 1-4 and Figure 1-4a - The location of Site 10 should be placed on Figure 1-4 to indicate the site's distance from the production wells. In addition, when compared to Figure 1-1 in Volume II, the location of Site 10 varies slightly from its position in Figure 1-4a. In Figure 1-4a, the Site 10 location is slightly north of the Site 10 location in Figure 1-1 of Volume II, which is just above the ground water capture zone of the pumping wells. The location of Site 10 should be accurately located relative to the ground water capture zone, and should be consistent among the various figures.

3. Page 1-11, Second Paragraph - The default value of 2,000 feet is used as the wellhead protection area for non-community wells, yet the zone is not shown on Figure 1-4a. Please place the protection zone for this well on Figure 1-4a.

Volume II

1. Page 2-1,Second Paragraph - Could the seasonal flooding that occurs in the low lying regions of Site 10 support the type of salamander breeding sites that the RIDEM endangered species survey report concludes may be impacted by disturbing temporary pools of water? If so, has the Navy any future plans for evaluation of these temporary pools?

2. Page 3-2, Section 3.1.1, Last Paragraph - The text indicates that TSCA and the PCB Spill Cleanup Policy is an ARAR. PCBs were not found at the site it is unclear as to why TSCA and the PCB Spill Cleanup Policy are ARARs.

3. Page 3-9, Section 3.3.1, All - This section excludes the removal/disposal of the contaminated soil from the site. Considering the size of the contaminated area and the fact that the soil volume is small and not a principal threat, the exclusion of this general response does not appear justified. The revised section should include a calculation of the volume of contaminated soil, and removal and off-site disposal as a general response which could be combined with another site.

4. Table 2-3 - A reference should be provided for the background concentrations.

5. Table 3-2 - The table should note what the shading indicates.

6. Page 3-5, Last Paragraph - The statement that exposure to subsurface soils will not occur under the future land use scenario may be premature. A comment was given on the Draft Remedial Investigation Report stating future exposure to volatile emissions of workers in a trench should be considered. The response to the comment provided in the TRC document titled, "Responses to USEPA and RIDEM Comments on the Draft Remedial Investigation Report," March, 1994, Section 2, Page 3, indicates risks from this pathway will be quantified.

7. Table 3-6, First Page - The reason for screening out interceptor trenches is not clear.

8. Table 3-8, First Page - Membrane microfiltration and filtration were retained in Table 3-6; however, they are not shown in Table 3-8. These technologies should either be added to Table 3-8 or omitted in Table 3-6.

9. Table 3-8, First Page - The reason for selecting surface water discharge rather than ground water reinjection is unclear.

10. Page 4-3, Section 4.2.1, First Paragraph - The description of the No Action alternative indicates that a risk management evaluation would be performed to determine if 5-year reviews

are required. The risk management evaluation should be described in the description of the alternative.

11. Tables 3-7 and 3-8 - The cost terms in these tables, low, moderate and high, are relative and need clarification. Quantitative values defining a low, moderate, and high range should be provided.

12. Page 4-4, Last Paragraph - A statement should be included that the No Action alternative would not provide a permanent solution.

13. Page 4-4, Section 4.2.2, Third Paragraph - The description of long-term effectiveness and permanence indicates that the No Action alternative will be effective due to the anticipated future use. The future use is only anticipated and does not exclude residential use. This should be indicated. In addition, the evaluation of this alternative should note that this alternative is not permanent.

14. Figure F-4 - This figure requires better labelling of information. According to the text, the figure indicates the extent of the capture zone, but the extent is not clear from the figure.

15. Page 4-5, Section 4.2.2, First Paragraph - The word significant should be removed from the second sentence in this paragraph because the No Action alternative does not offer any reductions in toxicity, mobility, or volume through treatment.

16. Page 4-5, Section 4.2.3, First Paragraph - The description of the alternative should include both fencing and deed restrictions.

17. Page 4-5, Section 4.2.4, First Paragraph - The text indicates that fencing or restrictions would limit future land use, but should be clear that both fencing and restrictions will be placed on the site

18. Page 4-7, Section 4.2.4, Third Paragraph - The evaluation of this alternative for implementability should note the difficulty in obtaining and enforcing deed restrictions.

19. Page 4-8, Section 4.3.1, Second Paragraph - The description of the alternative should include both fencing and deed restrictions.

20. Page 4-12, Section 4.4.2, First Paragraph - The discussion of the alternative's long-term effectiveness and permanence is misleading because there would be no limitation on the use of the ground water as a drinking water source. The text should note that the alternative would not be effective.

21. Page 4-12, Section 4.4.2, Second Paragraph - The word

significant should be removed from the second sentence in this paragraph because the No Action alternative does not offer any reductions in toxicity, mobility, or volume through treatment.

22. Page 4-12, Section 4.4.3, First Paragraph - The description of the alternative should include both monitoring and deed restrictions. The deed restrictions/institutional controls may be required up front, not in the eventuality of transfer.

23. Page 4-13, Section 4.4.3, First Paragraph - The description of the alternative should include a figure showing the anticipated area over which the deed restrictions would apply, and the text should describe this area.

24. Page 4-12, Section 4.4.3, Second Paragraph - The description of the monitoring should specify for which analytes, and at which wells, monitoring will be directed.

25. Sections 4.4.5 through 4.4.14 - Understanding the remedial action procedure is difficult from the organization of these sections. The alternative would be easier to understand if Alternative 3A was Metal Precipitation and included all the information for that remedial action, and Alternative 3B was Ion Exchange and included all the information for that remedial action. The description of 3B can reference Alternative 3A when information is repeated. The evaluation of the alternatives against the NCP criteria could either be combined or described individually.

26. Sections 4.4.5 through 4.4.14 - The descriptions of the alternatives are very cursory and should be expanded. Information such as the volume of ground water to be treated, the contaminant concentration going to the treatment process, amount of sludge generated, location of sludge disposal, frequency of generated ion exchange resins, variety of regenerant applied, and regenerant disposal, should be included in these sections.

27. Page 4-28, Section 4.6 - The use of the discount rate as the major factor affecting the cost of implementing the remedial action is misleading. Other factors influencing the cost of remediation include the length of the remediation, the flow rate, and contaminant concentration. These should be included in the sensitivity analysis.

28. Appendix E - The FS uses an interest rate of 5 percent; however, EPA Region I guidance suggests the use of 7 percent. The use of a 5 percent interest rate should be either corrected or explained.

29. Appendix E - Method of escalation factor calculation should be included.

30. Appendix E - The use of the EPA document on treatment technologies for metal/cyanide containing wastes does not appear appropriate without a description of document use. The concern is that the document was prepared for waste streams from manufacturing operations and not dilute ground water streams. The use of this document needs to be reconsidered, and the costs need to be developed from another source. Otherwise, use of the costs should be explained.

Volume III - Site 11 Fire Fighting Training Area

1. Page 2-13, Section 2.6.4, Second Paragraph - This paragraph describes the NCBC background range for inorganics but does not explain how these concentrations were determined. Background contamination needs more elaboration, including method of calculation, samples used, background concentrations, etc., or at a minimum, a reference where this information can be found.

2. Page 2-16 through 2-19 - A table listing the COCs should be provided.

3. Figure 2-1 - This figure should present the area that is considered Site 11 as well as the major site features, such as the devegetated spots.

4. Table 2-4 - The note under the Non-Cancer Risk table should be changed to state that shading indicates an exceedence of the non-cancer risk.

5. Section 3.2 - This section should present cleanup levels for the COCs by media, and indicate the residual risk to human health and the environment if these levels were met.

6. Page 3-9, Section 3.2.2, First Full Paragraph - This Section indicates that the ground water in the region of Site 11 is classified by the RIDEM as GB. A discussion of ground water classification is needed in Section 2.0. The discussion should include the reason for the ground water classification, the extent of the GB classification, and include a map depicting the region classified as GB.

7. Page 3-10, Section 3.3, All - This section should provide more detail on the extent of ground water contamination, such as a map depicting the area contaminated in excess of cleanup levels.

8. Table 3-2 - A footnote to the table should explain what is indicated by the shading.

9. Table 3-4 - The maximum modeled unsaturated concentrations appear high; in several cases percentage level contamination may indeed impact the ground water. For example, indeno(1,2,3-cd)pyrene indicates a maximum concentration of 9 percent would

be acceptable.

10. Page 4-4, Section 4.2.2, Third Paragraph - The description of long-term effectiveness and permanence indicates that the No Action alternative will be effective due to the anticipated future use. The future use is only anticipated and does not exclude residential use. This should be indicated. In addition, the evaluation of this alternative should note that this alternative is not permanent.

11. Page 4-5, Section 4.2.2, Second Paragraph - The word significant should be removed from the second sentence in this paragraph because the No Action alternative does not offer any reductions in toxicity, mobility, or volume through treatment.

12. Page 4-5, Section 4.2.3, First Paragraph - The description of the alternative should include both monitoring and deed restrictions.

13. Page 4-5, Section 4.2.3, First Paragraph - The description of the alternative should include a figure showing the anticipated area over which the deed restrictions would apply, and the text should describe this area.

14. Page 4-5, Section 4.2.3, Second Paragraph - The description of the monitoring should specify for which analytes, and at which wells, monitoring will be directed.

15. Sections 4.2.5 through 4.2.14 - Understanding the remedial action procedure is difficult from the organization of these sections. The alternative would be easier to understand if Alternative 3A was Metal Precipitation, and included all the information for that remedial action, and Alternative 3B was Electrochemical Treatment, and included all the information for that remedial action. The description of Alternative 3B can reference Alternative 3A when information is repeated. The evaluation of the alternatives against the NCP criteria could either be combined or reviewed individually.

16. Sections 4.4.5 through 4.4.14 - The descriptions of the alternatives are very cursory and should be expanded. Information such as the volume of ground water to be treated, the contaminant concentration going to the treatment process, level of sludge generated, location of sludge disposal, frequency of ion exchange resin regeneration, particular regenerant used, and method of regenerant disposal should be included in these sections.

17. Page 4-22, Section 4.4 - The use of the discount rate as the major factor that could effect the cost of implementing the remedial action is misleading. There are several other factors that could influence the cost of remediation, including the length of the remediation, flow rate, and contaminant concentration. These should be included in the sensitivity

analysis.

18. Appendix E - The FS uses an interest rate of 5 percent; however, EPA Region I guidance suggests the use of 7 percent. The use of a 5 percent interest rate should either be corrected or explained.

19. Appendix E - Method of escalation factor calculation should be included.