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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JAN 22 1992

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RETURN RECEIPT REQUESTED

Ms. Laurie A. Boucher, P.E.
Remedial Project Manager
Department of the Navy - Atlantic Division
Naval Facilities Engineering Command
Code 1822
Norfolk, Virgina 23511-6287

RE: MCB Camp Lejeune NPL Site
Camp Lejeune, North Carolina

Dear Ms. Boucher:

I have reviewed the Draft Feasibility Study for the Hadnot Point Shallow Soils/Deep Groundwater. Enclosed are the comments resulting from my review. EPA's concurrence/non-concurrence with responses to previous commments are forthcoming.

The most significant comments are the following:

The section discussing the risk posed by the site must be rewritten in accordance with the revised Baseline Risk Assessment.

The threat posed by the contaminated soils to the shallow aquifer must be addressed.

The use of institutional controls is an action. This must be evaluated separately from the "no action" alternative. Conversely the no action alternative and the Baseline Risk Assessment must be conducted without consideration of any institutional controls.

More information is necessary to produce an accurate, complete Feasibility Study (i.e. volume of contaminated soil, time to achieve remediation goals, incorporation of innovative technologies.).

If you have any questions concerning these matters, please call me at (404) 347-3016.

Sincerely,

Michelle M. Glenn

Michelle M. Glenn
Senior Project Manager

Enclosure

cc: Jack Butler, NCDEHNR
George Radford, MCB Camp Lejeune

EPA Review Comments on Draft Feasibility
Study Report
Dated August 1991

GENERAL COMMENTS

1. Overall, the document is unsatisfactory. Insufficient information is currently available to complete a feasibility study for the shallow soils and deep aquifer of the Hadnot Point Industrial area at the subject site. The authors of this document frequently allude to the absence of sufficient information. In order to develop alternatives for remediation of the shallow soils and deep aquifer a minimum of the following will be necessary.

an estimate of the quantity of contaminated soil to be remediated.

an assessment of the threat soils pose to the intermediate aquifer to determine if the cleanup goals provided are sufficiently conservative.

additional information on the communication between the various water-bearing zones identified at the site.

SPECIFIC COMMENTS

1. Page 1-2, top of page - The sentence "...The remedial alternative selection process assumes restricted use (i.e., continued use as an industrial area) of the HPIA property." is inappropriate. The "no action" alternative must be developed absent any institutional controls. Institutional controls are, in and of themselves, an alternative.

2. Page 1-12, Section 1.7 - What is the depth of the supply wells?

3. Page 1-15, Section 1.8 - This section must be rewritten after the Baseline Risk Assessment has been completed. The primary objective of the remedial action is to protect human health and the environment.

4. Page 1-17, 2nd paragraph - Please delete the last sentence.

5. Page 2-1, Section 2.1, item 1 - This misstates the CFR. The "extent" to which ARARs are used is not mentioned. Identification of ARARs is required as is an assessment of the risk posed by the site.

6. Page 2-2, 1st and 2nd paragraph - Once again, this interpretation is broad and does not accurately reflect the statutory requirements for evaluating remedies.

7. Page 2-2, 3rd paragraph - The last two sentences are incorrect.

8. Page 2-3, 1st paragraph - What is the source of this definition of state ARARs?

9. Page 2-6, Item 9 - Have the appropriate state and federal authorities agreed that no wetlands are impacted?

10. Page 2-7, Section 2.2 - This section is incomplete. The threat posed by the contaminated soils to the shallow aquifer must be assessed.

11. Page 2-12, 2nd paragraph - This paragraph must be revised. It is inappropriate to introduce institutional controls at this point in the document.

12. Page 2-12, bottom of the page, item 1 - This is not a remedial response objective.

13. Page 2-13, item 2 - An additional objective should be added. Remediation of contaminated soils to remove the continuing source of contamination to the shallow aquifer must be considered.

14. Page 3-1, Section 3.0 - The emphasis placed on cost-effectiveness at this point in the document is inappropriate. Cost is evaluated with the other eight criteria during the detailed analysis of alternatives. In addition, without volume estimates no costs may be evaluated. Costs for the majority of remedial technologies for sources (with the exception of no action) are intrinsically dependent on volume.

15. Page 3-7, 1st paragraph - EPA recommends the data gaps identified and discussed in this paragraph be filled prior to revision of this feasibility study.

16. Page 3-7, Section 3.3 - It does not appear from this discussion that any alternative or "innovative" treatment technologies were evaluated. 40 CFR 300.430(e)(2)(G)(ii) requires that potentially suitable technologies including innovative technologies be evaluated.

17. Page 3-10, Section 3.4.3 - Innovative technologies can not be eliminated from consideration based solely on being new. The majority of the reasons for eliminating technologies provided in this section are incorrect.

18. Page 3-11, Table 3-3 - In-situ volatilization was screened out on this table. This can be a highly effective alternative. What is the reference for the efficiency of this technology?

19. Page 3-12, Table 3-3 - I believe low temperature thermal treatment can be used at temperatures up to 1000 degrees.

20. Page 3-18, Table 3-5 - Innovative technologies must be considered.

21. Page 4-3, 2nd paragraph - The current NCP must be used.

22. Page 4-3, 4th paragraph - EPA concurs with the opinion that additional information is required. This information must be collected prior to revision of the FS.

23. Page 4-4, Table 4-2 - Unit treatment costs are heavily dependent of volume of material. What were these unit costs based on?

24. Page 5-1, Section 5.0 - An alternative evaluating the use of institutional controls should be included.

25. Page 5-4, Section 5.3 - The "resulting ash" probably won't be suitable for backfill. Destruction of all the organic material in the soil generally concentrates the metals. Often the resulting ash is considered toxic. A bench scale test would be helpful in determining whether or not treatment of the ash will be necessary.

26. Page 5-7, 4th paragraph - See comment 25.

27. Page 6-1, Section 6.0 - More recent guidance on the 9 criteria is available and should be utilized.

28. Page 6-4, Section 6.1.5 - Costs can not be evaluated until additional information has been gathered.

29. Page 6-5, Section 6.1.6 - Action specific ARARs must still be discussed.

30. Page 6-5, Section 6.1.8 - This should be titled "STATE/SUPPORT AGENCY ACCEPTANCE".

31. Page 6-6, Section 6.2 - No mention of the "5-year review" is made. This will be a factor anytime waste is left in place above health-based levels. In addition, any alternative that does not completely destroy the contaminants may require long-term monitoring.

32. Page 6-9, Section 6.2.1.4 - The time necessary to implement the action and to achieve remedial objectives should also be included.

33. Page 6-10, Section 6.2.2.1 - The discussion here pertains to "long-term" effectiveness.

34. Page 6-11, Section 6.2.2.2 - How long will it take to achieve the remedial action objectives? Please include this information.

35. Page 6-14, Section 6.2.3.2 - The ash may be toxic due to the metals concentrations. This must be considered.

36. Page 6-15, Section 6.2.3.4 - It may be very difficult to implement an incineration alternative in North Carolina.

37. Page 6-16, Section 6.2.3.6 - Incineration regulations are action-specific ARARs and must be included or referenced here.

38. Page 6-21, Section 6.2.5.3 - It should be noted in this section that landfills are subject to failure. Also the statute has made it clear that off-site landfilling is an alternative of "last resort".

39. Page 6-22, Section 6.2.5.6 - Department of Transportation regulations for transporting hazardous waste are action specific ARARs.

40. Page 6-22, Section 6.2.5.7 - It should be noted in this section that this alternative does not meet the statutory preference for treatment.

41. Page 6-23, Section 6.2.6.1 - Workers at the site would still be exposed. "Acceptable risk" is inappropriate in a discussion of effectiveness.

42. Page 7-1, Section 7.0 - This whole section must be removed. The regulatory agencies will determine which alternative is to be recommended. It is inappropriate for the contractor to make such a recommendation. In addition, this section contains many errors and incorrect interpretations of the guidance.

43. Page 7-8, Section 7.2 - This section is also poorly written and should be deleted from the document.

EPA Response to Navy Response to comments
on Draft Feasibility Study

EPA Response to Navy's Response
to comments on initial submittal
of Draft Feasibility Study Report

FEASIBILITY STUDY (FS) REPORT

GENERAL COMMENTS

1. Response is accepted.

2. Response is accepted.

SPECIFIC COMMENTS

1. EPA Comment: Page 1-2, Section 1.1: Risk Assessment Calculations should consider residential development in Future Land Use. ESE's assumption of restricted use are not acceptable.

   Navy Response: Residential units, in the form of barracks, do currently exist within the HPIA. However, the units are only used by military personnel (e.g. single men and women, no children) who are assigned to the barracks for a maximum of 2 years and are reassigned, and the risks are insignificant. No residential construction in the form of family housing is planned in the area.

   EPA Response: The Future Use Scenario describes the potential "worst case". The current use and planned use of the property play no role in developing this scenario. The restrictions on use suggested in the Navy's response would be considered "risk management" (i.e. institutional controls), risk assessment.

2. Response is accepted.

3. Response is accepted.

4. Response is accepted.

5. Response is accepted.

6. Response is accepted.

7. Response is accepted.

9. Response is accepted.

10. Response is accepted.

11. Response is accepted.

12. Response is accepted.

13. EPA Comment: Page 1-16, para. 2: Since VOCs are involved, inhalation should be considered a legitimate exposure pathway.

Navy Response: Inhalation was considered to be an insignificant pathway since groundwater to air could not be established as an exposure pathway.

EPA Response: If the water is used as a potable source, inhalation could occur during household use.

14. Response is accepted.

15. EPA Comment: Page 1-17, 1.8 SUMMARY OF RA STUDY, fourth paragraph: What about the "Deep aquifer"? This feasibility study is incomplete as far as the deep aquifer is concerned.

Navy Response: A Feasibility Study will not be required for this effort, since the risks evaluated with respect to the shallow soils are below acceptable EPA levels, and the deep aquifer will be evaluated in further investigations.

EPA Response: EPA has not yet made a final determination on the "acceptable risk level" for the shallow soils.

The deep aquifer must be reevaluated after completion of the additional studies.

16. EPA Comment: Page 3-7, para. 1: The need for more sampling and analysis is clearly stated, but when is the sampling and analysis going to be conducted?

Navy Response: This comment is no longer valid. Soil cleanup is no longer required at the site under the revised EPA risk criteria of 10^{-4}.

EPA Response: This is a gross generalization of EPA policy with regard to "managing risk". More information is necessary to complete work on the shallow soils.

17. EPA Comment:Page 4-3, 4.0 DEVELOPMENT AND SCREENING OF ALTERNATIVES: The statement is made that additional sampling will be required to define the extent of contamination at areas 900 and 1200. Once again this FS was for all shallow soils and the deep aquifer underlying HPIA. What information will be required to complete the FS for the shallow soils and deep aquifer?

Navy Response: Same response as that for Question #16.

EPA Response: The Navy response is inadequate.

18. Page 5-2, Table 5-1: Since the level of contamination is within the EPA level of acceptance (10^{-5}), but is still significant, monitoring should be added to the no-action alternative.

    Navy Response: Continued monitoring will be added to this alternative.

    EPA Response: Once again, risk management decisions are a great deal more complex than selecting an acceptable risk level. In addition, institutional controls and/or monitoring is an action in itself. Therefore, this should be considered an alternative to "no action".

19. Response is dependent on additional language.

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