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MCB CAMP LEJUENE
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RESPONSES TO COMMENTS ON THE DRAFT PROPOSED REMEDIAL ACTION PLAN FOR
OPERABLE UNIT 19 (OU 19) SITE 84 MCB CAMP LEJEUNE NC
04/17/2008
RHEA ENGINEERS & CONSULTANTS

4/17/08 - 04398



MEMORANDUM

TO: Marine Corp Base Camp Lejeune DATE: April 17, 2008
IR Partnering Team

FROM: Marcella J. Gallick

RE: **RESPONSES TO COMMENTS**
 DRAFT PROPOSED REMEDIAL ACTION PLAN (PRAP)
 OPERABLE UNIT 19 SITE 84
 MCB CAMP LEJEUNE, NORTH CAROLINA

Responses to comments received on the *Draft Proposed Remedial Action Plan (PRAP), Site 84 Operable Unit 19, MCB Camp Lejeune, North Carolina* (Rhēa, April 2008) are provided below:

Comments were received from Ms. Gena Townsend (United States Environmental Protection Agency [USEPA] Region 4), Mr. Randy McElveen (North Carolina Department of Environment and Natural Resources [NCDENR]), and Rymn Parsons, Esquire (NAVFAC Attorney).

General USEPA Legal Comments

1. Overall most of the content in this Proposed Remedial Action Plan [hereinafter Proposed Plan or PRAP] is useful and provides information required by the NCP or EPA guidance. However, there are some areas that are not entirely consistent with the EPA *Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Documents* [OSWER 9200.1-23P, July 1999] (hereinafter referred to as the *Decision Document Guide*) format for a Proposed Plan. For example, some of the information provided in the *Scope and Role of Response Actions* Section belongs in the *Summary of Site Risks* Section and more information is needed in other areas. Also, the RAOs should be limited to one cleanup goal based on the expected land use of the site which is industrial or low occupancy.

2. Both the Navy (as lead agency) and EPA select the remedy for federal facilities that are on the NPL. The State of North Carolina (or NCDENR) is expected to provide its concurrence (or not) on the remedy once the Final ROD is issued for signatures. Consequently, any language in the PRAP that suggests the State will make the final remedy selection must be revised. Also, only the Navy issues the Proposed Plan with an explanation of the preferred alternative for acceptance by the State and the Community.

Specific USEPA Legal Comments

USEPA Comment 1: *Introduction, 1st paragraph, Page 1* – Delete the last sentence since this is not a Fact Sheet or alternatively, indicate that a Fact Sheet is also available to the Public that presents some of the information included in the PRAP.

Response: The sentence has been deleted.

USEPA Comment 2: *Introduction, 2nd paragraph, 1st sentence, Page 1* – Please make the title of the preferred Alternative RAA4 bold. Revise the sentence as follows: This PRAP proposes **PCB Removal Actions with Land Use Controls** (LUCs) as the preferred remedial action for Site 84.

Response: This change has been made.

USEPA Comment 3: *Introduction, 3rd paragraph, Page 1* – As noted in General Comment #2, please revise the text to indicate that the Navy is issuing the PRAP in order to solicit public comments on the remedial alternatives, and in particular the preferred remedial action for Site 84.

Response: The sentence has been revised as requested.

USEPA Comment 4: *Introduction, 5th paragraph, Page 1* – As noted in General Comment #2, please revise text to indicate that the Navy and EPA select the remedy for Site 84. Can also state that the State of North Carolina will issue a letter of concurrence at the appropriate time once the Final ROD has been submitted.

Response: The revisions have been made to the text.

USEPA Comment 5: *Site Characteristics*, 2nd paragraph, Page 3 – As described in the EPA Decision Document Guide on p.3-3, this section should include a description of how much and what type of contamination is present along with a general physical description of the site. Accordingly, provide more details in both these areas and delete the Table 1. The remediation goals for Site 84 can be provided in the *Remedial Action Objectives* Section.

Response: Table 1 has been moved to *Remedial Action Objectives*. The section *Site Characteristics* has been changed as requested.

USEPA Comment 6: *Scope and Role of Response Actions*, Page 4 – As described in the EPA Decision Document Guide this Section should precede the *Summary of Site Risks* Section. Please switch the two Sections. Also, drop the plural from the word Actions.

Response: The section *Scope and Role of Response Actions* has been renamed *Scope and Role of Response Action* and has been moved ahead of section *Summary of Site Risks*.

USEPA Comment 7: *Scope and Role of Response Action*, Page 4 – As described in the EPA Decision Document Guide p. 3-3 this Section should summarize the lead agency's overall cleanup strategy for remediating the site and describe how this remedial action fits into that strategy. Importantly, this section should state that removal actions have been completed at Site 84 are entirely consistent with the final remedial action for this site. Consider relocating the second paragraph into the first paragraph.

Response: This section has been expanded to incorporate Comment 7.

USEPA Comment 8: *Scope and Role of Response Action*, 1st paragraph, Page 4 – The information in this paragraph includes the “basis for taking action” [Reference *Decision Document Guide* Highlight 3-2 on Page 3-4] and should be included at the end of the *Summary of Site Risks* Section. Accordingly, please “cut and paste” from this Section into the *Summary of Site Risks* Section.

Response: This paragraph has been moved as requested.

USEPA Comment 9: *Summary of Site Risks*, Page 4 – The information provided in this portion of the document should summarize the original results of the risk assessments and briefly describe the residual risks at the site post- removal action that require the

application of LUCs. See Chapter 3.3.5 of the EPA’s Decision Document Guide (p. 3-4) for the types of key information that should be included in this Section of the Proposed Plan. Basically, the Navy needs to summarize the results of the earlier Baseline Risk Assessment based upon the original extent of PCB contamination that warranted the removal actions, and describe the land use assumptions for this site.

Response: This section has been expanded as requested.

USEPA Comment 10: Remedial Action Objectives, Page 4 – Remedial Action Objectives provide a general description of what the cleanup will accomplish. These goals serve as the design basis for the remedial alternatives and often include a reference to a preliminary remediation goal (i.e., Cleanup level) for the contaminants of concern. Suggest that the RAOs for this site only include the low-occupancy land use since the other alternatives can meet (or exceed) that RAO. However, the preferred Alternative cannot meet the high-occupancy land use requirements. Also, include a reference to PCBs as well replace the word ‘mitigate’ with ‘prevent’. The LUCs are expected to prevent exposure to the residual contamination and one of the RAOs can serve as the basis for the LUC performance Objectives that follow later in the document. The RAOs for this remedy could be stated as follows: 1) “Remove PCB contaminated soils that exceed cleanup level for low-occupancy land use (i.e., 10 ppm); and 2) Prevent human exposure to PCB contaminated subsurface soils through use restrictions on intrusive activities.”

Response: The Preferred Alternative can prevent exposure to potential residents by preventing residential development (see Figure 3 controls). A reference to PCBs has been added to each dot and the word “prevent” has replaced “mitigate.”

USEPA Comment 11: Summary of Remedial Alternatives Evaluated, Page 5 – Although Table 2 is a useful summary of each alternative. This Section should include a short narrative description for each Alternative that explains the scope of the action and highlights how it would meet the RAOs. Also, consider adding a footnote to specify the actual costs of conducting the removal actions because each of the alternatives benefits from the earlier removal actions.

Response: The action descriptions have been added to the text and a NTCRA cost footnote has been added to Table 2.

USEPA Comment 12: Preferred Alternative, 1st paragraph, 2nd sentence, Page 6 – Much of the information in this Section is useful but the LUCs description is incorrect since really what has been provided are the LUC Objectives. Please revise the second

sentence as follows: “The Preferred Alternative is the best choice among the alternatives because the three earlier NTCRAs that removed and encapsulated PCB contaminated soils, along with LUCs to prevent intrusive activities effectively eliminates the exposure pathways, reduces risk to an acceptable level and is cost-effective.”

Response: The sentence above has replaced the previous sentence in the text.

USEPA Comment 13: Preferred Alternative, 1st paragraph, 3rd sentence, Page 6 – Delete and replace with the following: “LUCs including, but not limited to, land use restrictions in the Base Master Plan and fences/signage to prohibit intrusive activities (e.g., excavation, well installation, or construction) will be implemented to prevent exposure to the residual contamination on the site that exceeds the remediation goals. The LUCs will be implemented and maintained by the Navy and MCB Camp Lejeune until the concentration of hazardous substances in the soil are at such levels to allow for unrestricted use and unlimited exposure. The area of Site 84 that is subject to the LUCs as well as summary of the land use restrictions are provided in Figure 3.”

Response: The above sentence has been added to the text.

USEPA Comment 14: Preferred Alternative, 1st paragraph, bullets, Page 6 – Delete the first bullet and then add the following sentence before the other two bullets: “The performance objectives of the LUCs at Site 84 are:”

Response: The requested change has been made to the text.

USEPA Comment 15: Preferred Alternative, 2nd paragraph, Page 6 – Delete the paragraph since much of the information has been relocated into the first paragraph of this Section.

Response: This paragraph has been deleted.

USEPA Comment 16: Preferred Alternative, 3rd paragraph, Page 6 – Delete and replace with the following: “The LUC implementation actions including monitoring and enforcement requirements will be provided in a LUC Implementation Plan (LUCIP) that will be prepared by the Navy after the Record of Decision has been finalized. The Navy will submit the LUCIP to EPA and NCDENR for review and approval pursuant to those Primary Document review procedures stipulated in the FFA. The Navy will maintain, monitor (including conducting periodic inspections), and enforce the LUCs according to the requirements in the LUCIP and the ROD.”

Response: This paragraph has been replaced with the above text.

USEPA Comment 17: Preferred Alternative, 4th paragraph, 1st sentence, Page 6 – Revise by adding the following phrase to the end of the sentence: “and is protective of human health and complies with all ARARs.”

Response: This phrase has been added to the end of the sentence as requested.

USEPA Comment 18: Preferred Final Remedy, Page 6 – Please add this paragraph to the end of this Section: “Since hazardous substances will remain at the site above levels that allow for unlimited exposure and unrestricted, the Navy will review the final remedial action no less than every five (5) years after initiation of the remedial action per CERCLA Section 121(c) and the NCP at 40 CFR300.4309f(4)(ii). If results of the five-year reviews reveal that remedy integrity is compromised and protection of human health is insufficient, then the additional remedial actions would be evaluated by the parties and implemented by the Navy.”

Response: This paragraph has been added to the end of the section with some minor revisions as requested by NCDENR in their Comment 4.

USEPA Comment 19: Figure 3 – Land Use Controls, Page 7 – Please revise title of the Figure to “Land Use Controls Boundary”. Also, if possible include the shaded areas along with the text boxes in the actual Figure in the legend box. The shaded boxes should be preceded by the words “Land Use Restrictions” in the legend. Suggest that this Figure be an entire page and included at the end of the document.

Response: Title has been revised and text boxes have been removed. The Figure has been made an entire page at the end of the document following the glossary.

USEPA Comment 20: Community Participation, Subsection 10.2, Page 7 – As noted in General Comment #2, please revise text to indicate that the Navy and EPA select the remedy for Site 84. Can also state that the State of North Carolina will issue a letter of concurrence at the appropriate time once the Final ROD has been submitted. Also, any modifications to the preferred alternative and PRAP would be performed by the Navy and not include EPA and NCDENR.

Response: Comments have been incorporated into the text.

USEPA Comment 21: *Glossary*, Page 8 – Many of the terms used in this Section have poor definitions and should be revised based upon existing definitions in the NCP or EPA guidance. For example ARARs should read something like: “‘Applicable’ requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. ‘Relevant and appropriate’ requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or state environmental or facility siting laws that, while not applicable to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are identified in a timely manner and are more stringent than Federal requirements may be either ‘applicable’ or ‘relevant and appropriate’.

Response: EPA guidance and other documents were used to revise many of the definitions in the *Glossary* section.

Specific USEPA Technical Comments

USEPA Comment 22: In *Introduction* section 2nd paragraph add parenthesis to "PCB Removal Actions with Land Use Controls."

Response: These words have been highlighted as per USEPA legal comments.

USEPA Comment 23: Insert the below section (ties in the 2002 completed PRAP) and re-number.

"2.2 Site History

A Remedial Investigation (RI) was concluded in 2002 which identified PCBs as a Contaminant of Concern. A Feasibility Study (2002) was then conducted that evaluated different alternatives for the remediation of the site. A Proposed Plan (2002) was prepared that presented the alternatives and the preferred alternative to the public for review and comment. The proposed remedy that was presented at the June 2002 public meeting as the remedial action for the site was conducted as removal actions in 2002 thru 2006 without the implementation of the land use controls. A summary of the removal actions are listed below."

Response: This section has been added and the following section renumbered.

USEPA Comment 24: At end of *Site Background* section, add a cost statement, e.g. "The three NTCRA phases were completed at a cost of approximately 3.5 million dollars."

Response: This sentence has been added.

USEPA Comment 25: Table 1 – Remove “without additional controls” from the table.

Response: This phrase has been removed from Table 1.

USEPA Comment 26: *Summary of Site Risks* section, change EPA Region IV to 4.

Response: This change has been made in two locations in this section.

USEPA Comment 27: In dot of *Remedial Action Objectives* section, change "mitigate" to "prevent" for low occupancy land use.

Response: The word “mitigate” has been changed to “prevent” for both dots as per EPA legal comments.

USEPA Comment 28: In Section 10.2 Record of Decision remove “PRAP” and replace with "the remedy proposed in this plan."

Response: This change has been incorporated in the text.

USEPA Comment 29: In the *Community Participation* section change: "IV" to "4."

Response: This change has been made.

USEPA Comment 30: In Glossary, add to ARARs definition: “Federal or state laws, regulations, standards, criteria or requirements which would apply to the cleanup of hazardous substances at a particular site.”

Response: The definition for ARARs has been revised as requested.

Additional Specific USEPA Technical Comment (after initial submittal of Comment Response Document)

USEPA Comment 31: I have reviewed the Draft PRAP and the response to comments and verified that all of EPA's comments have been addressed. However, there is one area that needs to be corrected.

It is on Page 8, Section 10.2 "Record of Decision", fourth sentence - The State of North Carolina does not technically sign the ROD, there is a signature line there for concurrence only. So as not to cause confusion, change the sentence to read: "If not, the Navy, MCB Camp Lejeune and USEPA will prepare and sign the ROD, with concurrence from the State of North Carolina."

Response: The sentence has been changed.

Additional Specific USEPA Legal Comments (after initial submittal of Comment Response Document)

USEPA Comment 32: New Comment - The word 'encapsulation' (on pp. 2 and 7) should be deleted and replaced with the word 'cover' since the removal actions to date involved placement of a soil cover. Note that under the TSCA PCB regulations at 40 CFR 761.61(a)(7) the requirements for a "cap" can include uniform placement of a compacted soil with a minimum thickness of 10 inches. For 'low occupancy areas' with PCB concentrations between 50ppm and 100ppm a cap is required.

Response: The requested changes have been made.

USEPA Comment 33: New Comment - The terms 'non-hazardous' and 'hazardous' are typically used when referring to RCRA wastes as opposed to TSCA PCB wastes. Accordingly, delete those terms throughout the document (i.e., pp. 2 and 3) unless being used in a general sense. Additionally, where the word 'hazardous' is deleted in front of the word 'soil' add the terms 'PCB waste'. The term 'PCB waste' is understood to mean a waste that has PCB concentrations greater than or equal to 50ppm and thus regulated for disposal under TSCA. Note that under the TSCA regulations, soil and sediments with PCB concentrations greater than or equal to 50ppm are considered "bulk PCB remediation waste" [See 40 CFR 761.3 Definitions]. Use of this term could also be used in the document but then it would have to also be added to the Glossary.

Response: The requested changes have been made.

USEPA Comment 34: Revised Original EPA Comment #10 - EPA believes the two RAOs that are in the PRAP are misleading since the cleanup level is 10ppm and it appears to be based somewhat on meeting the EPA *A Guide on Remedial Actions at Superfund Sites with PCB Contamination* OSWER 9355.4-01 FS, Aug. 1990] which specifies an acceptable range of 10 to 25 ppm and the TSCA regulations cleanup requirements for a 'low occupancy area' which have different options depending on the PCB concentrations from less than or equal to 25ppm to less than or equal to 100ppm. Accordingly, delete the first bullet and consider revising the second bullet to read as follows: "Remove contaminated subsurface soils that contain PCBs in excess of the selected remediation goal (i.e. cleanup level) and prevent exposure to remaining PCB contaminated soil consistent with the requirements for a low occupancy area (e.g. unoccupied area outside a building or storage area in a warehouse at an industrial facility)."

Response: The requested changes have been made with the exception that “surface and” has been added after “Remove contaminated . . .”. By e-mail on 4/17/08, David Buxbaum, Assistant Regional Counsel, USEPA Region 4, concurred with this revision.

USEPA Comment 35: New Comment - Revise the sentence proceeding the Table 1 by making remediation goals singular instead of plural In addition, revise Table 1 by deleting the 'high occupancy' line since the cleanup level is only 10ppm, as opposed to 1ppm, which is consistent with the RAO suggested above. Also, revise the footnote 1 to read *A Guide on Remedial Actions at Superfund Sites with PCB Contamination* U.S. EPA OSWER 9355.4-01 FS, Aug. 1990]

Response: The requested changes have been made.

USEPA Comment 36: New Comment - Add the terms 'high occupancy area' and 'low occupancy area' to the Glossary. Instead of using the rather long definitions provided in 40 CFR 761.3 for these terms, suggest only using the example language in the definitions. High Occupancy Examples could include a residence, school, day care center. Low Occupancy examples unoccupied area outside a building or storage area in a warehouse at an industrial facility

Response: These terms have been bolded the first time they appear in the text, and definitions, as requested, have been added to the Glossary section.

USEPA Comment 37: Revised Original EPA Comment – Revise Section 10.2 “Record of Decision”, fourth sentence to read: “If not, the Navy, MCB Camp Lejeune and USEPA will select the remedy with concurrence from NCDENR in the ROD.”

Response: A similar revision has already been made in response to USEPA Comment 31.

General NCDENR Comments

This PRAP appears to be in good order.

Specific NCDENR Comments

NCDENR Comment 1: The Baker.com Administrative Record (AR) web site on page one is “not found”. However, the Baker.com AR web site on page eight is correct. Please make appropriate corrections and make sure that the Feasibility Study and Final PRAP are included on the AR Web Site prior the Pubic Comment Period.

This web search engine doesn't work very well when the search is refined. I tried to search all the documents from 1993 to the present for Site 84. When I tried to go to the next page of the 9 pages it the engine forgot about my specific search criteria all together and defaults back to the entire Administrative Record volume. Please try to correct this problem before the Public Comment Period.

Response: The web site addresses at the beginning and end of the PRAP have been revised for better access. Rhēa does not have access to refine the search engine on the site.

NCDENR Response to Rhēa Response: Rhēa's response to my first comment is unacceptable. The comments are addressed to the Navy (Gary). Gary Tysor's response should be included in this response letter. The Navy has access to the contractor(s) that can resolve the Baker Administrative Record Web page issue.

All other issues discussed in the State's comment letters appear to be properly addressed. A synthetic liner covers the worst case PCB contamination adjacent to the road at sample location TP-14 and the average of the remaining PCB contamination remaining on-site is less that 50 mg/kg. The Base has also agreed to remove these high level PCB contaminated soils when the lease for the utility corridor is renewed with Progress Energy. Until that time the proposed land use controls (LUCs) will assure that all soil removed from the area is properly disposed in a TSCA landfill and not put back in the excavation.

Response from NAVFAC: We will notify Baker and have them address/correct this problem. NAVFAC requests that you not hold up concurrence on the technical aspect of the site 84 PRAP due to this admin issue.

Response from NCDENR: If Baker is working on the issue, Lets move forward with the PRAP. If you (Bryan Beck) or Gary could make sure and contact the team when the Baker search engine is working properly, I would appreciate it. Please make sure that the search issue is addressed before the ROD is to be signed (in the next few months). These issues have been around since I started working with Camp Lejeune five years ago. As I discussed with Gary, the same problems that we are having now were occurring when I first reviewed a PRAP back in 2003. It was not made a priority and this new team has inherited the same problem. I'm sure you agree that its time to get this problem out of the way and move on. As for the Site 84 PRAP, I expect that a person could locate a document that they need to review if they are persistent enough.

NCDENR Comment 2: In the Glossary on page 9, please provide definitions that are more consistent with NCP/CERCLA Definitions of the nine evaluation criteria, especially the definition of Reduction of Toxicity, Mobility, and Volume through Treatment. Provide a little more detail on the nine criteria.

Response: The *Glossary* section has been revised.

NCDENR Comment 3: Shouldn't we discuss the fact that PCBs in the Utility area of the phase III NTCRA area are greater than the TSCA level of 50 ppm or at least not the 1 or 2 areas where the concentrations are the greatest. Our attorney thinks we should discuss this in the PRAP since this is the document that goes out for public comment.

Response: Section 3 – *Site Characteristics* has been expanded to include a discussion of PCB soil concentrations remaining on site.

NCDENR Comment 4: The quotation that is requested to be included on page six of the PRAP needs to be corrected. The first sentence of the quote should state, ". . .allow for unlimited exposure and unrestricted use (or land use). The (f) of the 40 CFR reference need the open parenthesis.

Response: These corrections have been made to the document.

Additional General NCDENR Comments

Our Division director has asked that we average the PCB concentrations within one quarter to half an acre area including the high concentrations in the utility corridor and surrounding areas. If the average concentration of the PCBs are below 50 ppm this is acceptable to the Division. This average concentration and calculations needs to be documented in the PRAP and ROD for the utility corridor area showing specific data sets from various sampling events.

Also, if future work in this PCB contaminated section of the utility corridor is to be completed, the utilities from this area should be relocated at that time to a clean area of the site where PCB concentrations are at least below 10 ppm. If emergency work is required, in this contaminated section of the corridor, that will not allow time for relocation of the utilities, any soil removed must be disposed at a TSCA Landfill if the concentrations exceed 50 ppm or at a lined landfill if above 1 ppm. Generated waste soil may not be placed back into the excavation area. Please include language describing the above information in the Final PRAP and ROD. The ROD should also clarify that any Land Use Controls (LUCs) will require that workers in this area be properly trained and briefed regarding the risks and that Level D PPE will be worn at all times by workers in this area or any area of Site 84.

I averaged the soil sample data from the Phase I NTCRA Report that were shown within the general (half acre) area of the utility corridor. The locations and concentrations are provided below:

SB21-00/01 = 0.052 mg/kg (ppm). I converted the data to ppm.

DP-79 = 0.042 mg/kg

DP-77 = 1.7 mg/kg

DP-83 = 0.058 mg/kg

DP-36 = 0.940 mg/kg

DP-37 = 0.084 mg/kg

MW-19 = 3.8 mg/kg (from 0.0 to 1.0 feet soil sample)

Average of these seven samples = **0.954 ppm**

DP-50 = No data shown? Is this a non-detect?

I then combined all the soil sample data within a half acre area of the contaminated section of the utility corridor from the Phase III Interim Removal Action Closeout report (Tables) along with the Phase I data . I included two points that were noted in the Closeout report as being below the 10 ppm cleanup concentration that are located downgradient of the contaminated area of the utility corridor. The results showed an average concentration of 50.56 ppm. If we have other low concentrations in this area (is DP-50 Non-detect?) it would help reduce the PCB concentrations to below 50 ppm which is an acceptable average concentration for risk calculations in this area. I have not yet been able to evaluate soil samples from the Phase II work.

If we can show that the average PCB concentration is below 50 ppm in the utility corridor and document it in the Final PRAP along with the additional requests noted above we can move forward to finalize the PRAP and ROD.

Response: The average PCB concentration discussion has been added to Section 3 – *Site Characteristics*. Regarding future work in the utility corridor area, specific language as provided by Bob Lowder, Environmental Engineer, EQB/EMD/I&E, MCB, Camp Lejeune, will be provided in the ROD or other appropriate document. Also, the Direct Push results provided above for the Phase I NTCRA were used to determine where additional excavation should be performed. They were not confirmation samples so should not be used to calculate average PCB concentrations remaining on site.

NCDENR Comment 5: Figure 3 of the PRAP dated April 2008 shows a hashed area adjacent to and including the former lagoon area as containing PCB concentrations greater than 10 ppm at depths greater than 2 feet below ground surface. Please clarify, in the PRAP, that only 6 PCB confirmation samples, taken to depth, out of 33 total PCB samples were above 10 ppm and none of the 33 PCB post excavation samples in this hashed area exceeded 50 ppm.

The samples used for this calculation included 25 SC samples from the **Phase II Interim Removal Action Closeout Report** and the 2 IP samples from Figure 2 of the Project Closeout Report dated November 2006 and 6 TP samples from Figure 4 of the Recommendations Report dated April 2006. Specific samples are listed below.

25 SC samples from phase II Interim RA Closeout Report:

216, 217, 218, 219, 224, 225, 226, 227, 228, 229, 230, 234, 235, 236, 237, 238, 239, 240, 241, 257, 284, 285, 286, 289, & 290.

6 samples for 0 to 4 feet below ground surface from the Recommendations Report:

TP-06 (3 depths), TP -07 (3 depths).

2 IP samples from the Project Closeout Report:

IP-13 and IP-14.

Please confirm my calculations and include a statement in the Final PRAP and ROD to clarify the average concentrations and the number of concentrations exceeding 10 and that none of the PCBs remaining, in this area after the clean-up, exceeded 50 ppm.

Response: This information has been added to the PRAP as discussed above.

NCDENR Comment 6: Also regarding the concentrations in the main utility corridor that exceed 50 ppm. We need to make a distinction regarding the fact that contamination exceeds 50 ppm in this local area of the utility corridor and could not be excavated due to the impracticability (danger) issue regarding the Power lines, Gas line, and fiber optics in this area of the Site.

Response: This information has been added to Section 3 – *Site Characteristics*.

Specific NAVFAC Legal Comment

NAVFAC Comment 1: In the PRAP we make reference to a LUCIP. Won't we be doing a LUC RD?

Response: This section where the LUCIP is discussed has been revised as per USEPA legal comments.

FINAL PROPOSED REMEDIAL ACTION PLAN SITE 84, OPERABLE UNIT NO. 19

Marine Corp Base, Camp Lejeune
Jacksonville, North Carolina

April 2008

1 Introduction

This **Proposed Remedial Action Plan (PRAP)** identifies the Preferred Alternative for Site 84, Operable Unit (OU) 19, at Marine Corps Base (MCB) Camp Lejeune, North Carolina. OU 19 is one of 22 OUs located within MCB Camp Lejeune. MCB Camp Lejeune was placed on the **U.S. Environmental Protection Agency's (USEPA's) National Priorities List (NPL)** in November 1989. Beginning in 1995, Site 84 was included with several other MCB Camp Lejeune **Installation Restoration (IR)** sites addressed under the **Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA)**. Operable Unit 19 is comprised solely of Site 84.

This PRAP proposes **PCB Removal Actions with Land Use Controls (LUCs)** for Site 84. Contaminants of concern remaining at the site are in the soil and include polychlorinated biphenyls (PCBs) and total petroleum hydrocarbons (TPH). Note that TPH contamination is being addressed by the underground storage tank (UST) Remedial Program. PCBs in soil have been addressed to date through three **NTCRAs (Non-Time-Critical Removal Actions)**. LUCs will be implemented

to prohibit intrusive activities in the subsurface of portions of the site, prohibit use of the site for residential housing, and protect site workers. This PRAP provides the rationale for the Preferred Alternative based on the actions conducted at the site to date.

The U.S. Department of the Navy (the lead agency for site activities at MCB Camp Lejeune) is issuing this PRAP in order to solicit public comments on the remedial alternatives, and in particular the preferred remedial action for Site 84. The PRAP fulfills public participation responsibilities as required under CERCLA Section 117(a) and Section 300.430(f)(2) of the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)**.

This PRAP summarizes information that can be found in the Final **Remedial Investigation (RI)** (May 2002), the Final **Feasibility Study (FS)** (2002) the Final Feasibility Study (FS) Amendment (2008), and other documents contained in the Administrative Record file and **Information Repository** for MCB Camp Lejeune (see Section 10). A glossary of key terms used in this PRAP is attached, and key terms are identified in **bold** print the first time they appear.

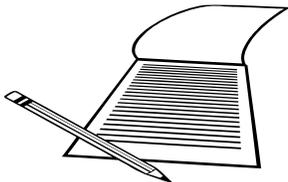
Mark Your Calendar for the Public Comment Period

Public Comment Period

April 29, 2008 – May 27, 2008

Submit Written Comments

The U.S. Navy will accept written comments on the Proposed Remedial Action Plan during the public comment period.



Attend the Public Meeting

April 29, 2008

Time –6:00 pm

Place – Coastal Carolina Community College
Business Technology Bldg
Room 103
444 Western Boulevard
Jacksonville, NC 28546

The Navy and MCB Camp Lejeune will hold a public meeting to explain the Proposed Remedial Action Plan. Verbal and written comments will also be accepted at this meeting.



Location of Information Repository

For more information about Site 84, check the Administrative Record at the following location:

http://www.bakerenv.com/camplejeune_irp

The AR can be accessed through the Internet, from home, or at the following location where the Internet is available:

Onslow County Public Library
58 Doris Avenue East
Jacksonville, NC 28540
(910) 455-7350

The U. S. Department of the Navy (Navy), in conjunction with MCB Camp Lejeune and USEPA, will make the final decision on the remedial approach for Site 84 after reviewing and considering all information submitted during the 30-day **Public Comment Period**. The Navy and MCB Camp Lejeune, along with USEPA, may modify the Preferred Alternative based on new information or public comment. Therefore, public comment on the Preferred Alternative is invited and encouraged. Information on how to participate in this decision-making process is presented in Section 10. The State of North Carolina will issue a letter of concurrence at the appropriate time once the Final **Record of Decision (ROD)** has been submitted.

2 Site Background

2.1 General Site Description and Media Contamination

Site 84, part of the MCB Camp Lejeune Military Reservation, is located just south of Highway 24, one mile west of the MCB Camp Lejeune main gate entrance. The site extends to the south and east to encompass a small, former man-made lagoon and the former Building 45 area. Toward the creek, the site is mostly wooded and covered with thick vegetation. The remainder of the site is open and grassed. A gravel access road is located in the eastern portion of the site.

Site 84's former Building 45, constructed by the U.S. Navy soon after purchasing the property in 1941, was leased to Tidewater Electric, who operated the building through 1965. Former employees recalled that site activities included PCB transformer maintenance, recycling, and on-site disposal of spent transformer casings. In approximately 1965, Camp Lejeune converted Building 45 to a maintenance facility for large machinery, and it was used for that purpose until the early 1990s.

A 12-inch diameter steel reinforced concrete pipe from the former Building 45 discharged into the southeastern end of the former lagoon. Reportedly the pipe was connected to the former oil/water separator located outside of Building 45. However, it is believed that prior to the installation of the oil/water separator, the pipe was connected directly to the building floor drains.

2.2 Site History

A Remedial Investigation (RI) was concluded in 2002 which identified PCBs in soil as a Contaminant of Concern. A Feasibility Study (2002) was conducted that evaluated different alternatives for remediation of the site. A Proposed Plan (2002) was prepared that presented the alternatives and the preferred alternative to the public for review and

comment. The proposed remedy that was presented at the June 2002 public meeting as the remedial action for the site was conducted as removal actions in 2002 through 2006, without the implementation of the land use controls. A summary of the removal actions are listed below.

2.3 Summary of Removal Actions

Initial removal actions at Site 84, Operable Unit 19, included the following:

- 1999 – Abandoned Portions of Building 45 Removed;
- 2002 – Phase I NTCRA – Removal of Building 45 Foundation and Surrounding Contaminated Soil;
- 2004 – Phase II NTCRA – Removal of PCB Contaminated and Commingled PCB/Total Petroleum Hydrocarbons (TPH) Contaminated Soil and Sediment; Removal of Concrete-Encased Steel Pipe that originated in the former Building 45 and discharged into the former Lagoon; and removal and backfilling of the Lagoon; and
- 2006 – Phase III NTCRA – Removal of PCB Contaminated Soil to a depth of two feet and Soil Cover of PCB-Contaminated Soil remaining in place at a depth greater than two feet beneath the final surface at a concentration greater than 10 parts per million (ppm).

In 1999, the aboveground portion of Building 45 was removed. In 2002, the Phase I NTCRA was conducted in which the foundation of Building 45 and surrounding PCB contaminated soil were removed. During this NTCRA, 4,860 tons of PCB-contaminated soil (i.e., <50 ppm) was excavated and disposed of at the Sampson County Landfill, a local permitted facility in Rosewood, North Carolina. In addition, 143 tons of TSCA PCB waste (**Toxic Substances Control Act – TSCA**) soil (i.e., >50 ppm) was excavated and disposed of at the Wayne Disposal, Inc. facility, a TSCA landfill in Belleville, Michigan. PCB contaminated soil was removed to a concentration of 1 ppm. The minimum depth of excavation in the Phase I NTCRA area was four feet. After excavation was completed, the area was backfilled with off-site clean soil.

In 2004, a Phase II NTCRA was completed that attempted to address the remaining contamination on site. The excavation volume included 11,600 tons of PCB-contaminated soil and sediment and 360 tons of TSCA PCB waste soil. The PCB-contaminated soil and sediment was disposed of at the Sampson County Landfill, and the TSCA PCB waste soil was disposed of at the Clean Harbors Lone Mountain Landfill, a TSCA landfill in Waynoka,

Oklahoma. Confirmation testing performed after excavation verified that the soil in the base of the excavation from zero to two feet was below the remediation goal of 10 ppm for industrial low- occupancy land use. However, confirmation sampling also identified several Phase II NTCRA excavation sidewall areas with soil PCB concentrations greater than or equal to 10 ppm. The sample results appeared to indicate a significant southwestern extension of PCB contamination. Following excavation, the area was backfilled with off-site clean soil.

From June through August 2006, a Phase III NTCRA was conducted at Site 84, south and west of the Phase I and Phase II NTCRA areas. Where possible, **Surface Soils** impacted with PCBs at concentrations greater than or equal to 50 ppm were excavated and disposed of off site at the Wayne Disposal, Inc. facility, a TSCA landfill in Belleville, Michigan. The area of soil removal was 5,800 square feet, and 696 tons of TSCA PCB waste soil was disposed of at the Belleville, Michigan facility. The excavated areas were backfilled with a minimum of two feet of clean soil cover supplied by the MCB Camp Lejeune French Creek borrow area. In areas where mass excavation was not feasible due to numerous buried, active utility and communication lines or PCB concentrations were less than 50 ppm at the surface, a minimum of two feet of clean soil cover was placed above the existing surface. The area of soil cover in the Phase III NTCRA area is 18,300 square feet. Prior to backfilling, the existing in-place soil was sampled and analyzed for PCBs. In addition, as part of this removal action, the existing four-foot high fence along the northeastern border of the site was extended to Northeast Creek, and the entire site was revegetated. The three NTCRA phases were completed at a cost of approximately 3.5 million dollars.

3 Site Characteristics

3.1 Physical Characteristics of Site

MCB Camp Lejeune is located on 236 square miles of land in Onslow County, North Carolina, adjacent to the southern side of the City of Jacksonville. Jacksonville is the largest city near MCB Camp Lejeune, and it contains approximately half of the county’s total population. The areas adjacent to MCB Camp Lejeune are generally rural. MCB Camp Lejeune is bisected by the New River, which flows into the Atlantic Ocean in a southeasterly direction. MCB Camp Lejeune is bordered by the Atlantic Ocean to the east, U.S. Route 17 to the west and State Route 24 to the north. Site 84, Operable Unit 19, is located within the northeast portion of MCB Camp Lejeune and is accessed from NC Route 24 (See Figures 1 and 2).

At Site 84, the ground surface is initially gently sloping from west (i.e., Northeast Creek) to east. The ground surface is

relatively steeper east of the gravel access road. Elevations at the site range from approximately less than 5 feet to 25 feet above mean sea level (msl). With the exception of the gravel access road, the majority of the surface is grass covered or wooded.

3.2 Remaining PCB Contamination on Site

Note that in the far western area of the Phase II NTCRA and in the Phase III NTCRA area, some PCB contamination greater than 10 ppm was left in place below a depth of two feet, i.e., beneath the vegetated soil cover, and some PCB contamination greater than 1 ppm but less than 10 ppm was left in place from zero to two feet in depth across the site.



FIGURE 1 – Site Location

Dividing the Phase II NTCRA site area into approximate 0.5 acre increments reveals that over approximately 4 acres of



FIGURE 2 – Site 84 Plan

the site, the average PCB concentration remaining in the soil ranges from 0.8 ppm to 4 ppm. Only six of 33 confirmation samples were above 10 ppm PCB in the far western area of Phase II, and none of the post excavation samples exceeded 50 ppm in this area.

In the Phase III NTCRA area, however, the average PCB concentration beneath a two foot depth over 0.5 acre is 55 ppm. Contamination exceeds 50 ppm in this local area of the utility corridor because excavation could not be performed due to the impracticality of digging into an area lined with numerous power lines, gas lines, and fiber optic lines. However, with the geotextile liner under the roadway base material acting as a separation fabric, PCB concentrations under the road from 0.1 ppm to 1700 ppm can be removed from the calculation because they are essentially capped. Under this scenario, the average PCB concentration in the Phase III NTCRA area falls to 37 ppm.

4 Scope and Role of Response Action

MCB Camp Lejeune was placed on USEPA's NPL in November 1989. Site 84 is one of several IR sites being addressed under CERCLA at MCB Camp Lejeune. The response action for Site 84 does not include or affect any other sites at the facility.

The lead agency's overall strategy for cleaning up Site 84 soil is to eliminate current exposure pathways that may pose unacceptable human health risks. These pathways may be eliminated by excavation and off-site disposal of PCB contaminated soil or by placing clean surface soil cover and, in some cases, separation liners over areas of contamination. The removal actions that have been completed at Site 84 are entirely consistent with the agency's overall strategy for site cleanup.

5 Summary of Site Risks

As part of the RI, a **baseline human health Risk Assessment (RA)** and an **ecological Risk Assessment (RA)** were conducted to determine the potential risks associated with the PCB contaminants in soil at Site 84. The following subsections briefly summarize the findings of the risk assessment studies.

The baseline human health RA was conducted for both the pre-NTCRA Phase I scenario and the post-NTCRA Phase I scenario, and the ecological risk characterization was based on the post-NTCRA Phase I scenario for surface soils, i.e., defined as the top 12 inches of soil. Note that subsurface soils are not considered a complete exposure pathway for terrestrial receptors because the mass of most root systems is

within the surface soil, most soil heterotrophic activity is within the surface organic layer, and soil invertebrates occur on the surface or within the oxidized root zone. With the NTCRAs being completed and contamination remaining only in site soils, the baseline human health RA and ecological RA are summarized for the applicable contaminants for the post-NTCRA Phase I scenario as follows:

- Total site Incremental Lifetime Cancer Risk (ILCR) values calculated in the baseline human health RA indicate potentially unacceptable carcinogenic risk for future adult and child residents and the future industrial/construction site worker. The baseline human health RA concluded that ingestion of and dermal contact with PCB Aroclor-1260 in the surface soil, i.e., zero to two feet in depth, was the primary contributor to unacceptable **carcinogenic risks**. Soil evaluated after the Phase I NTCRA event did not contribute significantly to unacceptable non-carcinogenic adverse health effects for the receptors. With the completion of the three NTCRAs, the risk to the industrial/construction workers at the site has been eliminated in the surface soil. However, risk still remains in some subsurface soils on site for the industrial/construction workers and in surface soils for future adult and child residents. Therefore, LUCs must be applied at the site to prevent exposure.
- For the ecological RA, the surface soil exposure pathway was evaluated by comparing contaminant concentrations in the surface soil to the USEPA Region 4 Recommended Soil Screening Values. Following the Phase I NTCRA event, PCB Aroclor-1260 was the greatest risk driver in surface soils [i.e., those with refined **Hazard Quotient (HQ)** exceeding 10.0]. However, following the three NTCRAs, the HQ would not exceed 1.0 because the PCB contamination in the top 12 inches of soil is, in all cases, significantly less than the USEPA Region 4 Recommended Surface Screening Value of 20 ppm for all PCBs. Therefore, the ecological risk has been mitigated.

The role of the Preferred Alternative presented in this PRAP is to address all potential risks posed by Site 84 and to eliminate current exposure pathways that may pose unacceptable human health risk. It is the current judgment of the Navy and the USEPA, in conjunction with NCDENR, that the Preferred Alternative identified in this PRAP is the most appropriate alternative to protect public health, welfare, and the environment from actual or threatened releases of hazardous substances into the environment.

6 Remedial Action Objectives

Remedial action objectives are medium-specific or site-specific goals established for protecting human health and the environment. At Site 84, the environmental media to be addressed by the Final FS Amendment remedial actions is PCB contaminated soil in certain areas of the site. Remedial Action Objectives for Site 84 are:

- Remove contaminated surface and subsurface soils that contain PCBs in excess of the selected remediation goal (i.e., cleanup level) and prevent exposure to remaining PCB contaminated soil consistent with the requirements for a **low occupancy** area (e.g., unoccupied area outside of a building or storage area in a warehouse at an industrial facility).

PCBs are the contaminant of concern at Site 84. Table 1 provides the remediation goal for Site 84.

Land Use	Parameter	Remediation Goal (mg/kg)
Low Occupancy	PCBs	10 ppm ⁽¹⁾

- mg/kg–Milligrams per Kilogram (ppm)
- (1) USEPA Office of Solid Waste and Emergency Response (OSWER), *A Guide on Remedial Actions at Superfund Sites with PCB Contamination*, U.S. EPA OSWER 9355.4-01 FS, Aug. 1990.

7 Summary of Remedial Alternatives Evaluated

Remedial alternatives to address PCBs in site soil were developed and are detailed in the Final FS Amendment. With the exception of the no action alternative, all alternatives comply with **Applicable, Relevant, and Appropriate Requirements (ARARs)**. The soil Remedial Action Alternatives (RAAs) in the Final FS Amendment represent a wide range of response actions, remediation goals, potential land uses, and land use controls. The no action alternative does not protect human health and the environment, but is presented as a baseline for comparison purposes. A summary of high-occupancy and low-occupancy land use remedial alternatives is presented in Table 2.

For the three action alternatives evaluated, the work scopes include the following:

- RAA 2 is the excavation and disposal of 20,000 tons of PCB contaminated soil with disposal in a solid waste landfill and excavation and disposal of 5,500 tons of highly contaminated soil disposed of in a TSCA approved landfill;
- RAA 3 includes placement of two additional feet of soil cover with 18,000 cubic yards of clean soil along with annual maintenance of cover; and
- RAA 4 includes maintenance of the existing soil cover placed during the NTCRAs.

8 Evaluation of Alternatives

The NCP outlines the approach for comparing remedial alternatives using the **nine evaluation criteria** listed below (see glossary for a detailed description of each). Each remedial alternative for Site 84 was evaluated against the nine criteria listed below. RAA 1 (no action) does not achieve RAOs and is not considered further. The Site 84 Final FS Amendment provides a more detailed comparative analysis of the alternatives.

8.1 Threshold Criteria

Overall Protection of Human Health and the Environment

Each alternative RAA 2, RAA 3, and RAA 4 will protect human health and the environment for the desired future land use. RAA 2 is most protective of human health and the environment because soil exceeding **high occupancy** cleanup goals is removed from the site. For RAA 3 and RAA 4, protection of human health and the environment will be achieved with implementation and proper maintenance of LUCs.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

All of the RAAs meet applicable chemical-specific, location-specific, and action-specific ARARs along with remediation goals for the desired future land use.

8.2 Primary Balancing Criteria

Long-Term Effectiveness and Permanence

RAA 2 is most effective of the alternatives because contaminated soil above 1 ppm PCBs will be completely removed from the site. Both RAA 3 and RAA 4 will be effective in the long term if the soil cover is properly maintained into the future.

TABLE 2
Soil Remedial Action Alternative Summary
Operable Unit No. 19, Site 84
MCB Camp Lejeune, North Carolina

Remedial Action Alternative	Description	Land Use Controls Needed	PCB Cleanup Level	Remedial Action Alternative Cost
RAA 1(1)	No Action (Low Occupancy)	None	To 10 ppm in Upper 2 Feet	\$0
RAA 2(1)	Excavation to 1 ppm PCBs (High Occupancy)	None	1 ppm	\$6,400,000
RAA 3(1)	1 ppm PCB Soil Cover with LUCs (High Occupancy)	Intrusive Restrictions	To 1 ppm in Upper 2 Feet	\$600,000
RAA 4(1)	PCB Removal Actions with LUCs (Low Occupancy)	Intrusive Restrictions	To 10 ppm in Upper 2 Feet	\$50,000

(1) The NTCRAs approximate cost of \$3.5 million should be added to each alternative.

Reduction of Toxicity, Mobility, or Volume Through Treatment

None of the four alternatives will reduce toxicity, mobility, or volume of contaminants through treatment. RAA 2 includes disposal of PCB contaminated soil in approved landfills. RAA 3 and RAA 4 include future and existing soil caps, respectively, that will reduce contact with contaminated soil by human receptors, so the potential toxicity will be reduced.

Short-Term Effectiveness

For RAA 2 and RAA 3 to be effective in the short term, worker and environmental protection plans will need to be in place. Because of the significant amount of excavation required for RAA 2, there is a possibility of increased risk for workers and community members. RAA 3 will be physically effective in protecting human health and the environment in a shorter time frame than RAA 2. There are no short-term risks associated with RAA 4. It is estimated that all of the alternatives can be implemented in less than one year.

Implementability

All of the alternatives have an easy to moderate level of difficulty to implement, and work similar to RAA 2, RAA 3,

and RAA 4 have been completed successfully at Site 84 or at other CERCLA sites on Camp Lejeune.

Cost

RAA 2 has low cost efficiency. At \$6,400,000, it permits high-occupancy land use but at a cost that is nearly double the cost of NTCRAs completed to date at Site 84. RAA 4 is the most cost efficient alternative because, at a very reasonable cost, it permits low-occupancy land use of the majority of Site 84. RAA 3 is moderately cost efficient because it permits high-occupancy land use, with restrictions on intrusive activities, at a moderate cost.

8.3 Modifying Criteria

State Acceptance

State involvement has been solicited throughout the CERCLA process and proposed remedy selection. The State supports the Preferred Alternative and their final concurrence will be solicited following the review of all comments received during the public comment period.

Community Acceptance

Community acceptance will be evaluated after the public comment period for the PRAP and will be fully evaluated in the Record of Decision (ROD).

9 Preferred Alternative

The Navy and MCB Camp Lejeune, in conjunction with the USEPA and NCDENR, agree that the Preferred Alternative for Site 84 is RAA 4 - PCB Removal Actions with Land Use Controls. The Preferred Alternative is the best choice among the alternatives because the three earlier NTCRAs that removed and soil covered PCB contaminated soils, along with LUCs to prevent intrusive activities, effectively eliminates the exposure pathways, reduces risk to an acceptable level, and is cost effective.

LUCs including, but not limited to, land use restrictions in the Base Master Plan and fences/signage to prohibit intrusive activities (e.g., excavation, well installation, or construction) will be implemented to prevent exposure to the residual contamination on the site that exceeds the remediation goals. The LUCs will be implemented and maintained by the Navy and MCB Camp Lejeune until the concentration of PCBs in the soil are at such levels to allow for unrestricted use and unlimited exposure. The area of Site 84 that is subject to the LUCs as well as a summary of the land use restrictions are provided in Figure 3.

The performance objectives of the LUCs at Site 84 are:

- Prohibit the development and use of the site for residential housing, elementary and secondary schools, child care facilities, and recreational areas within the LUC boundaries of the site; and
- Prohibit intrusive activities within the areas with PCB contamination greater than 10 ppm in **Subsurface Soils**, i.e., greater than 2-foot depth.

The LUC implementation actions, including monitoring and enforcement requirements, will be provided in a LUC Implementation Plan (LUCIP) that will be prepared by the Navy after the Record of Decision has been finalized. The Navy will submit the LUCIP to USEPA and NCDENR for review and approval pursuant to those Primary Document review procedures stipulated in the **Federal Facility Agreement (FFA)**. The Navy will maintain, monitor (including conducting periodic inspections), and enforce the LUCs according to the requirements in the LUCIP and the ROD.

Based on information currently available, the Navy, MCB Camp Lejeune, and the USEPA, in conjunction with NCDENR, believe the Preferred Alternative provides the best balance of tradeoffs for the site and is protective of human health and complies with all ARARs. The Preferred Alternative will be reevaluated as appropriate in response to public comment or new information.

Because PCBs will remain at the site above levels that allow for unlimited exposure and unrestricted use (or land use), the Navy will review the final remedial action no less than every five (5) years after initiation of the remedial action per CERCLA Section 121(c) and the NCP at 40 CFR300.4309(f)(4)(ii). If results of the five-year reviews reveal that remedy integrity is compromised and protection of human health is insufficient, then additional remedial actions would be evaluated by the parties and implemented by the Navy.

10 Community Participation

A community relations program is being conducted through the IR process. Public input is a key element in the decision making process. Nearby residents and other interested parties are strongly encouraged to use the comment period to relay any questions and concerns about Site 84 and the Preferred Alternative. The Navy will summarize and respond to comments in a responsiveness summary, which will become part of the official ROD.

This PRAP fulfills the public participation requirements of CERCLA Section 117(a), which specifies that the lead agency (i.e., the Navy) must publish a plan outlining any remedial alternatives evaluated or removal actions completed for the site and identifying the Preferred Alternative. All documents referenced in this PRAP are available for public review at the information repositories (See Section 10.3).

A restoration advisory board (RAB) was formed in 1995. Meetings continue to be held to provide an information exchange among community members, the USEPA, NCDENR, MCB Camp Lejeune, and the Navy. These meetings are open to the public and are held quarterly.

10.1 Public Comment Period

The public comment period for the PRAP provides an opportunity for the community to provide input regarding the Preferred Alternative for Site 84. The public comment period will be from April 22, 2008 to May 20, 2008, and a public meeting will be held April 29, 2008 at the Carolina Coastal Community College. All interested parties are encouraged to participate in the Navy's CERCLA activities at MCB Camp Lejeune.

Comments must be postmarked no later than May 20, 2008. The page included with this PRAP may be used to provide comments to the Navy. Please fold the page, and add postage where indicated. Use of this form is not required.

10.2 Record of Decision

After the public comment period, the Navy and MCB Camp Lejeune, in conjunction with the USEPA and with concurrence from NCDENR, will determine whether the remedy proposed in this plan should be modified on the basis of comments received. Any required modifications will be made by the Navy, MCB Camp Lejeune. If the modifications substantially change the Preferred Alternative, additional public comment may be solicited. If not, the Navy, MCB Camp Lejeune, and USEPA will prepare and sign the ROD, with concurrence from the State of North Carolina. The ROD will detail the Preferred Alternative chosen for the site and will include the Navy's responses to comments received from the public.

During the comment period, interested parties may submit written comments to the following addresses:

Mr. Gary Tysor
Attn: Marcy Gallick
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Fax (919) 733-2801
Randy.McElveen@ncmail.net

10.3 Available Information

The Administrative Record, Community Relations Plan, Installation Restoration Program fact sheets, and final technical reports concerning Site 84 can be accessed by the public at home through the Internet at http://www.bakerenv.com/camplejeune_irp or at the following location where the Internet is available:

Onslow County Public Library
58 Doris Avenue East
Jacksonville, North Carolina 28540
(910) 455-7350

If individuals have any questions about MCB Camp Lejeune Site 84, they may call or write to one of the contacts listed on this page.

11 Glossary

Applicable or Relevant and Appropriate Requirements

(ARARs): These are federal or state laws, regulations, standards, criteria or requirements which would apply to the cleanup of hazardous substances at a particular site.

Baseline Human Health Risk Assessment (RA): A process to characterize the current and potential threats to human health from contaminant exposures.

Carcinogenic Risk: Cancer risks are expressed as a number reflecting the increased chance that a person will develop cancer if exposed to chemicals or substances. For example, USEPA's acceptable risk range for Superfund sites is 1×10^{-4} to 1×10^{-6} , meaning there is 1 additional chance in 10,000 (1×10^{-4}) to 1 additional chance in 1 million (1×10^{-6}) that a person will develop cancer if exposed to a site that is not remediated.

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA):

Comprehensive Environmental Response, Compensation and Liability Act (commonly called Superfund), is the name of the Federal law passed in 1980 and amended in 1986 by the Superfund Amendments and Reauthorization Act codified at 42 U.S.C. §§ 9601 et seq., and amended again in 2000. CERCLA created a Trust Fund known as Superfund which is available to USEPA to investigate and clean up abandoned or uncontrolled hazardous waste sites.

Ecological Risk Assessment (RA): The ecological risk assessment is the process which identifies potential risk to aquatic and terrestrial plants and animals from contaminants in soil, surface water, and sediments.

Feasibility Study: An investigation of the nature and extent of contamination at a given site, for the purpose of developing and evaluating remedial alternatives, as appropriate.

Federal Facility Agreement (FFA): A CERCLA-required, interagency agreement that documents a plan for cooperating with other agencies in the cleanup of Federal facilities. The FFA outlines the roles and responsibilities of each party and sets timetables for cleanup actions.

Hazard Quotient (HQ): The ratio of the exposure estimated, to an effects concentration, considered to represent a “safe” environmental concentration or dose. Values of the HQ less than 1.0 are considered indicative of acceptable risk.

High Occupancy (Area): Examples include a residence, school, or day care center.

Information Repository: A location where documents and data related to the Superfund project are placed to allow the public access to the material.

Installation Restoration (IR): The Navy, as the lead agency, acts in partnership with USEPA and NCDENR to identify, assess, characterize, and clean up or control contamination from past hazardous waste disposal operations and hazardous material spills at its facilities. The current IR program follows various federal and state laws and regulations, including CERCLA, RCRA, and applicable state environmental laws.

Land Use Controls (LUCs): Legal and administrative measures to protect human health and the environment when residual contamination is contained on site. LUCs limit human exposure by restricting activity, use, and access to properties with residual contamination.

Low Occupancy (Area): Examples include unoccupied areas outside of a building or storage area in a warehouse at an industrial facility.

National Oil and Hazardous Substances Contingency Plan (NCP): The Federal regulation at 40 C.F.R. Part 300 that guides the determination and manner in which sites will be cleaned up under the Superfund program.

National Priorities List (NPL): A list developed by USEPA, of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the USEPA in determining which sites warrant further investigation.

Nine Evaluation Criteria:

- **Overall Protection of Human Health and Environment** – Addresses whether a remedy adequately eliminates, reduces, or controls all current and potential risks posed by each exposure pathway for contaminants at the site.
- **Compliance with ARARs** – A statutory requirement for remedy selection that an alternative will either meet all of the ARARs or that there is a good rationale for waiving an ARAR.
- **Long-Term Effectiveness and Permanence** – Addresses the expected residual risk that will remain at the site after completion of the remedial action and the ability of a remedy to maintain reliable protection of human health and the environment in the future as well as in the short term.
- **Reduction of Toxicity, Mobility, and Volume Through Treatment** – Discusses the anticipated performance of the treatment technologies in their ability to reduce toxicity, mobility or volume of contamination.
- **Short-Term Effectiveness** – Considers the short-term impacts of the alternatives on the neighboring community, the plant workers, remedial construction workers, and the surrounding environment, including potential threats to human health and the environment associated with the collection, handling, treatment and transport of hazardous substances
- **Implementability** – Evaluates the technical and administrative feasibility of a remedy, as well as the availability of goods or services on which the viability of the alternative depends.
- **Cost** – Encompasses all construction, operation and maintenance costs incurred over the life of the project, expressed as the net present value of these costs.
- **State Acceptance** – Considers substantial and meaningful state involvement on the Proposed Remedial Action Plan.
- **Community Acceptance** – Provides the public’s general response to the alternatives described in the Proposed Remedial Action Plan, RI, and FS reports. The specific responses to the public comments are addressed in the Responsiveness Summary section of the ROD.

Non-Time-Critical Removal Action (NTCRA): Non-time-critical removal actions are conducted at Superfund sites when the lead Agency determines, based on a site evaluation, that a removal action is appropriate. Non-time-critical actions respond to releases where a planning period of at least six months is available before on site activities must begin, and the need is less immediate.

North Carolina Department of Environment and Natural Resources (NCDENR): The state agency responsible for administration and enforcement of state environmental regulations.

Proposed Remedial Action Plan (PRAP): Identifies the preferred alternative and discusses the reasons for this preference. The PRAP includes a summary of background information relating to the site; describes the rationale for the selection of a preferred alternative; solicits public review and comment on all of the alternatives described in the proposed plan, and provides information on how the public can be involved in the remedy selection process.

Public Comment Period: The time period during which the public is encouraged to review and comment on each of the clean up options evaluated in a PRAP and other documents in the Administrative Record file.

Remedial Investigation (RI): A study to determine the nature and extent of contaminants present at a site and the problems caused by their release.

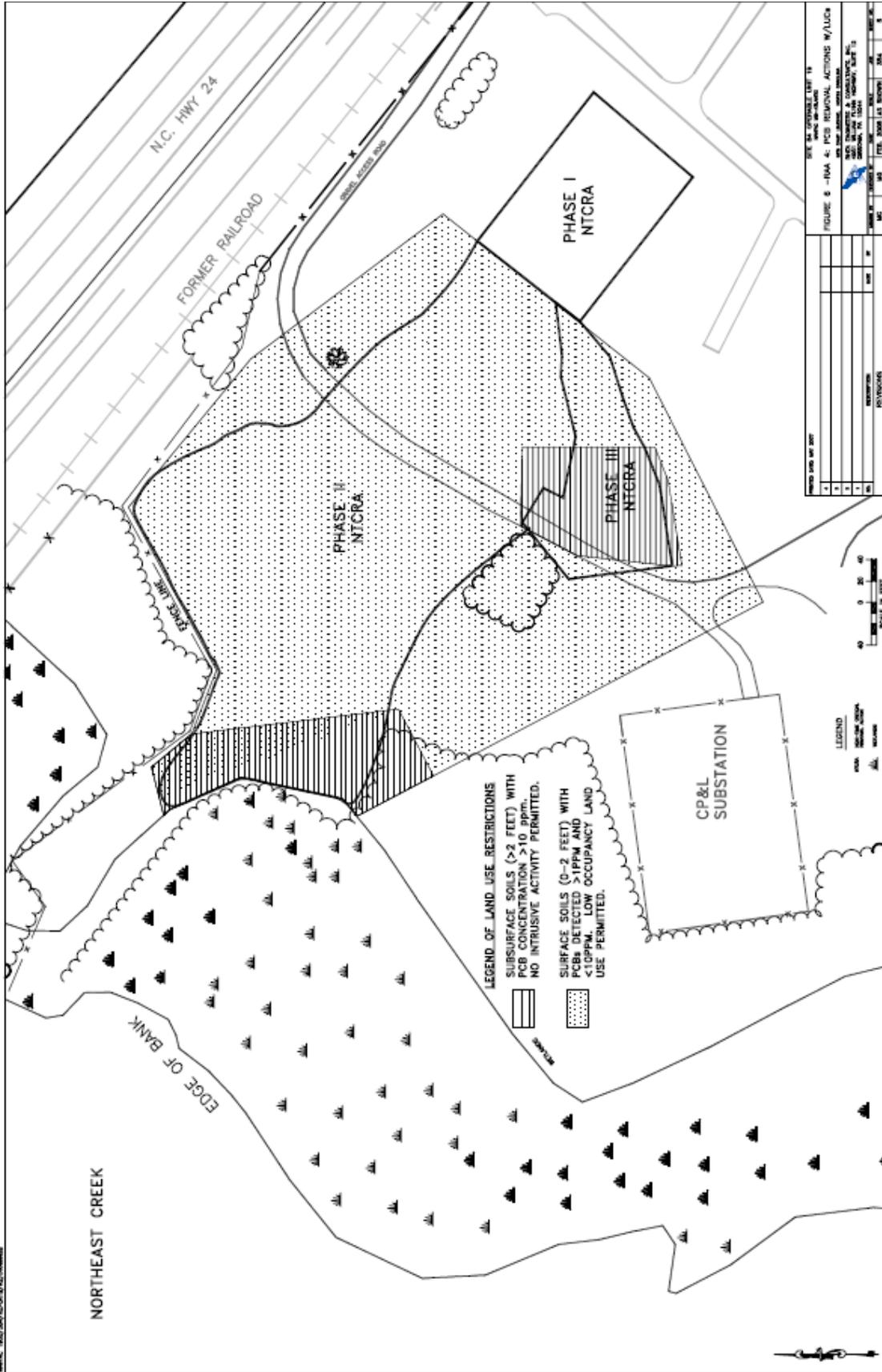
Record of Decision (ROD): A legal decision document that describes the remedial actions selected for a Superfund site, why certain remedial actions were chosen as opposed to others, how much they will cost, how the public responded to the Proposed Plan, and how the public's comments about the Proposed Plan were incorporated into the final decision.

Toxic Substances Control Act (TSCA): First enacted in 1976, this act gives USEPA broad authority to regulate the manufacture, use, distribution in commerce, and disposal of chemical substances.

Subsurface Soil: Soil located greater than two feet beneath the ground surface.

Surface Soil: Soil located from zero feet to two feet beneath the ground surface.

USEPA: United States Environmental Protection Agency. The federal agency responsible for administration and enforcement of CERCLA (and other environmental regulations), and with final approval authority for the selected ROD.



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Place
stamp
here

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