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MCB CAMP LEJUENE
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RESPONSE TO COMMENTS ON THE DRAFT FEASIBILITY STUDY FOR OPERABLE UNIT
21 (OU 21) SITE 73 THE AMPHIBIOUS VEHICLE MAINTENANCE FACILITY MCB CAMP
LEJEUNE NC
02/24/2009
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**Response to Comments
Draft Feasibility Study
Operable Unit 21, Site 73
Amphibious Vehicle Maintenance Facility
MCB Camp Lejeune, North Carolina**

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DATE: February 24, 2009

Introduction

The purpose of this document is to address comments on the Draft Feasibility Study for Site 73, Operable Unit No. 21. The United States Environmental Protection Agency (USEPA) and the North Carolina Department of Environment and Natural Resources (NCDENR) provided the comments listed below. The responses to comments are provided in **bold** text.

North Carolina Department of Environment and Natural Resources Comments Draft Feasibility Study Report for Site 73/OU 21 (Dated January 7, 2009)

Specific Comments

1. In Section 3.1.1 the North Carolina Soil Screening Levels (SSLs) should be included as a chemical specific ARAR.

The North Carolina Soil Screening Levels (SSLs) will be included as a chemical specific ARAR.

2. In Section 3.2, goal 2, should the goal be to restore ground water to the 2L standard? The intent of the 2L rule is to maintain and preserve the quality of ground water, not only to prevent ingestion of contaminated water.

RAO #2 in Section 3.2 was changed to the following: "Restore groundwater quality at Site 73 to the 2L and MCL standards based on the classification of the aquifer as a potential source of drinking water [Class GA or Class GSA] under 15A NCAC 02L.0201, and to prevent human ingestion of water containing COCs (benzene, TCE, cis-1,2-DCE, 1,1-DCE, and vinyl chloride) at concentrations above 2L standards or MCLs, whichever is more conservative, until the RAO has been obtained."

3. Section 3.4 states that the shallow aquifer zone will not be addressed in the remedial action alternatives. Ground water monitoring would be required in the shallow aquifer to show that contaminant concentrations continue to decrease as expected.

At the end of paragraph 2 in Section 3.4, the following sentence the sentence “Consequently the shallow aquifer zone will not be addressed further in the remedial action alternatives.” was deleted and the following sentence was added to the discussion regarding contaminant concentrations in the shallow aquifer zone:

“Groundwater monitoring will be conducted in the shallow aquifer zone as part of each of the remedial alternatives to verify that contaminant concentrations continue to decrease as expected.”

4. Section 4.2.2 discusses the possibility that vinyl chloride could discharge into Courthouse Bay. The possibility that other contaminants of concern could discharge into the Bay under this alternative should be addressed.

In response to the above comment, the text in Section 4.2.2 was changed to the following: “Based on the current configuration of the groundwater contaminant plume TCE, cis-1,2-DCE, and VC may be discharging to Courthouse Bay currently or in the future at concentrations exceeding the NCSWQS. However, TCE, cis-1,2-DCE, and VC have not been detected in Courthouse Bay.”

**EPA Region 4 Comments on the
Draft Feasibility Study Report for Site 73/OU 21
(Dated February 2, 2009)**

Specific Comments

1. **Section 3.1 ARARs, Page 3-1** – Please consider replacing and using the following language. “CERCLA Section 121(d), specifies in part, that remedial actions for cleanup of hazardous substances must comply with requirements and standards under federal or more stringent state environmental laws and regulations that are applicable or relevant and appropriate (i.e., ARARs) to the hazardous substances or particular circumstances at a site or obtain a waiver [see also 40 Code of Federal Regulations (CFR) 300.430(f)(1)(ii)(B)]. Applicable or relevant and appropriate requirement (ARARs) include only federal and state environmental or facility siting laws/regulations and do not include occupational safety or worker protection requirements. In addition, per 40 CFR 300.405(g)(3), other advisories, criteria, or guidance may be considered in determining remedies (so-called To-Be-Considered [TBC] guidance category). Under CERCLA 121(e)(1), permits are not required for response actions conducted entirely on-site. In addition, response actions must comply with the ‘substantive’, as opposed to ‘administrative’, requirements of any of the identified ARARs.”

Language in Section 3.1 was replaced with language provided above.

2. **Section 3.1.1 Chemical-specific ARARs, Page 3-1** – Please consider replacing and using the following language. “Chemical-specific ARARs provide health- or

risk-based concentration limits or discharge limitations in various environmental media (i.e., surface water, groundwater, soil, air) for specific hazardous substances, pollutants, or contaminants and are listed in Table 3-1. Remediation levels for most of the COCs in groundwater will be based upon relevant and appropriate primary drinking water standards including the SDWA MCLs or NCGWQS at 15A NCAC 02L.0202 since groundwater at this site would be considered Class GA or GSA under 15A NCAC 02L.0201.”

Language in Section 3.1.1 was replaced with language provided above.

3. Section 3.1.1 Chemical-specific ARARs, 3rd bullet Page 3-1 – Most, if not all of the NCDENR regulations listed are not Chemical-specific ARARs but instead might be Action-specific ARARs. Consequently, delete the existing bullet and the sub entries. The NCSWQS at 15A NCAC 2B. 0208 and 0220 and in particular the water quality criteria for toxic substances are considered Chemical-specific ARARs since one of the RAOs is prevent or mitigate recharge of contaminated groundwater into the nearby surface water (i.e., Courthouse Bay).

The third bullet and sub entries were replaced with the following bullet: “North Carolina Water Quality Standards and Surface Water Effluent Limitations (15A NCAC 2B 0208 and 0220) (NCSWQS), and in particular the water quality criteria for toxic substances, are considered Chemical-specific ARARs since one of the RAOs is prevent or mitigate recharge of contaminated groundwater into the nearby surface water (i.e., Courthouse Bay).”

4. Section 3.2 Remedial Action Objectives, Page 3-2 – Since one of the goals of response action is cleanup the VOC contaminated groundwater to meet primary drinking water standards, please add an RAO to “Restore groundwater quality at Site 73 to meet NCDENR and federal primary drinking water standards based on the classification of the aquifer as a potential source of drinking water [Class GA or Class GSA] under 15A NCAC 02L.0201.”

RAO #2 in Section 3.2 was changed to state the following: “Restore groundwater quality at Site 73 to the 2L and MCL standards based on the classification of the aquifer as a potential source of drinking water [Class GA or Class GSA] under 15A NCAC 02L.0201, and to prevent human ingestion of water containing COCs (benzene, TCE, cis-1,2-DCE, 1,1-DCE, and vinyl chloride) at concentrations above 2L standards or MCLs, whichever is more conservative, until the RAO has been obtained.”

“RAOs consist of medium-specific goals for protecting human health and the environment. The RAOs for the remediation of groundwater at Site 35 are based upon the potential of future residential receptors and the potential that groundwater at the Site may be used for potable purposes in the future.”

[Add to the text above: based on the potential of future residential receptors.... and discharge of contaminated groundwater to surface water.]

Additional text provided above was added to Section 3.2.

5. Tables 3-1, 3-2, and 3-3 ARARs – It appears that these ARARs Tables are a comprehensive listing on any potential requirement that could be used for a number remedial alternatives. These Tables should only list the ARARs that would be used for any on the enumerated remedial alternatives. Also, there are numerous entries on the tables that probably should not be included considering the limited scope of the remedial action alternatives and how they will likely be conducted on-site. The only chemical-specific ARARs are the SDWA MCLs and NCGWQS at 15A NCAC 02L.0202 and the NCSWQS at 15A NCAC 2B. 0208 and 0220. Requirements related to emissions and discharges should be listed in the Action-specific ARARs. Since most if not all of the alternatives are in-situ treatment of groundwater, there likely will be very little secondary waste streams generated (groundwater well purge water, soil cores from new wells, etc.) Consequently, many of the requirements on the Table 3-2 are not needed. In addition, based upon the site description for Site 73, there should not be any Location-specific ARARs. The EPA attorney is willing to discuss all these regulations with the Navy and its contractors to ensure that the proper requirements are listed on the ARARs Table. Consider using the ARARs used for the Site 89 Action Memorandum as initial listing that can be modified since that was an in-situ groundwater treatment action.

ARAR Tables 3-1, 3-2, and 3-3 were revised. Tables were resubmitted for approval.

6. Section 3.4 Identification and Screening of Technology Types and Process Options - Remove last sentence of second paragraph: "Consequently". The shallow aquifer zone should be included with any groundwater alternative as a MNA remedy. The paragraph states that based on decreasing concentration trends the shallow zone will attenuate. This is an attenuation remedy for the shallow aquifer, which therefore, should be included with any groundwater remedy.

The sentence referred to in the above comment was deleted, and the following text was added: "Groundwater monitoring will be conducted in the shallow aquifer zone as part of each of the remedial alternatives to verify that contaminant concentrations continue to decrease as expected."

7. Section 3.4 Identification and Screening of Technology Types and Process Options – The third paragraph addresses the soil conditions at Site 73 and the absence of exposure pathways. It should also be explained in the text that the identified soil area(s) are presently not impacting groundwater.

Text has been revised to indicate impacted soils are not presently impacting groundwater.

8. Section 4.1 Development of Alternatives – Since LUCs will be required for any of the remedial alternatives to prevent unauthorized use or exposure to contaminated groundwater until it is "restored" (i.e., meets cleanup levels), please include a paragraph that generally identifies what type of LUCs would be utilized for each of the Alternatives. It is also important to factor in the cost of implementing LUCs as part of each remedial alternative in this FS, although EPA suspects it would be roughly the same cost for each of alternative.

[e.g. The Navy will implement the following LUCs as part of the selected remedy for Site 35: 1) incorporating LUCs into the Base Master Plan; 2) a Notice of Inactive Hazardous Substance or Waste Disposal; and 3) Deed and/or Lease Restrictions.]

The text in Section 4.1 will be revised to include the suggested language above: "Due to the contaminant concentrations present at Site 73, Land Use Controls (LUCs)

prohibiting the installation of water supply wells and preventing the unauthorized use or exposure to contaminated groundwater or soil will be considered a part of Alternatives 2, 3, and 4. The DoN will implement the following measures as part of the LUCs: 1) file a Notice of Inactive Hazardous Substance or Waste Disposal; and 2) file a Deed and/or Lease Restrictions; and 3) incorporate the LUCs into the Base Master Plan.”

The costs associated with implementing and maintaining the LUCs will be incorporated in the cost estimate for Alternatives 2, 3, 4 and 5.

