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State of North Carolina  
Department of Environment,  
Health and Natural Resources  
Division of Solid Waste Management



James B. Hunt, Jr., Governor  
Jonathan B. Howes, Secretary  
William L. Meyer, Director

January 3, 1995

Commander, Atlantic Division  
Naval Facilities Engineering Command  
Code 1823-1

Attention: MCB Camp Lejeune, RPM  
Ms. Linda Saksvig, P. E.  
Norfolk, Virginia 23511-6287

Commanding General

Attention: AC/S, EMD/IRD  
Marine Corps Base  
PSC Box 20004  
Camp Lejeune, NC 28542-0004

RE: Draft Feasibility Study for Operable Unit #4  
(sites, 41, 69, and 74)

Dear Ms. Saksvig:

The referenced documents have been received and reviewed by the North Carolina Superfund Section. Our comments are attached. Please call me at (919) 733-2801 if you have any questions about this.

Sincerely,

*Patrick Watters*

Patrick Watters  
Environmental Engineer  
Superfund Section

Attachment

cc: Gena Townsend, US EPA Region IV  
Neal Paul, MCB Camp Lejeune  
Bruce Reed, DEHNR - Wilmington Regional Office

North Carolina Superfund Comments  
Camp Lejeune MCB Operable Unit 4  
Draft Feasibility Study

General

1. Filtered Groundwater and Surface Water Samples

Throughout the Remedial Investigation (RI) Report and the Feasibility Study (FS) the terms "total" and "dissolved" are used to describe groundwater and surface water samples. It is our understanding that these terms actually mean "unfiltered" and "filtered" respectively. While filtered water samples may yield some information about contamination levels, in accordance with EPA policy these should not be used in the RI Report or the FS to assess health risks associated with an NPL site. The RI Report and the FS need to be rewritten to clearly identify the filtered versus the unfiltered results and to remove any health risks assumptions or conclusions based on filtered water samples.

2. Institutional Controls

The Institutional Controls option described in the FS requires that contamination above the NC Groundwater standards remain on site and not be actively remediated. As you are aware, the NC Groundwater regulations require submission of a "Corrective Action Plan" (CAP) under 15A NCAC 2L.0106 when groundwater contaminated above the 2L standards is not to be actively remediated. There have been discussions within DEHNR concerning whether the submission of this CAP is considered a substantive ARAR requirement appropriate for NPL sites. This issue has not been resolved, but regardless of whether or not a separate CAP is required, the substantive aspects of 2L.0106 will need to be addressed at some point during the CERCLA process if the Institutional Controls option is the selected method.

3. Contaminants of Concern

There were several questions and concerns expressed in our RI Report comments regarding the methodologies used to establish the contaminants of concern for OU 4. These issues impact the content of the Feasibility Study and therefore need to be resolved in order for the State to thoroughly assess the adequacy of the FS.

4. Human Health Risk Assessment

These are several instances in the Executive Summary and in Sections 1.5 and 1.7 that state that there are no present unacceptable human health risks associated with the sites of Operable Unit 4. This is potentially misleading because there are contaminants in the groundwater and surface water at these sites that are above North Carolina environmental standards and by legal definition are considered to be an unacceptable human health risk. These sections should be restructured to avoid any misinterpretation.

5. Page ES-16, Alternative 69GW-3  
Note that treated groundwater discharges off-site will be subject to NPDES permitting requirements.
6. Page ES-16, Alternative 69GW-3  
The second paragraph discusses what measures are taken if the groundwater extraction system is not able to meet NC groundwater standards. The requirements for demonstrating that an asymptotic level has been achieved and to request termination of corrective action are described in NC Groundwater regulations 15A NCAC 2L.0106(m) (1 through 4).
7. Page ES-18, Alternative 69GW-4  
Elaborate on the effect of adding an acid or a sequesterant pretreatment system to the groundwater extraction system. Adding acid would keep the dissolved metals in solution however this could also put any suspended solids in solution which could elevate the levels of dissolved metals in the final effluent.
8. ES-19&20, Site 74 Remedial Alternatives  
This section does not indicate if a cap was considered for Site 74. Please explain.
9. Page 1-7, Section 1.2.1.3  
As noted in our comments on the RI Report, it is not clear what evidence links the former Pest Control Area and the Grease Pit Disposal Area as being a Class 4 CWM site.
10. Pages 1-22 through 1-27, Tables 1-1 through 1-3  
These tables are confusing when compared with some of the text that attempts to differentiate between total and dissolved metals (i.e. filtered versus unfiltered samples). These tables shows that iron, lead and manganese consistently exceed both the NC groundwater standards and the MCLs yet the text states that this is a total metals problem and that the dissolved metals concern is limited. See also the general comment on the use of filtered groundwater samples.
11. Page 1-29, Table 1-4  
This table includes a column for "Background Concentration Range" yet there is no information provided in the text to describe these background locations.
12. Pages 1-35 through 1-38, Table 1-7  
This table compares total versus dissolved metals in the surface water at Site 41. Please see the general comment about the use of filtered samples and revise this table accordingly.
13. Page 2-4, Section 2.3.1.1  
The statement that, "If the water quality standard of a substance is less than the limit of detectability, the

substance shall not be permitted in detectable concentrations." is not correct. The correct term in the NC groundwater regulations is "practical quantitation limit" and not "limit of detectability".

14. Page 3-2, Section 3.1.6.2

The last sentence indicates that it is US Army policy to not remove buried CWM that does not pose unacceptable human risks. Please cite the specific reference to this Army policy as a text note and in the bibliography.

15. Page 4-15, Institutional Controls

We interpret the 1000' radius potable water exclusion zone noted in this paragraph as starting from the farthest point of the contamination and extending around the entire perimeter (i.e. like a buffer zone) of the contaminated media of concern.

16. Page 4-19, Groundwater Extraction

See comment number 6 regarding groundwater contaminant levels approaching asymptotic levels.

17. Page 5-7, Section 5.2.2.

See comment number 18 regarding the interpretation of the 1000' radius "exclusion zone" for potable water supply wells.