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United States Environmental Protection Agency,
Region IV
Waste Management Division
Attn: Ms. Gena Townsend
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: Response to EPA Region IV Comments on the Draft Final Feasibility Study (FS) for Operable Unit No. 1, Marine Corps Base Camp Lejeune, North Carolina

Dear Ms. Townsend:

Attached are the responses to comments dated June 1, 1994 provided by EPA Region IV on the above referenced report. Any questions concerning these responses should be directed to Ms. Linda Berry who may be reached at (804) 322-4793.

Sincerely,

L. A. BOUCHER, P.E.
Head
Installation Restoration Section
(South)
Environmental Programs Branch
Environmental Quality Division
By direction of the Commander

Attachment

Copy to: (w/encl)
NC DEHNR (Mr. Patrick Watters)
MCB Camp Lejeune (Mr. Neal Paul)
Baker Environmental (Mr. Ray Wattras)

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Response to Comments Submitted by the USEPA, Region IV on the Draft Final RI and FS Reports for Sites 21, 24, and 78 (Operable Unit No. 1), MCB, Camp Lejeune, North Carolina

Comment Letter by Ms. Gena D. Townsend dated May 16, 1994

Remedial Investigation Comments

1. Section 6.2.2.1, page 6-9, paragraph 1-2

According to the Risk Assessment Guidelines (RAGs), the use of frequency of detection is only one of many criteria to be used in the selection of contaminants of potential concern (COPC). In order for five percent frequency of detection to be a statistically valid criterion, at least 20 sample results must be used to represent the population.

The five percent detection criteria was not solely used as a determinant in the selection of COPCs. The number of samples collected (9) does not allow for this statistical evaluation. In conjunction with other criteria used in selecting COPCs (i.e., blank contamination, site history, potential toxicity), prevalence was used as a determinant. However, the prevalence of a contaminant was not based on that contaminant being present in five percent of the samples.

2. Based on the discussion with the reviewer it was agreed that soil samples collected from Site 78 must be addressed. Additional text will be prepared to justify why the soil sampling conducted at Site 78 cannot be used for estimating potential risks to human health. However, for the purpose of remediation, soil contaminant concentrations will be addressed in the feasibility study. Remediation levels will be developed for contaminants detected in the soil using site-specific variables. The remediation levels will be compared to contaminant concentrations in order to assess if "hot spot" remediation will need to be addressed.

3. Justification will be provided for not addressing the fish ingestion exposure route. The text will be revised to indicate that the two surface water bodies included in this investigation do not support fish of edible species or size. In addition, substantial fishing is not conducted in either of these surface water bodies.

4. In an effort to be conservative, default variables developed for estimation of exposure to surface water while swimming were used to estimate risks from surface water bodies included in this investigation. Although these variables were overly conservative (i.e., swimming is not known to occur) no adverse risk was produced. Consequently, in order to demonstrate that potential exposure to surface water was examined, the risk estimations were

presented. It has been demonstrated through using the most conservative defaults, published by the EPA, that exposures to surface water do not produce an adverse risk, therefore, eliminating these exposure routes or vastly reducing the default variables would not impact the overall site risk and would require an increased amount of unnecessary rework.

5. The surface water bodies in this area are not used by humans for any potable purposes. Additionally, the State of North Carolina classifies Cogdels Creek and Beaver Dam Creek as saltwater. For these reasons, the AWQCs established for the protection of saltwater organisms were used and presented on the Tables 6-12 and 6-13.

The footnote will be corrected on Tables 6-12 and 6-13 to indicate that "C" is Criteria not Standard. In addition, the footnote will now indicate that the criteria established for the protection of saltwater organisms.

6. Although these values were not presented on Table 6-30, they were used properly in the estimation of contaminant intake (see Appendix P). The table will be revised to indicate these toxicity values.

7. Sampling data sets with fewer than 20 samples may not statistically provide a good estimate of the 95 percent UCL. In general, the UCL approaches the true mean as more samples are included in the data set. This may account for the discrepancy between the mean and the 95 percent UCL.

8. Significant uncertainty is associated with the modification of the Oral Reference Dose (RfD) or Carcinogenic Potency Factor (CPF) to determine an absorbed dose. RfDs and CPFs are usually expressed as administered dose. Use of an administered dose toxicity values is appropriate when evaluating similar routes of exposure. However, when evaluating dermal exposure to a chemical, an absorbed dose is derived by the risk assessor. Technically, it is not appropriate to evaluate potential health effects associated with an adsorbed dose using a toxicity value generated from an administered dose. Modifying the RfD and CPF (derived from an administered dose) by some arbitrary oral absorption factor dose not produce a more reliable or accurate toxicity index for evaluating potential dermal exposure.

USEPA-promulgated absorption values are not available because of the uncertainty in the available absorption data. For example, an absorption value for a given chemical differs from different animal species and the media by which the chemical is administered (i.e., rat vs guinea pig vs mouse; corn oil vs food). Furthermore, available default absorption values cannot account for the variability of absorption between animals and humans, nor can they account for absorption differences in individual diets or individuals of different ages, weights, race, or socio-economic status. Until more appropriate dose-response

factors are derived or promulgated absorption factors are published by USEPA, absorbed dose RfDs or CPFs cannot be derived and used in place of promulgated USEPA administered dose RfDs and CPFs.

Feasibility Study Comments

1. OU No. 1 has four soil areas of concern (AOCs) as discussed throughout the text (for example see Section 2.7.2 and Figure 2-4). The comment did not identify where in the FS report that 7 soils AOCs are listed. Baker reviewed the document and could not find any listing of any other soil AOCs than those presented in Section 2.7.2. Therefore, no changes will be made to the FS Report unless further clarification of this comment is received prior to the submission of the Final FS Report.

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