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SEP 30 1991

State of North Carolina  
Department of Environment,  
Health, and Natural Resources  
Attn: Mr. Jack Butler  
Division of Solid Waste Management  
P.O. Box 27687  
Raleigh, North Carolina 27611-7687

Re: MCB Camp Lejeune; Response to EPA Comments on Draft  
RI/RA/FS for Hadnot Point Shallow Soils/Deep Groundwater  
and Draft Site Assessment Report for Sites 6, 48, and 69

Dear Mr. Butler:

We have received the North Carolina Department of Environment,  
Health, and Natural Resources comments (letter dated  
September 30, 1991) to the subject draft documents. The  
Navy/Marine Corps response to these comments is enclosed.

The Draft Final version of these reports will be forwarded no  
later than December 26, 1991.

Should you have any questions concerning this matter, please  
contact Ms. Laurie Boucher, P.E., at (804) 445-1814.

Sincerely,

P. A. RAKOWSKI, P.E.  
Head  
Environmental Programs Branch  
Environmental Quality Division  
By direction of the Commander

Enclosure

Copy to (w/encl):  
MCB Camp Lejeune (AC/S, Environmental Management)  
EPA Region IV (Attn: Mr. Carl Froede)  
Blind copy to: (w/o encl)  
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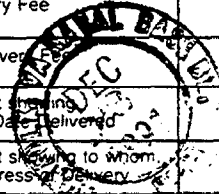
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**NAVY/MARINE CORPS RESPONSE TO N.C. DEHNR COMMENTS  
ON THE DRAFT RI/RA/FS FOR HADNOT POINT INDUSTRIAL AREA  
AND DRAFT SITE ASSESSMENT REPORT FOR SITES 6, 48, AND 69**

**Comments to the RI**

1. It is stated on page 3-6 that "the areas of concern are Building 1602, Building 902, Building 1202, and the Industrial Area Tank Farm (Site 22)." The reasons why Buildings 1602, 902, and 1202 are considered "areas of concern" are not presented until page 5-2. A brief explanation on page 3-6 would be informative to the reader.

Response: The explanation requested will be added to Section 3.

2. The building mentioned in the second line on page 6-6 should be identified by number.

Response: The text will be revised to reflect that this is building 1601.

**Comments to the FS**

1. The location of water supply well 637 mentioned on page 1-13 should be indicated on Figure 1-5, page 1-14.

Response: Water supply wells 637, located near Holcomb Blvd. and Sneads Ferry Road, will be added to the figure.

2. On page 1-16 it is stated that "Because the future land management plans at HPIA specify further industrialization of the area, residential exposures were excluded from the risk evaluation." It should be understood, however, that should this land use ever change, the site may require reevaluation.

Response: Residential units, in the form of barracks, do currently exist within the HPIA. However, the units are only used by military personnel (e.g. single men and women, no children) who are assigned to the barracks for a maximum of 2 years and are reassigned. Risk assessment calculations have been conducted using this assumption, and the risks are insignificant. No residential construction in the form of family housing is planned in the area. However, in the even that this land use should ever change to incorporate residential construction, the site will be reevaluated.

Enclosure (1)

3. It is stated on page 1-17 that 27 parts per billion (ppb) of benzene was detected in MW-32-2 in Area 22. This is not only in excess of the MCL of 5 ppb as stated, but is also in excess of the North Carolina groundwater standard of 1 ppb. In light of this fact, the statement on page 1-17 "that groundwater at the four areas of concern does not present an unacceptable risk" is strongly questioned.

Response: It is agreed that the results obtained from this well warrant further investigation of the Castle Hayne aquifer. Under current strategy, the Navy has separated the surficial aquifer from the underlying Castle Hayne aquifer (into which well 32-2 is completed). Investigation of the Castle Hayne aquifer will continue, with a Draft Sampling Plan sent to N.C. DEHNR in March 1992 for review and comment. Cleanup of the shallow aquifer will be implemented in the interim period.

4. On page 2-6, nine site characteristics that were considered in the determination of location specific ARARs are presented. Of these, site characteristics #5 (the site does not lie near a marine environment) and #7 (the site is not within a floodplain) appear to be questionable.

Response: The definition of "marine environment" is sketchy at best. The HPIA as currently defined and structured does not lie within a marine environment. According to base flood plain maps, this area is outside potential flood areas.

5. In considering any landfilling option as outlined in Tables 3-3 and 3-4 the North Carolina Solid Waste Management Rules set forth in 15A NCAC 13B should be considered.

Response: In light of the revised cleanup criteria issued by EPA ( $10^{-4}$ ), the soils within the HPIA operable unit no longer warrant cleanup, and this comment is no longer an issue.

6. It should be noted that the in situ vitrification process marketed by Geo-Safe (Kirkland, Washington) was temporarily removed from the market after a fire at a test site in March 1991. This incident was reported in "Hazmat World", September 1991, page 16.

Response: This alternative was screened out early due to problems with implementation.

7. On page 5-7 disposal by backfilling of ash resulting from rotary kiln incineration is discussed. It should be noted that the level of treatment required for residual ash disposal must meet all RCRA delisting requirements. An alternative to the RCRA delisting requirement is to treat the waste standards using the TCLP extraction procedures. North Carolina groundwater quality standards (15 NCAC 02L) require the preservation of the quality

of the groundwater to drinking water standards. Disposal which impairs groundwater usage for drinking water or adversely impacts the public health is not permitted.

Response: In light of the revised cleanup criteria issued by EPA ( $10^{-4}$ ), the soils within the HPIA operable unit no longer warrant cleanup, and this comment is no longer an issue.

8. On page 5-8 Alternative 2A-Containment (asphalt cap) is discussed. If an asphalt cap is used it is suggested that signs be posted indicating the location and extent of the cap to prevent disturbance of the cap.

Response: In light of the revised cleanup criteria issued by EPA ( $10^{-4}$ ), the soils within the HPIA operable unit no longer warrant cleanup, and this comment is no longer an issue.

#### Comments to the RA

1. On Table 2-5 Page 1 of 5 the barium chronic oral reference dose written as  $5E-2$  mg/kg-day should be changed to the new updated reference does of  $7E-2$  mg/kg-day found in the Integrated Risk Information System (IRIS), and risk assessment calculations should be changed accordingly.

Response: The risks have been recalculated, and no additional risk is observed.

2. On Table 2-5 Page 1 of 5 the beryllium oral slope factor written as  $1.2E-4$  (mcg/m<sup>3</sup>)<sup>-1</sup> should be changed to  $1.2E-4$  (mcg/L)<sup>-1</sup> found in (IRIS), and risk assessment calculations should be changed accordingly.

Response: The risks have been recalculated, and no additional risk is observed.

3. On Table 2-5 Page 1 of 5 chromium is listed as a potential chemical of concern. The table should clarify the form of chromium detected on the site (e.g. III, VI).

Response: The chromium listed in Table 2-5 is total chromium. The table will be revised to reflect this.

4. On Table 2-5 Page 1 of 5 a subchronic oral reference dose for lead has been calculated as  $5E-4$  (mg/kg/day). Calculating a reference dose for lead is cautioned because the EPA Reference Dose Group has discussed inorganic lead at two meeting 07/08/85 and 07/22/85 and considered it inappropriate to develop a reference dose for inorganic lead.

Response: This text will be removed and revised in accordance with the comment.

5. On Table 2-5 Page 3 of 5 the acetone chronic and subchronic oral reference dose of  $6E-2$  mg/kg/day and  $6E-1$  mg/kg/day should be changed to  $1E-1$  mg/kg/day and  $1E+0$  mg/kg/day, respectively (found in IRIS and January 1991 Health Effects Assessment Tables). The risk assessment calculations for acetone should be changed accordingly.

Response: The risks have been recalculated, and no additional risk is observed.

6. On Table 2-5 Page 3 of 5 the trichloroethene oral slope factor of  $5.1E-2$  (mcg/m<sup>3</sup>)<sup>-1</sup> should be changed to the correct oral slope factor of  $1.1 E-2$  (mg/kg/day)<sup>-1</sup> found in the January 1991 Health Effects Assessment Tables. The risk assessment calculations should be changed accordingly. Also, the trichloroethene inhalation slope factor of  $1.7E-2$  (mg/kg/day)<sup>-1</sup> should be included in Table 2-5.

Response: The risks have been recalculated, and no additional risk is observed.

7. On Table 2-5 Page 4 of 5 pyrene's chronic and subchronic oral reference doses of  $3E-2$  mg/kg/day and  $3E-1$  mg/kg/day, respectively, should be used for benzo(g,h,i) perylene and phenanthrene. According to EPA, if a reference dose is not published for a particular PAH noncarcinogen, then it is recommended to substitute pyrene's reference dose (a PAH noncarcinogen) for that particular PAH non carcinogen.

Response: The risks have been recalculated, and no additional risk is observed.

8. On Table 2-5 of Page 4 of 5 the 1,4-dichlorobenzene oral slope factor of  $2.4E-2$  (mg/kg/day)<sup>-1</sup> should be included in the table. Also, a chronic and subchronic inhalation reference dose of  $2E-1$  and  $2E-1$ , respectively, should be included in the report. The 1,4-dichlorobenzene oral chronic and subchronic reference doses listed in the report were not found in IRIS or the January 1991 Health Effects Assessment Tables. The reference source used to derive the 1,4-dichlorobenzene oral chronic and subchronic reference doses should be provided.

Response: The risks have been recalculated, and no additional risk is observed.

9. If the Hadnot Point Fuel Tank Farm (site 22) is considered in the Hadnot Point Industrial Area Risk Assessment, then soil samples should be taken near the Hadnot Point Fuel Tank Farm in order to have an accurate and complete exposure assessment.

Response: Site 22 is not within the HPIA operable unit. Soil sampling associated with this area will be presented within a separate RI/FS.

10. If chromium VI was detected on the site, then chromium VI should be considered in the risk assessment due to the chemical's potential carcinogenicity. Also, trichloroethene was detected on the site and should be considered in the risk assessment due to the chemical's potential carcinogenicity.

Response: Only total chromium was addressed in this investigation. TCE is currently being addressed within the RA.