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NAS KEY WEST
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EMAIL OF TRANSMITTAL AND U S NAVY RESPONSES TO REGULATOR COMMENTS ON DRAFT CORRECTIVE MEASURES STUDY FOR SOLID WASTE MANAGEMENT UNIT 1 NAS KEY WEST FL
11/4/1997
BROWN AND ROOT ENVIRONMENTAL

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Chuck Bryan

From: Chuck Bryan
Sent: Tuesday, November 04, 1997 9:50 PM
To: 'BERRY.MARTHA'; 'Jorge Caspary TAL 904/488-0190'; 'Phillip Wiiliams'; 'J Dudley Patrick'; 'Eric Nuzie'; 'Pete Paznokas'; 'Roy Hoekstra'
Cc: Mark Speranza; Regina Dixon; 'Debbie Pyron'; Scott Flickinger
Subject: Response to Comments on the SWMU 1 CMS Report
Importance: High

Partners,

I have attached two files that contain the responses to comments on the Corrective Measure Study Report for SWMU 1. These are responses to EPA's comments (EPA_D.DOC) and FDEP's comments (FDEP_D.DOC). These files are in Word 6.0 format. I will also mail a hard-copy printout of these responses to you as a backup measure.

We have already discussed the FDEP comments at our last Partnering Team meeting. We have not yet discussed EPA's comments. I suggest that Dudley, Phillip and I work directly with Martha and Jorge to resolve any outstanding issues associated with these responses. Or, if the team prefers, we can use teleconferencing or our next meeting to resolve any outstanding issues. I recommend that we try to finalize these responses before our next meeting.

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Epa_d


Fdep_d

c: Ron Demes, NAS Key West

DRAFT SWMU 1 CORRECTIVE MEASURE STUDY
NAS KEY WEST, FLORIDA

RESPONSE TO COMMENTS FROM JORGE CASPARY, FDEP

Comment 1:

The CMS is an engineering document. The final revision should be signed and sealed by a State of Florida registered engineer with responsible charge for its preparation.

Response 1: Concur. The final CMS will be signed and sealed by a State of Florida registered engineer.

Comment 2:

Provide a land-use map which shows the location of the residential scenario outside of the SWMU.

Response 2: Figure 2-2 shows the location of the residences. No change is proposed to the CMS Report.

Comment 3:

Alternative 2 assumes that sediments are not RCRA hazardous wastes by listing or characteristic. The Navy must insure that all portions of the RCRA and HSWA processes are addressed before selecting an alternative. Make this very clear in the report.

Response 3: Concur. In the Spring of 1996, an interim remedial action was conducted at SWMU-1. At that time, the portion of the sediment that was found to be characteristic hazardous waste for lead was removed. Given the level of contaminants in the remaining sediment, the sediment is not expected to be a listed or characteristic RCRA waste and there is no process knowledge to indicate that the sediment is contaminated with listed waste. Text will be added to page 2-3 as follows: "Based on existing data, remaining sediment is not considered an RCRA waste."

Comment 4:

The economic comparative analysis for Alternative 2 considers the expense of the Interim Action at SWMU 1 as a "sunk cost". This may inadvertently misrepresent the true cost of this alternative. I suggest you explore the following method: use the actual capital cost of the IRA amortized at current government borrowing rate over the projected life of the alternative (30 years under RCRA permit

requirements). This approach assumes 100% utilization of the previous and current SOUTHDIV budget for NAS Key West; otherwise, the money spent on the IRA will indeed represent a "sunk cost".

Response 4: The purpose of the economic comparative analysis is to determine the desirability of making an investment at the time of the analysis. No changes to the costs analysis are proposed. However, a note indicating the costs for the IRA will be added to the cost analysis for each alternative and the comparative analysis to provide the reader with a perspective on the amount of resources already expended by the Navy at this site.

Comment 5:

Discuss briefly the DQO levels achieved for data (for all media) and any significant validation issues faced by both Brown & Root and Bechtel.

Response 5: Concur. The data DQO levels are discussed in the RFI at length. This discussion will be summarized and inserted on page 2-1.

Comment 6:

A very important fact is that groundwater is impacted with vinyl chloride, an FDEP Primary Standard. Have any calculations been performed to estimate the volume of affected groundwater?

Response 6: Because the groundwater under the source area was not a concern, there was no calculation in Appendix B to estimate the volume of vinyl chloride affected groundwater. Calculations will be performed and an estimate of the groundwater impacted will be provided in the Final CMS Report. The volume will be indicated in Appendix B and referenced in the body of the CMS Report as appropriate.

Comment 7:

Since RCRA rules the process at this site, the Navy needs to estimate the time frame required to reduce VC to MCLs which is the ONLY criteria considered by RCRA for clean closure of the site (equivalent to a No Further Action).

Response 7: The concentration of vinyl chloride in groundwater will never exceed the MCL (1 ug/L) at the exposure point (residential well) by comparing the RGO protective of the groundwater (116 ug/L) to the detected groundwater concentration (3.2 ug/L at KWM-06 and 2.9 ug/L at KWM-07 in May 1993, and 1 ug/L at S1WM-4 in January 1996).

Because the groundwater under the source area was not an exposure point, there was no model simulation conducted to estimate the time frame of groundwater vinyl chloride concentration at the site decreasing from the detected groundwater concentration (about 3.2 ug/L) to MCL (1 ug/L) by natural attenuation. An estimate of the time for the two COCs (vinyl chloride and 1,2-dibromo-3-chloropropane) to naturally attenuate to their respective MCLs will be provided in the Final CMS Report.

Comment 8:

Based on the model results, it appears that a VC groundwater concentration of 116 ug/L at the site is protective of groundwater at the residential well. This level, according to the text, is based in "that soil in the source area was remediated." Please be more specific, has all of the source area been remediated? If any portion of the source area remains, were VC and metals TCLP analysis done on soil?

Response 8: In developing the groundwater RGOs that are protective of human health and the environment, an assumption was made that leachate concentration from unsaturated soil to the groundwater table was negligible. This assumption means that that soil at the source area was remediated to a level that the leachate concentration was insignificant. The data from the RFI indicates that neither vinyl chloride or 1,2-dibromo-3-chloropropane were detected in soil above screening levels. The report text will be clarified concerning modeling assumptions and soil concentrations at SWMU 1 after the IRA.

Comment 9:

The report states that the cost estimate is for comparative purposes; however, I'm under the impression that they are incomplete. You should try to also estimated the RCRA requirements portion of the process; that is, permit modifications for clean closure, RCRA reporting requirements, contingency fees for handling these and anything else that will carry the site for RCRA closure and eventual permit deletion. This will provide SouthDiv managers with a more complete picture of what it takes to achieve closure of the site.

Response 9: These costs would be the same for each alternative and would not benefit the cost comparison. Typically, administrative costs are not included in CMS/FS reports. No change is proposed.

Comment 10:

I suggest you spend some text on the fact that while the site's groundwater exceeds ARARs, advection, diffusion, and dispersion in combination with your model indicate that there is no foreseeable threat to residents from the groundwater.

Response 10: Concur. The text in Section 2.2 will be modified to indicate that chemical/physical processes (advection, diffusion, dispersion, etc.) will result in a decrease in chemical concentration to minimize risk to residents.

Comment 11:

I'm under the impression that EPA's equations are only valid for soils with TOC content greater than 0.1%. The soils in Key West may have TOC levels lower than 0.1% thus resulting in Kd values different than those of Table 1 page 11 of Appendix B. Make sure you utilize actual TOC values or clarify that the obtained values are estimates only.

Response 11: As described in the Soil/Water Partitioning Coefficient of Section 3.1 in Appendix B, the TOC sample of 1.04 mg/kg was unusually low. Although this TOC value could be used, it was decided that the value was not realistic and therefore was not used in the K_d calculation. The low TOC value would result in low K_d values which would indicate that the contaminants are more mobile, which does not correlate with the RFI data. Therefore, the foc value was calculated based on the equilibrium soil and groundwater sample concentrations. This calculation resulted in an foc of 2.31×10^{-3}, which was used in the K_d calculation. This foc value is close to the EPA Equation default value of 2×10^{-3}.

Comment 12:

Alternative No. 2 implies that groundwater, with proper institutional controls, will undergo natural attenuation to reach MCLs; however, I'm under the impression that to date no site specific and focused assessment confirming natural attenuation or intrinsic remediation has been performed and, therefore, are not presented in the document. Reasonable estimates to achieve MCLs will have to be computed in order to comply with applicable State and Federal requirements. Unless the NPV of Alternative 2 includes such calculations you may want to consider computing the NPV of alternatives that include intrinsic bioremediation vs. more active groundwater remediation. Remember, groundwater in spite of being classified as Class III still IS an important part of this site (more so with people accessing it down the road) and current statutes do not provide the Navy with much relief for waivers and such.

Response 12: Alternative No. 2 indicates that the maximum soil and groundwater detected concentrations are lower than the values of soil and groundwater RGOs, respectively. Therefore, there is no unacceptable risk to nearby residents. Additionally, actual data from well S1MW-7 (adjacent to residential property) indicate that concentrations do not exceed risk criteria. The text will be modified to include this explanation.

DRAFT SWMU 1 CORRECTIVE MEASURE STUDY
NAS KEY WEST, FLORIDA

RESPONSE TO COMMENTS FROM M. BERRY, U.S. EPA REGION 4

GENERAL COMMENTS

Comment 1:

The Draft CMS Report only addresses soil and sediment contamination within SWMU 1. However, the RFI/RI Report and previous investigations conducted at SWMU 1 indicate that the media of concern were determined to be soil, sediment and surface water. Justification for the removal of surface water as a medium of concern should be provided. The text should also provide details regarding the SWMU 1 mangrove areas and the presence or absence of surface water as a media of concern in the Draft RFI/RI Report should be discussed in more detail by including the location of and whether or not wet/dry season sampling occurred. The latest sample collection efforts as SWMU 1 were conducted in January 1996 and November 1996 which are typically dry season months. The Draft CMS Report should discuss in more detail the climatic conditions with respect to temporal trends for SWMU 1 and how they affect the surface water conditions at SWMU 1.

Response 1: Concur. The text will be modified. Surface water was not included because it is seasonal and there is not a fixed surface water body.

Comment 2:

The Draft CMS Report does not contain a consolidated list of acronyms used throughout the report. A list of acronyms should be included in the report.

Response 2: Concur. A list of acronyms will be included in the revised CMS.

SPECIFIC COMMENTS

Comment 1:

Page ES-2, 1st Paragraph. This paragraph states that "all human health risks were within the range considered acceptable (Incremental Cancer Risk [ICR] of 1.0E-04 to 1.0E-06 per individual and Hazard Index [HI]<1.0)." However, page 2-31 of Section 2.5 indicates a different scenario. Paragraph 2 states

that the "estimated carcinogenic risk for future residents (3.13E-04), is greater than the EPA 'target risk range' of 1E-04 to 1E-06," and the last paragraph on the same page states that it is not within an acceptable range. This discrepancy should be corrected.

Response 1: Concur. Two of the three major contributors to risk at SWMU 1 are benzo(a)pyrene and arsenic. Arsenic is a major contributor to risk in surface soil; however, it was detected just above background. The text will be corrected.

Comment 2:

Page ES-3, 1st Paragraph. The text states that "The costs are itemized in the detailed cost sheets presented in Appendix A." However, Appendix A contains the human health risk assessment calculations. Appendix C contains the cost analysis for alternatives. The text should be corrected.

Response 2: Concur. Appendix C will be properly referenced as containing the cost analysis.

Comment 3:

Page 2-45 and 2-47, Tables 2-7 and 2-8. Some discrepancies were found between data presented in the Draft CMS Report and in the Draft RFI/RI Report. In Table 2-7, Contaminants of Concern in the Soil, and in Table 2-8, Contaminants of Concern for Terrestrial Plants, the value for Frequency of Detection for lead is 54/58. However, in the Draft RFI/RI Report, the corresponding tables (4-29 and 4-30) report a value of 55-59. An explanation for the removal of a sample should be provided in the text of the Ecological Risk Assessment Summary.

In addition, there is an inconsistency concerning the Hazard Quotient for lead in the Draft CMS Report and the Draft RFI/RI Report, the Hazard Quotient for lead, in tables 4-29 and 4-30, is "4.86" and "48.6", respectively. In the Draft CMS Report, the Hazard Quotient for lead, in tables 2-7 and 2-8, is "14.8" and 14.8", respectively. This inconsistency should be revised.

Response 3: Concur. The inconsistencies will be corrected.

Comment 4:

Page 2-49, 1st Paragraph. The last sentence of the paragraph mentions "Better terrestrial habitats are located on the west side of Stone Road ..." On Figure 2-1, Site Location Map for SWMU 1, "Stone Road" is shown as an east/west road. The west side of an east/west road is difficult for the reader to locate. The text should be reworded to more accurately reflect the location.

Response 4: Concur. The description of the location of the terrestrial habitats will be provided in the text.

Comment 5:

Page 2-49, 3rd Paragraph. The text states that "Specifically, most of the elevated concentrations of soil contaminants were detected north of the gravel road at the north end of the site." However, the "gravel road" is not referenced on any of the maps provided. This important area should be properly depicted on the site maps.

Response 5: Concur. The text of this paragraph will be clarified by replacing the word "gravel" with "stone". Note that the stone road is illustrated on the figures contained within this report, which will be consistent with the proposed wording change.

Comment 6:

Page 4-4, Table 4-1. The table includes preliminary screening of remediation technologies for soils for SWMU 1. However there are numerous references to SWMU 2 on pages 2 of 4, 3 of 4 and 4 of 4. The screening comments often refer to pesticide contamination, which would not be indicative of a screening comment for SWMU 1. The entire table should be closely reviewed and revised to ensure accuracy. Initial review indicated that the text reflects the correct information and the Table 4-1 will require revisions.

Response 6: Concur. Table 4-1 will be revised accordingly.

Comment 7:

Page 4-8, Table 4-2. The table includes preliminary screening of remediation technologies for sediments for SWMU 1. However there are numerous references to SWMU 2 on pages 2 of 3 and 3 of 3. The entire table should be closely reviewed and revised to ensure accuracy. Initial review indicated that the text reflects the correct information and Table 4-2 will require revisions.

Response 7: Concur. Table 4-1 will be revised accordingly.

Comment 8:

Page A-2, 1st Paragraph. This paragraph references treatment of surface water to maintain Remedial Goal Option (RGO) levels. However, surface water was not evaluated as a media of concern at SWMU 1.

Response 8: Concur. The text will be clarified.

Comment 9:

Page A-14, Table A-9. This table in included as a summary of cumulative cancer risk for corrective measure alternatives 1 through 4. The ICR listed under Alternative 3 for Adult Trespasser (2.98E-06) could not be reproduced and appears to be incorrect. Based on the values listed in Table A-5, Cumulative Risks, Corrective Measures Alternative 3, the correct value for this ICR should be 5.43E-07. This discrepancy should be corrected.

Response 9: Concur. The ICR listed under Alternative 3 for Adult Trespasser sediment exposure will be changed 5.43E-07. The total ICR will be recalculated as well.