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TRANSMITTAL FOR U S EPA REGION IV COMMENTS ON CORRECTIVE MEASURES  
STUDY WORK PLAN ZONE I CNC CHARLESTON SC  
3/28/2002  
U S EPA REGION IV



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4

61 Forsyth Street SW  
Atlanta, Georgia 30303-3104

March 28, 2002

4WD-FFB

Mr. M.A. Hunt  
BRAC Environmental Coordinator  
Code 18710  
Department of the Navy  
Southern Division, NAVFAC  
2155 Eagle Drive  
North Charleston, South Carolina 29419-9010

SUBJ: *Corrective Measures Study Work Plan – Zone I*  
Charleston Naval Complex (CNAV)

Dear Mr. Hunt:

The Environmental Protection Agency, Region 4 (EPA) has reviewed the above referenced document. Please find the comments enclosed.

Please contact me at (404) 562-8552 or [spariosu.dann@epa.gov](mailto:spariosu.dann@epa.gov) with any questions or responses regarding the enclosed comments.

Sincerely,

Dann J. Spariosu, Ph.D.  
Remedial Project Manager

Enclosure

cc: D. Scaturo, SCDHEC  
D. Williamson, CH2M-Jones  
G. Foster (email), CH2M-Jones  
J. Stamps (email), SCDHEC

**EPA Comments on the  
Corrective Measures Study Work Plan – Zone I  
Charleston Naval Complex  
North Charleston, South Carolina  
Dated February 2002**

**General Comments**

1. The recommendations of the CMS Work Plan appear to be appropriate based upon the data presented. The CMS Work Plan appears to be complete with the exceptions noted in the Specific Comments below.

**Specific Comments**

1. **Section 1, Figure 1-2.** The figure shows the locations of several Areas of Concern (AOC) that are not mentioned in the CMS Work Plan (AOC 711, AOC 715, and AOC 718). Please provide information about these AOC or why they are not included in the report.
2. **Section 4, Table 4-4.** The naphthalene concentration at Sample Station I677SB009 is listed as 5.9 milligrams per kilogram (mg/Kg) which exceeds the Soil Screening Level (SSL) of 4 mg/Kg. This constituent is not addressed in the chemicals of concern (COC) discussions for AOC 677. Please address why naphthalene was not considered a COC.
3. **Section 5.3.1.2, Page 5-4.** There is a typographic error in the endrin RBC that should be corrected prior to finalizing the document.
4. **Section 6.3.2.1, Page 6-6.** The report states that 1,2-dichloroethene was detected in surface and subsurface soil in the same boring at concentrations greater than the SSL. Since 1,2-dichloroethene was not detected in groundwater at a co-located well and the concentrations are only slightly above the SSL, the report concludes that 1,2-dichloroethene is not a COC. However, the nearest soil sample is approximately 50 feet from the detection location. Additional soil sampling may be required to adequately determine that 1,2-dichloroethene is not present at concentrations of concern.
5. **Section 7.2, Page 7-4.** On Line 11, BEQs are listed as a COC for subsurface soil. However, on lines 21 and 22 it is indicated that no COCs were identified in subsurface soil. Please correct this discrepancy.
6. **Section 9.3.3.1, Page 9-6.** The report indicates that when well I687GW002 was re-sampled in 1999, the concentration of arsenic had decreased to 26.7 micrograms per liter (ug/L). However, this result could not be located on the tables provided. Please provide this data, since it is used to conclude that arsenic in groundwater at AOC 687 is not a COC. Please provide a description of the sampling technique, since this can significantly impact inorganic compound results. For example were low flow purging/sampling techniques used in more recent sampling events?

7. **Section 11, Table 11-8.** The title of this table is "VOCs Detected in Surface Soil"; Table 11-3 is also entitled "VOCs in Surface Soil." It appears that this table should be labeled VOCs Detected in Subsurface Soil. Please correct this discrepancy.
8. **Section 12.3.3.1, Page 12-4.** The report concludes that elevated arsenic concentrations detected in well I012GW002 (128 to 253 ug/L) are from natural background sources based on the presence of arsenic in background grid wells and elevated iron and manganese concentrations in groundwater at well I012GW002. The 1999 data could not be located on the tables provided. Please provide this data, since it is used to conclude that arsenic in groundwater is not a COC. Also, the concentration of arsenic in groundwater at this well is 2 to 4 times the maximum concentration detected in grid wells (66 ug/L). While iron and manganese concentrations are also many times higher than the concentrations detected at other wells, re-sampling of the well using low flow purging/sampling is recommended to confirm the results.
9. ~~Section 12.3.3.3, Page 12-5.~~ The report states that dioxins (calculated TEQs) are not a COC because (1) only the highest detected value exceeds the RBC, (2) dioxins resulted in a cancer risk greater than  $1 \times 10^{-6}$  for both residential and industrial receptors, and (3) dioxins were not detected in the most recent sampling event at well 012001. This designation appears to be a typo, since no well with this designation was found on the tables. Dioxins were detected in wells I012GW001 and IGDIGW003 (5.6J to 8.9J picograms per liter — pg/L). These concentrations exceed the RBC. The maximum detected value was recorded at well IGDIGW003, according to Table 12-6. This table also indicates that dioxins were detected at this well in the most recent sampling event (8/21/96) at a concentration of 7.9J pg/L (which exceeds the RBC). If the calculated cancer risk is greater than  $1 \times 10^{-6}$ , then dioxin should be a COC under the residential scenario. Please provide more information regarding dioxins.  
[Note: Disregard comment 9; I leave it in for your information only. Dioxins >RBC but < 1 ppb need not be considered COCs. However, these facts should be pointed out in the uncertainties section. -ds]