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February 28, 2008

Mr. Kevin Cloe
Project Manager
Commander Atlantic Division
Naval Facilities Engineering Command
6506 Hampton Boulevard
Norfolk, VA 23508-1278

Re: Review of the Revised Draft Remedial Investigation Report for AOC E, Former Naval Ammunition Support Detachment (NASD), Vieques, Puerto Rico

Dear Mr. Cloe:

The U.S. Environmental Protection Agency (EPA) completed the review of the Revised Draft Remedial Investigation Report for Area of Concern (AOC) E, Former underground storage tank site, Former Naval Ammunition Support Detachment dated December 2007. Enclosed you will find our comments.

If you have any questions or comments, please contact me at (787) 741-5201.

Sincerely,

Daniel Rodriguez
Remedial Project Manager
Response and Remediation Branch

Enclosure

cc: Josefina González, EQB, w/ encl.
Richard Henry, FWS, w/encl.
Brett Doerr, CH2M Hill, w/ encl.

**EPA Comments Revised Draft Remedial Investigation Report Area of Concern (AOC) E
Former Naval Ammunition Support Detachment
Vieques, Puerto Rico
December 2007**

General Comments:

1. The report makes conclusions on the contamination at the site based on data obtained over different sampling events taking place over the course of several years. However, limitations on the use of this historical data were not evaluated. The RI report should summarize the results of the Data Quality Evaluation process and should describe any differences in the methods used for collection, analysis and data validation of the data, and whether these different sets of data could be directly compared.
2. The document needs to include a figure depicting the estimated extent of LNAPL in groundwater.
3. A figure showing the total inorganics concentrations in groundwater from low flow sampling events needs to be included in the document. The conclusion that dissolved (filtered) data better represent inorganics concentrations in groundwater because only one background well exist lacks merit. If there is an issue with the lack of background data, additional data need to be collected rather than discounting the total inorganics concentrations.
4. The Particulate Emission Factor (PEF) used is the default value. EPA recommends using a site specific value in the calculation of dust generation. However, if the Navy can choose to qualitatively evaluate a site-specific PEF, if the site-specific value does not result in an unacceptable risk.

Specific Comments:

5. Appendix O, Ecological Risk Assessment:
 - a. Section 2.1.5, Summary of Available Analytical Data, page 6: Please note that in the main text, surface soil samples are labeled as SS-13 – SS-19, rather than SS-01 – SS-03 and SB-13 – SB-16. Please revise to ensure consistency.
 - b. Section 2.1.9, Exposure Pathways and Routes, page 7: Figure O-1 should be referenced, rather than Figure J-1.
 - c. Section 2.2.1, Exposure Estimation, page 10: All contaminants in exceedances of screening values should be evaluated for exposure via food webs, rather than just those chemicals with the potential to bioaccumulate.
 - d. Section 2.2.2, Screening Exposure Point Concentrations, page 10: Please note that the reference for deriving soil-to-plant BCFs (rather than sediment-to-plant BCFs), specifically Attachment 4-1 Exposure Factors and Bioaccumulation Models for

Derivation of Wildlife Eco-SSLs of EPA's Ecological Soil Screening Levels, was updated in August of 2007 and therefore this equation may not adequately reflect changes to the reference document.

- e. Section 2.3.1, Medium-Specific Screening Values, page 12: It should be noted that soil screening values for several contaminants have been modified, and additional contaminants have been added to EPA's Ecological Soil Screening Level list. Specifically, copper, dieldrin, and pentachlorophenol were updated in 2007 and manganese, nickel, selenium, silver, zinc, DDT and metabolites and total PAHs were added to the list of available screening values (<http://www.epa.gov/ecotox/ecossl/>). These values should be added to Table 4-1, Surface Soil Detection Summary, Table 8-1, Surface Soil Summary Statistics, and Table O-9, Step 2 Screening Statistics and COPC Selection –Surface Soil.
- f. Section 3.1, Refinement of Conservative Screening Assumptions, page 15 and Table O-17, Exposure Parameters for Upper Trophic Level Ecological Receptors – Step 3, page 17-24: Please include information about the home range of the selected upper trophic level receptors. Although these upper trophic level receptors may be highly mobile and thus averaging their exposure over time, it should be noted that they may be feeding at another AOC or SWMU which may have similar contaminants present. Therefore, it cannot be assumed that the average contaminant concentrations in the food sources are less than the concentration of contaminants on site. It should be clearly indicated that calculations were based on area use factor of “1.”
- g. Table O-2, Preliminary Assessment Endpoints, Risk Hypotheses, and Measurement Endpoints, page 2-24: For measurement endpoints for soil invertebrates and terrestrial plants, it may make sense to use ecological soil screening values specific to soil invertebrates and terrestrial plants.
- h. Table O-5, Exposure Parameters for Upper Trophic Level Ecological Receptors – Step 2, page 5-24: In this table the dietary composition for each of the five receptors is provided. Although the Pearly-eyed thrasher, Norway rat and Indian mongoose are considered terrestrial omnivores (Table O-4), this is not reflected in the dietary composition provided in this table. It is understood that this allows for a more conservative calculation, however the risk hypotheses should be modified to reflect a diet consisting of only one type of food source (soil invertebrates or terrestrial plants).
- i. Table O-15, Summary of COPCs – Step 2, page 15-24: It would be helpful to indicate that chemicals identified as COPCs for food web modeling, were identified based on exceedance of NOAELs, rather than LOAELs.
- j. Figure O-1, Ecological Conceptual Model: It is more appropriate to discuss absorption for plant exposure rather than dermal contact. The figure should also include ingestion of contaminated foods (plant and/or animal tissue) in addition to soil ingestion for animal receptors.