



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

September 6, 1995

Mark Evans, Remedial Project Manager
U.S. Department of the Navy
Naval Facilities Engineering Command
Northern Division
10 Industrial Highway
Code 1823, Mail Stop 82
Lester, PA 19113-2090

Re: Review of Navy Responses to EPA Comments on the *Draft Phase II Remedial Investigation Report for the Naval Submarine Base in Groton, CT*

Dear Mr. Evans:

I am writing in response to your request for EPA to review the responses to EPA comments on the *Draft Phase II Remedial Investigation ("RI") Report for the Naval Submarine Base ("NSB") in Groton, CT* dated July 27, 1995. I reviewed the responses in light of their responsiveness to our letter dated April 7, 1995 and the meetings held on June 1 and June 29, 1995.

In general, EPA is pleased that the majority of our comments will be incorporated into the Draft Final Phase II RI. The major outstanding issues regarding data gaps include 1) the need to further investigate the nature and extent of soil and groundwater contamination at the Defense Reutilization and Marketing Office ("DRMO"); and 2) the need to further investigate the extent of lead contamination in the Overbank Disposal Area Northeast ("OBDANE"). Since many of the responses state that text changes in the revised RI will address the comment, I request that all changes made to the RI be indicated in the text (e.g., redline/strikeout method). Attachment A further clarifies a few of the comments sent to you on April 7, 1995.

Human Health Risk Assessment

As discussed briefly in my letter to you dated September 5, 1995, the discussion on the concentrations to be used in the Residential Reasonable Maximum Exposure ("RME") scenario and the Central Tendency scenario is not consistent with current EPA Region I guidance. For groundwater exposure scenarios, the RME scenario should be based on the maximum concentrations detected and the Central Tendency scenario should be based on the arithmetic average concentrations detected. For all other media, EPA requires that the RME and Central Tendency scenarios both use the 95% UCL of the arithmetic mean as the concentration value. I trust that the Draft Final Phase II RI will reflect these requirements.



Ecological Risk Assessments

Many of the ecological issues of concern are proposed to be addressed through the development of an outline for a Basewide Ecological Risk Assessment ("BERA") that was presented at a June 29, 1995 scoping meeting. This BERA will consider all data/areas not previously evaluated for ecological risk and assessment endpoints will be agreed upon prior to the risk assessment development. I also understand that a problem formulation and conceptual model will be developed for each site. After our review of the BERA, EPA anticipates further communication among parties to discuss the need for ecological soil screening values, additional data needs, and the identification of receptor species at each site.

Data Presentations

The second paragraph of the response states that a limited number of isoconcentration maps will be developed to correlate potential source areas with the analytical results. Is it possible to post all the analytical results on a simple site map for each site? Isoconcentration maps may be beneficial at some sites where there is a predominate site contaminant. However, for most of the sites, it would be more useful to illustrate the analytical results on a site map.

Radiological Data

In addition to the data results, EPA is still awaiting a list of the wells sampled and the radiological parameter list used for analysis of the Phase II samples. Will these data will be included in the Draft Final Phase II RI Report?

I hope this letter serves to clarify issues where needed. I look forward to working with you on moving sites into the cleanup stage. Please do not hesitate to contact me at (617) 573-5777 should you have any questions or wish to arrange a meeting.

Sincerely,



Kimberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Mark Lewis, CTDEP, Hartford, CT
Andy Stackpole, NSBNL, Groton, CT
Daniel Winograd, USEPA, Boston, MA
Patti Lynne Tyler, USEPA, Boston, MA
Dale Weiss, TRC, Lowell, MA
Ken Finkelstein, NOAA, Boston, MA

ATTACHMENT A

<u>Page</u>	<u>Comment</u>
p. 3-1, ¶1, #4	<p>The response states that a section will be added to the report which discusses general information regarding precision and accuracy objectives. The section should discuss any inadequacies in meeting these objectives and their impact on the quality of the sample result and the overall quality of the program. The response states that the accuracy objective is between 75 and 100% recovery. Since it seems unlikely that this recovery range was applicable to all analytes, it should be reviewed for accuracy.</p> <p>The response also indicates that the Draft Final Phase II RI will include a comprehensive database of all results, including non-detected and detected results. The database should also include the detection limit objectives to facilitate determining if the detection limit objectives were achieved.</p>
p. 3-70, ¶3, #16	<p>EPA's dermal risk assessment guidance (January 1992) should be used to assess risks as a result of dermal contact. While I recognize that a certain degree of uncertainty is associated with the approach presented in this guidance, it should be used because it provides the most recent EPA, peer-reviewed guidance available.</p>
p. 3-76, ¶2, #17	<p>The Phase II RI Report should clearly indicate that there are a number of constituents present in site media that cannot be quantitatively evaluated because of the absence of toxicity data and that these constituents may pose additional risk (<i>see also</i> EPA letter dated September 5, 1995).</p>
p. 5-19, ¶2, #29	<p>The discussion of pesticide distribution at the CBU drum storage area should be added to the text of the Draft Final Phase II RI.</p>
p. 10-10, #64	<p>Although the Navy has agreed to add chrysene to the list of contaminants of concern ("COC"), Table 10-3 indicates that fluoranthene and pyrene should also be added to the list as maximum concentrations are 38 and 43 mg/Kg, respectively and each has a 90% frequency of detection.</p>
p. 11-34, ¶2, #65	<p>See response to comment 66 below.</p>

EPA maintains that there is a clear need to further characterize the nature and extent of contamination in the soils and the impact to groundwater at the DRMO. EPA has expressed this on numerous occasions throughout the planning and implementation of the Interim Measure for the DRMO. There is evidence that the saturated soils at the DRMO are a continuing source of groundwater contamination.

As you know, the lead cleanup standard (500 ppm) selected for the DRMO Interim Action was predicated on groundwater protection. Yet there are several areas in the subsurface that were not excavated during the Interim Action, where lead is present at concentrations above 500 ppm (6TB5, 811 ppm; 6TB22, 1640 ppm; 6TB17, 1460 ppm). Since these soils are saturated, and the cleanup value of 500 ppm was set for unsaturated soils, EPA anticipated that a protective lead concentration would be lower than 500 ppm. It seems inconsistent to implement an Interim Action on the unsaturated soils to prevent groundwater contamination, and then conclude that the saturated soils pose no risk.

I note that the elevated sample results from 6TB17 and 6TB22 were omitted from Figure 11-5, as were many other results. Figure 2-1 contained in the Action Memorandum for the DRMO and Spent Acid Storage Area (March 1995) contains several data points not included in Figure 11-5 of the RI. The missing data should be added to the RI figure.

EPA disagrees that the VOCs and lead detected in groundwater only slightly exceeded the MCLs for the respective compounds. These exceedances ranged from two to four times the regulatory limit, and therefore cannot be considered *slight*. Has a risk assessment been performed to conclude that such exceedances are slight?

Calculations regarding the dilution effect of groundwater discharging from the DRMO in comparison with the ultimate concentration of surface water entering Long Island Sound are not relevant in evaluating the need for further study at the DRMO. The chemical concentrations observed in groundwater at the DRMO indicate that the DRMO is a source of groundwater contamination. It is likely that the observed concentrations are already diluted many times because of tidal induced groundwater flow through the subsurface. The Draft Final Phase II RI should be revised to include recommendations for further subsurface characterization at the DRMO.

- p. 12-18, ¶4, #69 EPA's original comment was intended to seek clarification on how field duplicate results were used in cases where the duplicate results did not meet the EPA Region I data validation criteria for field duplicates. In cases where the field duplicate samples were not comparable, the conservative approach would be to use the higher chemical concentration value of the field sample and the duplicate. This is particularly important for soil matrices, where it is difficult to obtain a true field duplicate owing to sample heterogeneity. Averaging the sample results is practically the same as compositing the sample in the field, which is a practice generally not favored by EPA. If the field duplicate results agree (as defined by EPA data validation procedures), however, it would be appropriate to average the results.
- p. 12-42, ¶2, #71 This discussion should be included in the revised RI where the risk assessment for this site is presented (*see also* EPA letter dated September 5, 1995).
- p. 14-57, §14.7, #84 The information presented in this response regarding the estimation of PAH concentrations using TPH data during Phase I and the subsequent risk evaluation should be presented in the text of the risk assessment (*see also* EPA letter dated September 5, 1995).
- p. 15-14, ¶5, #88 There was one down gradient soil sample that contained 403 ppm of lead. This indicates a release of lead to the environment, which requires delineation of the extent and magnitude of the release. Use of risk-screening based on the results of only one sample in the impacted area is not sufficient to conclude that further investigation at this site is not warranted. Lead is a known contaminant at the base that has been observed at several sites at levels requiring remedial activity. Although lead levels observed in two soil samples from within the designated site boundary were not elevated, the OBDANE appears to be a source of lead. An X-ray fluorescence survey should be performed on a 25 foot grid in the area surrounding the OBDANE to determine the extent and significance of this elevated lead result. In addition, if the extent of contamination is more extensive, EPA recommends further evaluation of ecological risk. The IUBK model is only relevant to human health exposure.

The parameters used for the IUBK modeling need to be presented in the RI Report.

Drawing 4, #93

If a shallow overburden groundwater elevation map is prepared, then the map must indicate the areas where the overburden is unsaturated. This information is fundamental to providing an understanding of the true overburden flow patterns. Such information will not obscure the map because contours or water level elevations in the areas of unsaturated overburden will not be present.

p. 90, #115

The issue of ecological risk should not be solely based on comparison to other areas that are distant from NSB, as those areas may be endangered. Examination of deployed mussels in Volume II, Table 6, identifies 27% frequency of detects in tissue from deployed mussels along the base while a frequency of detects of 4% is seen in tissue from mussels upstream and downstream. Alpha-BHC, gamma-BHC, aldrin, DDE, endrin aldehyde and gamma-chlordane were found in the tissue of mussels deployed adjacent to the base but was absent from upstream and downstream location. EPA recommends that these additional points be added to the discussion.