



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

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NSB NEW LONDON  
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April 20, 1993

Deborah Stockdale  
Environmental Restoration Branch  
Naval Facilities Engineering Command  
U.S. Department of the Navy  
10 Industrial Way  
Mail Stop 82  
Lester, PA 19113-2090

RE: Draft Action Memorandum for Building 31 - Naval Submarine  
Base - New London, Groton, Connecticut (NSBNL)

Dear Ms. Stockdale:

Thank you for the opportunity to review the above referenced document. As requested, EPA has conducted a review of the draft Action Memorandum and offers the attached comments and recommendations. The comments are provided as Attachment A and are presented in a format consistent with that of the draft document.

As discussed, due to the limited time frame provided for review and comment on the draft document, EPA was able to perform only a cursory evaluation focussing its review primarily on issues relevant to the feasibility of the proposed remedial technology. In addition, the quick turnaround time for the review prohibited a more thorough evaluation of all of the technical details associated with the proposed removal action.

So as to provide for a more thorough evaluation of the draft final document and therefore expedite final approval of the proposed removal action, EPA requests that you contact this office upon receipt of this comment package to discuss review and comment schedules and procedural and administrative issues relevant to subsequent phases of this proposed time-critical removal action.



Please feel free to call me at (617) 573-5764 should you have any questions in regard to the attached comment package.

Sincerely,

*Carol A. Keating*

Carol A. Keating  
Remedial Project Manager  
Federal Facilities Superfund Section

Attachment

cc: Mr. William Mansfield, NSBNL  
Mr. Adam Sullivan, CTDEP  
Mr. Dale Weiss, TRC  
Mr. Andy Miniuks, USEPA  
Mr. Jack Harvanek, USEPA

## ATTACHMENT A

### GENERAL COMMENTS

- Overall, the proposed removal action appears to be appropriate for achieving the stated goals of the Navy, specifically, to "abate, minimize, stabilize, mitigate, or eliminate the release or threat of a release at the site." The data appear to be adequate, and the proposed removal action appears to be protective.
- The Navy should evaluate whether metals other than lead should be considered in the removal action. A comparison of the soils data should be made to site-specific background data. Several metals were detected in soil at concentrations which exceed literature-derived background concentrations (e.g., antimony, copper, mercury, and zinc). Although the selected alternative may concurrently address contaminants in addition to lead, it was not clear from the draft document whether this is intended. Please clarify.
- The Action Memorandum needs to evaluate the impact of residual levels of contaminants which will remain after the removal action is completed. Several metals were detected at concentrations in ground water which exceeded applicable standards and guidelines (e.g. aluminum, manganese, mercury and nickel). In addition, the Navy should provide the methodology for determining if treatment is successful.
- Confirmatory sampling below six feet, within the saturated zone, should be conducted to determine whether metals contamination extends below the depths sampled during the limited sampling investigation. This is especially critical over the apparent high hydraulic conductivities on site.
- Although the proposed removal action seems reasonable as presented, the Navy should consider redistributing the deeper lead contamination to shallower levels.
- The draft document makes no mention of air monitoring, whether for worker protection or adjacent receptors although Section 3.1.4 reveals that "These materials [lead contaminated soils], under current site conditions, could be released from the site (e.g. tracked from the site by workers or released via wind from areas outside...". OSHA/NIOSH type air monitoring to ensure work protection and ambient air monitoring to assess the exposure of potential receptors, such as other occupants of the base and its neighbors, should be conducted during the removal operation. There also needs to be some contingency plan in place to control fugitive emissions of lead and any other harmful constituent(s) release during the removal operation.

SPECIFIC COMMENTSSection 2.0 - Site Conditions and Background

- Page 2-3, Figure 2-1 - This is an outdated map. In accordance with Appendix III of the NSBNL Federal Facilities Agreement (FFA), several study areas and areas of contamination should be added to the figure.
- Page 2-6, ¶ 2 - Samples from the wood piles should be collected and analyzed to determine if preservatives were in fact used. The results could then be used to determine the feasibility of dewatering.
- Page 2-11, ¶ 3 - Information obtained from the measurements of the tide elevations and corresponding ground water elevations should be used to calculate the hydraulic conductivity of the soils. From this and an evaluation of grain size distribution and effective porosity and hydraulic conductivity, the transport time of contaminants to the Thames River may be calculated. This information should then be combined with available hydraulic conductivity test results to propose an appropriate period for monitoring ground water quality to validate the effectiveness of the proposed removal action.
- Page 2-26 - The action level for lead should be 15 ug/L.
- Page 2-27, ¶ 1 - Please define "elevated concentrations." If concentrations are determined to be "elevated" based on their exceedance of background concentrations derived from published literature rather than from site-specific background concentrations, the report should state that site-specific background concentrations may vary considerably and may be significantly lower. Only site-specific background should be used to perform a comparative analysis.
- Page 2-27, ¶ 6 - Please delete the second sentence of this paragraph. This Hazard Ranking System (HRS) rating of 36.53 is misleading as presented. Given the size and multitude of known and potential releases at Federal Facility sites coupled with the issue of limited resources to perform HRS reviews, EPA's policy regarding the HRS ranking of such sites has been to evaluate or "score" a Federal Facility until it exceeds the 28.5 value, thus warranting its inclusion on the NPL. Although this rating is somewhat useful when evaluating private NPL sites, it does not provide for an accurate picture as to the full extent of contamination at a Federal Facility due to the fact that all areas of contamination were not evaluated for scoring purposes.

Section 3.0 - Threats to Public Health or Welfare or the Environment

- Page 3-3, ¶ 1 - Please delete reference to the September 7, 1989 EPA interim guidance on soil cleanup levels. This earlier version was replaced by OSWER Directive 9355.4-02A, "Supplement to Interim Guidance on Establishing Lead Soil Cleanup Levels at Superfund Sites - January 26, 1990."
- Page 3-3, ¶ 5 - The first sentence should be deleted. Human exposure to contaminants in unfiltered ground water can occur through the use of domestic or industrial water wells which do not contain filtering mechanisms.
- Page 3-4, ¶ 1 - The fact that the site is in an industrialized area is not particularly relevant for purposes of discussing potential threats to the environment. The issue is whether there is a complete exposure pathway for environmental receptors to become exposed and potentially affected by the site contaminants.
- Page 3-4, ¶ 2 - Although lead contaminated ground water may present the largest threat to environmental receptors, it could be argued that potential threats to the environment via exposure to PAH contamination should be included in this discussion as well. Please explain.
- Page 3-4, ¶s 3 & 4 - The discussion regarding concentrations at which lead becomes toxic to plants and animals could be expanded. In Shacklette and Boerngen 1984 USGS paper, the observed background range for lead in the eastern U.S. is approximately < 10-300 ppm. In addition, there is a great deal of information on lead in Eisler's report, "Lead Hazards to Fish, Wildlife, and Invertebrates", U.S. Fish and Wildlife Service, Biological Report 85 (1.14), April 1988. Contaminant Hazard Reviews Report #14.

For terrestrial plants, uptake of lead is limited by the low bioavailability of lead from soils. Adverse effects seem to occur only at total concentrations of several hundred mg lead/kg soils. Among sensitive species of birds, survival was reduced at doses of 5-75 mg lead/kg body weight. In general, forms of lead other than shot are unlikely to cause clinical signs of lead poisoning in birds with no food chain biomagnification. Since no surface water samples were collected, it would be hard to evaluate this. If surface water samples were collected, however, they could be compared to ambient water quality criteria.

Section 4.0 - Endangerment Assessment

No comments.

Section 5.0 - Proposed Actions and Estimated Costs

- Page 5-2, ¶ 3 - The Navy should consider consolidating contaminated soils to within one specific depth interval. Excavation of deeper contaminated soils, solidification, and replacement of solidified mass at a shallower depth interval may reduce harmful effects of saline water on the solidified material. Alternatively, an additive should be considered for the stabilization/solidification mixture to minimize corrosive effects.

This paragraph states that, "Additional soil sampling may be required outside of the buildings to determine if the lead contamination extends beyond the current remediation limits" and that such sampling could be "implemented during the ongoing Phase II study at the site." Since the Navy anticipates commencement of this time-critical removal action within six months of final approval of the Action Memorandum and completion of the action approximately two months after initiation (Page 5.7, § 5.1.5), it seems highly unlikely that these additional soil samples can be collected and analyzed prior to this time due to recent funding cuts and resource shortages that have temporarily postponed Phase II activities. It is suggested, therefore, that the design phase of this action include provisions for the collection of additional soil samples to ensure that the extent of lead soil contamination is completely defined.

Appendix A

Not reviewed.

Appendix B

- Page B-2, ¶ 2 - The text states that ground water contamination at this site is to be addressed "under the ground water unit of the NPL cleanup." How does the Navy plan to address the ground water contamination identified at the site? Does the Navy plan to issue an proposed remedial action plan for the ground water operable unit at this site? If so, has there been a time frame established for this action?
- Page B-4, 3rd Bullet - Will modifications be made to the proposed removal action plan in the event that additional soil sampling activities identify areas of lead contaminated soils outside of this ten foot boundary (see preceding Section 5.0 comment)?

- Page B-9, ¶ 6 - The proposed treatability study should also evaluate the unconfined compressive strength (UCS) of the solidified material. Due to the presence of silts and fine sands in the subsurface, achieving sufficient UCS may be difficult. Therefore, the addition of coarser aggregate may be required, such as gravel. Due to the fact that the Navy plans to continue to use this facility as a hazardous materials storage area, the solidified material will be subject to stresses as a result of the use of fork lifts, stacking of drums, etc. Therefore, the solidified material below the building must be capable of supporting these activities without breaking, cracking, or crumbling.

In addition, the moderate to high levels of polyaromatic hydrocarbons (PAHs) and other semivolatile organic compounds (SVOCs) detected at the site may cause problems with the effectiveness of solidification. Therefore, due to the apparent presence of these compounds in the subsurface and the limited number of samples analyzed for organics, additional sampling and analysis may be required to evaluate the presence or absence of organic compounds.

- Page B-10, ¶ 3 - Excavation in sections, as opposed to removing all soils at once, may negate the need for extensive sheet piling.
- Page B-14, 1st Bullet - In accordance with EPA EE/CA guidance, this section should also include a discussion on "Use of Alternatives to Land Disposal." Since there is a preference in EPA's removal program for remedies other than land disposal, the EE/CA should document consideration of this criteria, even if deemed impracticable.
- Page B-14, 2nd Bullet - In accordance with EPA EE/CA guidance, the discussion regarding "Availability" must also include consideration of the following issues as they relate to "Administrative Feasibility":
  - likelihood of public acceptance of the alternative, including State and local concerns:
  - activities needed to coordinate with other agencies; and,
  - ability to obtain any necessary approvals of permit.

#### Appendix C

Not reviewed.

Appendix D

Not reviewed.

Appendix E

Not reviewed.