

October 31, 1994

Ms. Kimberlee Keckler
U.S. Environmental Protection Agency - Region I
Waste Management Division - HAN-CAN1
J.F.K. Federal Building
Boston, MA 02203-2211

RE: Focused Feasibility Study, Area A Landfill
Naval Submarine Base - New London
Groton, Connecticut
Atlantic Project No.: 1256-26-03

Dear Ms. Keckler:

Atlantic Environmental Services, Inc. (Atlantic), on behalf of the U.S. Navy, has prepared this letter in response to the U.S. Environmental Protection Agency (EPA), Region I written comments of September 1, 1994, regarding the Focused Feasibility Study (FFS) for the Area A Landfill. These responses reflect the discussions conducted during our meeting at the Subbase on September 28, 1994. This meeting was attended by representatives of EPA, the Connecticut Department of Environmental Protection (CTDEP), the Navy, and Atlantic. A list of attendees is enclosed. Responses are not provided regarding your comments on the FFS for Area A Downstream/OBDA. Work on remedial actions at this site (Area A Downstream/OBDA) have been delayed to allow for the collection of additional ecological data. As such, accelerated interim remedial actions are no longer proposed for this site. A feasibility study for final actions at this site will be prepared after the additional ecological data are obtained as part of the Phase II Remedial Investigation/Feasibility Study (RI/FS) activities. Your comments will be considered in preparation of the Phase II RI/FS.

Introduction

During the meeting at the Subbase on September 28, 1994, a general consensus was reached regarding several overall project issues which relate to the Navy responses to EPA comments of September 1, 1994. The first regarded whether a cap was the proper alternative for this site. It was agreed upon that a cap is an appropriate alternative, provided that key design concerns are addressed in the Focused Feasibility Study (FFS). These design concerns include landfill gas, settlement, structural integrity, and frost protection. In the Navy's response to previous EPA comments of May 27, 1994, information regarding the effects that frost has on geocomposite bentonite liners has been provided to EPA. EPA indicated that they also had some technical information regarding this issue; they will provide copies of this information to the Navy. Most structural integrity issues have been addressed in the design analysis which evaluated routine crane operation and settlement. Some additional structural issues will be evaluated as part of the final design, such as the crane testing pad and details regarding new structures. These analyses are outside the scope of the FFS; however, the analyses performed to date indicate that a structurally sound cap is feasible. The other overall issue regarded the

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need for hydraulic controls to be implemented at the same time the cap is installed. It was agreed upon that the cap will be the final cap; however, the cap as a source control remedy will be considered an interim source control. Hydraulic controls will be evaluated in the Phase II RI/FS and may be necessary as part of the final source control remedy for this site. The Record of Decision (ROD) will document the decision process regarding this issue which is as follows. The cap, which is a presumptive remedy, will be installed and the groundwater will be monitored to evaluate the effectiveness of the cap. After a period of time, a decision will be made regarding the need for additional source control measures and/or groundwater remediation.

Regarding the EPA general comments applicable to both sites, the Navy has the following responses specific to the Area A Landfill.

Comment 1

- (First bullet) The Background Soils Data Report will be referenced, and a brief description of the document will be provided.
- (Second, third, and fourth bullet) A summary of the Phase I RI risk assessment will be included in the revised FFS to address the second and third bullets. Since the selected remedial alternative is an interim action, implementing a presumptive remedy, evaluation of a residential risk scenario need not be performed at this time. Evaluation of such a scenario is appropriate for the risk assessment in the Phase II RI, which currently is being developed.

Comment 2

As stated in the introduction to this letter, it was agreed upon that this action will be an interim source control incorporating a final cap.

- (First bullet) The investigation did exceed the waste thickness, and the volume of waste has been identified. A landfill thickness isopleth map will be added to the FFS.
- (Second bullet) As stated in the introduction to this letter, the need for hydraulic controls will be evaluated as part of the final remedy for this site.
- (Third and fourth bullets) The FFS will discuss briefly the results of the design analysis regarding structural design, settlement, and methane gas, and appropriate portions of the design analysis will be provided as an appendix to the FFS. Portions of the design analysis deemed appropriate are enclosed for your review.

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- (Fifth bullet) The FFS will be revised to indicate clearly the purpose and location of this trench. The purpose of the trench is solely to collect clean surface water which has infiltrated the shallow overburden, and to direct its flow around the landfill to prevent contact with landfill materials. The elevation of the bottom of this trench is high enough so that it will not collect any leachate from the landfill. A cross section will be provided in the FFS to demonstrate that this trench will not collect any landfill leachate.
- (Sixth bullet) Several alternatives using treatment were evaluated. In addition to off-site incineration, these include: on-site incineration, on-site thermal desorption, and on-site solvent extraction. Due to the small volume of soil to be treated (approximately 300 cubic yards), on-site alternatives are not feasible. The only off-site treatment alternative available for soils containing PCB is incineration.
- (Seventh bullet) The description of this alternative will be revised to reflect that the RCRA landfill referred to is the landfill utilized by the RCRA incinerator for disposal of all of its ash and treated soils. Due to the mixing of wastes that occurs at the incinerator, shipment to an alternative landfill is not possible.
- (Eighth bullet) There are some typographical errors in the table that will be corrected so that the tables match the text. At the meeting, EPA indicated that they will check on the need to retain a process option from each technology group and will get back to the Navy regarding this issue. It is the Navy's understanding that it is not necessary to retain a process option from each technology group.
- (Ninth bullet) The text will be clarified to indicate the 10-foot depth is the depth of soil below which human exposure is not expected. Since there is minimal exposure, these soils present minimal risk to human health.
- (Tenth bullet) The revised FFS will include a conceptual site model, cross sections, and a plan view showing the extent of PCB contamination. The revised FFS will also discuss the mechanisms that contribute to groundwater contamination and the fate and transport of groundwater contaminants. However, since the selected alternative is an interim action to implement a presumptive remedy consisting of a cap, remedial alternatives will not be developed for contaminated groundwater. They will be evaluated in the FFS following the completion of the Phase II RI.

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- (Eleventh bullet) The revised FFS will include a summary of the Phase I RI risk assessment, which will provide the background to evaluate the proposed cleanup goals. Potential source areas of groundwater contamination will also be evaluated in the FFS.
- (Twelfth bullet) The EPA indicated that specific areas where deficiencies have been observed are detailed in specific comments later in the comment letter. The Navy's response to the specific comments are presented herein.
- (Thirteenth bullet) As this is an interim action on an accelerated time schedule, coordinating activities between individual sites at the Subase is not feasible. In addition, the only other site with PCB contamination is the DRMO. The time-critical removal action for the DRMO does not include the on-site treatment of PCB-contaminated soils.

Regarding the specific comments applicable to the Area A Landfill, the Navy has the following responses:

Comment 4, Page 1, ¶4

The revised FFS will include a complete description of the extent of landfill materials and PCB-contaminated materials.

Comment 5, Page 5, ¶2

As discussed in the introduction to this letter, this FFS is for an interim source control measure consisting primarily of a final cap.

Comment 6, Page 5, ¶4

The FFS does address intermedia transfer in section 3.2. Regardless, the purpose and scope section will be revised to make this clear, and section 3.2 will be expanded to better define the evaluation of intermedia transfer. Basically, the approach used consisted of an evaluation of: (1) analytical results for samples of landfill contents/soils to identify areas with contaminant concentrations well above background levels and (2) groundwater analytical results to determine whether any contaminant plumes were evident. This evaluation did not detect any source areas of contamination or groundwater contaminant plumes.

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Comment 7, Page 5, ¶5

These issues are evaluated in the design analysis and will be discussed in the FFS as described in the response to general Comment 2.

Comment 8, Page 6, ¶1

The revised FFS will clearly describe the full extent of the landfill.

Comment 9, Page 6, ¶2

The revised FFS will summarize the Phase I RI investigation results which describe the landfill contents. The Navy has evaluated the RCRA cap issue based on EPA comments and will propose a RCRA cap for this site.

Comment 10, Page 38

The results are reported on a wet weight basis and, if you include the percentage of the moisture, the results total 100%. To avoid any confusion the results will be changed to a dry-weight basis.

Comment 11, Page 39, ¶ 6

This information (i.e., the dioxin compound-specific results) will be included in the revised FFS.

Comment 12, Page 40, ¶2

The Navy has agreed to test the wetlands sediments to determine whether they are contaminated. Due to the timing of this testing, it will not be possible to include the results of this testing in the revised FFS. The next submittal of the FFS will be a revised draft. After the test information is obtained, revised pages will be submitted to make the revised draft a draft final FFS.

Comment 13, Page 43

The revised FFS will summarize the Phase I RI risk assessment to provide the details requested. The Phase I RI risk assessment did have a scenario which included a child trespasser; however, the risks to construction workers were greater than those to the child trespasser. Therefore, the target cleanup levels were based on the more conservative, construction-worker scenario.

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The impacts that contaminated landfill soils may have on groundwater will be evaluated as described in the Navy's response to specific Comment 6.

Comment 14, Page 43, ¶2,3

This information will be provided in the summary of the Phase I RI risk assessment.

Comment 15, Page 44, ¶6

It is acknowledged that the oral slope factor for PCBs is based on an oral dietary study, thus addressing absorption from food. The factor of 0.3 that was used in target level calculations is the relative absorption factor (RAF) or the matrix adjustment factor that accounts for "...differing bioavailability between contaminant in the soil matrix and the contaminant in an experimentally administered medium, such as solvent or food." (U.S. EPA Region I. 1989. Supplemental Risk Assessment Guidance for the Superfund Program., p.40 EPA 901/5-89-001).

Comment 16, Page 44, ¶7

As stated in Comment 15, the computed target level is correct; therefore, future construction workers are protected. The construction of the cap may expose workers to soils during excavation; however, these individuals are protected under the health and safety plan for remediation workers. The workers will be wearing protective clothing and the appropriate health and safety measures will be taken.

Comment 17, Page 45, ¶5,6

This information will be provided in the summary of the Phase I RI investigation and risk assessment which will be included in the revised FFS.

Comment 18, Page 45, ¶8

The revised FFS will include a discussion of methane gas migration summarized from the design analysis. As discussed in the introduction of this letter, this remedial action is an interim source control measure to install a final cap. Leachate collection and treatment remedies will be considered as part of the final remedy for this site in the Phase II RI/FS.

Comment 19, Page 53, ¶4

The volume estimate does include a contingency which will be explained in the revised FFS. Sample 2LTB28 does not contain concentrations above target remediation levels,

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although PCB concentrations are elevated at this location.

Comment 20, Page 56

There is an error in the table. The table will be revised to include vitrification. Sediment removal technologies will be eliminated from this table unless future testing indicates that sediment removal from the wetlands may be required.

Comment 21, Page 58

Tables will be coordinated with the text for consistency and the text in Table 3-8 will be edited to incorporate wording used in EPA guidance. The EPA guidance states that this screening should eliminate technologies based on technical implementability. That is, technologies which cannot be effectively implemented at a site should be eliminated. The example in the EPA guidance uses comments such as: potentially applicable, not feasible, not suitable, not effective, and not applicable. The FFS will be revised to use consistent terminology.

Comment 22, Page 60

Potential sources of the PCBs detected in site soils, although unknown, may be transformer oil containing PCB in concentrations greater than 50 ppm. As a result, the soil for purposes of the FFS is conservatively assumed to be regulated under TSCA as if it contained higher levels of PCB.

Table 3-7 will be revised to indicate contaminants in site soils that may subject them to the LDR pretreatment standards.

Comment 23, Page 62, ¶7

As we have discussed in response to previous comments, the evaluation of process options contained in Appendix G did consider site-specific considerations; however, it also considered conditions at other sites. The text will be clarified to make this clear and to refer readers to the appendix for the more detailed evaluation of process options.

Comment 24, Page 63, ¶1

This is the same issue as discussed in Bullet 8 of general Comment 1. EPA will get back to the Navy regarding the need to retain one process option from each technology type. As discussed during the meeting, this seems contrary to the presumptive remedy approach the Navy is trying to use.

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Comment 25, Page 64

Same issue as discussed in Comment 24.

Comment 26, Page 65

Same issue as discussed in Comment 24.

Comment 27, Page 66, ¶ 4

The third sentence will be removed.

Comment 28, Page 67

There are some typographical errors in this table which will be revised. Stabilization is not part of the on-site incineration option, and the RCRA landfill alternative was not eliminated.

Comment 29, Page 71 ¶6

Comments regarding Subase operations will be deleted.

Comment 30, Page 76, ¶3

As stated in response to general Comment 2 (seventh bullet), the description of this alternative will be revised to indicate that the landfill for treated soils or ash is the landfill operated by the RCRA incinerator. Wastes from several generators are co-treated at these facilities; therefore, no other disposal options other than the RCRA incinerator's soil/ash disposal area are available.

Comment 31, Page 88, ¶1

The text will be clarified; however, it does state that the destruction/removal efficiency provided by an incinerator is superior to that provided by a thermal desorber.

Comment 32, Page 83, ¶1

Due to the relatively small amount of soil to be treated, on-site treatment alternatives are not feasible. The one off-site alternative retained is the only one available and is the most effective on or off site treatment available. Overall, it is true that all of the alternatives rely heavily on containment to address landfill contents/soils. Due to the low hazard associated with these materials and large volume, treatment alternatives are not

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feasible. Again, the Navy is proposing to use the presumptive remedy approach to address this site. Use of this approach should streamline the remedy selection process and is consistent with the NCP and EPA guidance.

Comment 33, Page 89, ¶2

See response to Comment 32, which addresses this issue.

Comment 34, Page 98, ¶1

As stated in response to general Comment 2 (fifth bullet), the description of the interceptor trench will be modified to clarify that the trench will only reroute clean upgradient groundwater around the landfill and that its location is such that it will not intercept any contaminated leachate from the landfill.

Comment 35, Page 98, ¶1,2

As discussed in response to general Comment 2 (third and fourth bullets), details in the design and design analysis will be incorporated in the revised FFS. These details will address cap failure, gas management, monitoring, repair, and runoff.

Comment 36, Page 99

The detail will be clarified. The cap does include a drainage layer.

Comment 37, Page 100

The Navy has evaluated the need for a Subtitle C cap, based on EPA comments, and agrees that a Subtitle C cap is required; therefore, the cap will be designed to Subtitle C, not Subtitle D, requirements.

Comment 38, Page 106

Costs for the small amount of backfill anticipated (150 cubic yards) will be provided. The estimate does include costs for the trench (2,600 linear feet @ \$60/linear feet).

Comment 39, Page 107

The text will be clarified regarding this testing. It is not required, as soils below this depth do not present a hazard because exposure to soils below this depth is not likely.

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Comment 40, Page 126, ¶3

See response to Comment 37.

Comment 41, Page 129, ¶5

We agree and the referenced comment will be corrected.

Comment 42, Page 130, last ¶

We agree and will adjust the costs.

Should you have any questions regarding these responses or disagree with any of the responses as written please contact Mr. Mark Evans or me.

Sincerely,

ATLANTIC ENVIRONMENTAL
SERVICES, INC.



Barry L. Giroux, P.E.
Project Manager

BLG:js/sr
Enclosures

cc: Mark Evans (NOR-DIV)
Mark Lewis (CTDEP)
Matt Cochran (HNUS)

ATLANTIC

List of Attendees
Meeting of September 28, 1994
Naval Submarine Base - New London
Groton, Connecticut

NAME	REPRESENTING
Christine Williams	EPA
Kymerlee Keckler	EPA
Christine Lacas	DEP
Mark Lewis	DEP
Dale Weiss	TRC
Mark Evans	NORDIV
Andy Stackpole	NSBNLON
Paul Burgess	Atlantic
Barry Giroux	Atlantic