**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

July 11, 2002

James Shafer, 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: Responses to EPA's Comments on the Old Fire Fighting Training Area Draft Final FS

Dear Mr. Shafer:

I am writing in response to your request for EPA to review your Responses to EPA's April 25, 2002 Comments on the Old Fire Fighting Training Area (OFFTA) Draft Final FS. EPA is pleased that the Navy concurred with the majority of the specific comments and indicates that the changes will be made in the revised FS Report. I am concerned, however, by the Navy's response to General Comment 1 and its impact on our collective plans to publicly propose a remedial action for the site this calendar year. Detailed comments are provided in Attachment A.

EPA agrees with the Navy that the limited action alternative will not address site risks. It is therefore unclear to us why the Navy would propose a remedy that is not protective of human health and the environment, increase total cleanup costs, and lengthen the ultimate cleanup of the site. EPA continues to believe that it is inappropriate to evaluate whether "...marine sediment contamination will be naturally reduced through erosion, sedimentation..." when known risks exist and when there is **no** information available regarding the amount of time required to reach PRGs.

Unacceptable risks to both humans and environmental receptors have been reported for the sediments adjacent to the site. As with other sites, the Navy calculated risk-based cleanup goals for the sediments. Numerous stations were determined to exceed these risk-based cleanup goals (see revised Table 2-16 from the FS for a list of these stations which is now three pages long). Where intermediate or high ecological risks in the sediments exist and where sediment concentrations are above ecologically-based cleanup goals, EPA believes that a more active remedial action is required. Furthermore, where unacceptable human health risks in the sediments exist and where sediment concentrations are above human health-based cleanup goals, EPA also believes that a more active remedial action is required.

EPA is also concerned that the sediment bed stability fluctuates and can be disrupted by either human-caused or natural processes. As a result, the contamination could spread and a larger area could require remediation in the future. EPA believes that sufficient data exist to make a remedy

decision now and that the costs of prolonging a decision for several years could be quite expensive. The costs of addressing uncertainties and postponing a final remedy decision should be weighed in light of making a decision earlier. Any decision to postpone a final remedy decision must be made in light of the protectiveness of the proposed interim remedy, the duration of the unacceptable exposures, and the likelihood of securing funding for future remedial actions at the site.

The Navy's proposal to monitor the sediments is unwise for regulatory reasons as well. First, the enforceability of the fishing ban is unreliable. Fishing bans have been demonstrated to be unreliable in several studies (Connelly, *et al.*, 1992; May *et al.*, 1996). RIDEM has limited resources for enforcement and inspections. Fish and some shellfish are mobile and can migrate to areas where there are no restrictions on fishing after they get contaminated at the site. Second, the enforceability of the no swimming rule is suspect. It is surprising to EPA that the Navy would rely on such a ban for protectiveness and at the same time install a new boat/kayak ramp immediately south of the site that would presumably attract visitors to the area. Moreover, EPA has not received any information regarding how the no swimming rule would be enforced.

Your response further states that the Navy's proposed approach has been selected for the Interim ROD at the Portsmouth Naval Shipyard (PNS) and should therefore be acceptable at the OFFTA. EPA believes that the remedy selection issues at the OFFTA are substantially different from those at the PNS. First, no high risk areas were identified within the PNS sediments. Second, an FS has not yet been prepared at the PNS site. Third, at the time the Interim ROD was signed, the data was old. Fourth, the area at PNS is substantially larger, will likely be more expensive to remediate, and will require greater data certainty. Fifth, the monitoring data collected as part of the Interim ROD provided the basis for the development of sediment PRGs - a task already completed at OFFTA. EPA therefore believes that we are in a better position to make a final remedy selection at OFFTA and that the existing data are sufficient to do so.

EPA looks forward to reviewing the revised Feasibility Study. We anticipate that the findings of the supplemental sampling within the eelgrass beds and offshore area will be incorporated into the revised draft FS.

I look forward to working with you and the Rhode Island Department of Environmental Management toward the cleanup of the Old Fire Fighting Training Area. Please do not hesitate to contact me at (617) 918-1385 should you have any questions or wish to arrange a meeting.

Sincerely,

Kymberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Paul Kulpa, RIDEM, Providence, RI
Melissa Griffin, NETC, Newport, RI
Dennis Gagne, USEPA, Boston, MA
David Peterson, USEPA, Boston, MA
Meghan Cassidy, USEPA, Boston, MA
Bart Hoskins, USEPA, Boston, MA
Chau Vu, USEPA, Boston, MA
Jennifer Stump, Gannet Fleming, Harrisburg, PA
Ken Finkelstein, NOAA, Boston, MA
Steven Parker, Tetra Tech-NUS, Wilmington, MA

## ATTACHMENT A

| No. | Comment |
|---|---|
| GC1 | Although there is uncertainty associated with the transfer of arsenic from sediment to humans via shellfish ingestion, EPA reiterates its recommendation to develop a risk-based PRG and cleanup goal for arsenic in fish and shellfish. If the Navy chooses not to develop a PRG, the Navy should provide site-specific data, characterize the uncertainty associated with ingestion of arsenic-contaminated shellfish, and characterize the uncertainty associated with transfer of arsenic from sediment to humans via shellfish ingestion.<br><br>EPA continues to believe that the previous fire training activities are the source of the PAH contamination. We remain willing to review any additional studies that the Navy voluntarily chooses to perform. |
| GC2. | EPA disagrees. Risks to ecological receptors are present in both the short and long-term for the limited action sediment alternative. Under the dredging scenario, EPA believes that the benefit of permanently removing contaminants (*i.e.*, long-term effectiveness) from the area significantly outweighs temporary short-term impacts. If sediment chemical concentrations exceed site-specific PRGs developed through actual measures of effects to biota, leaving such sediments in place cannot be said to provide protection of any kind in the short term. As was done for the McAllister Point dredging project, mitigation measures can be proposed to successfully address short-term dredging impacts. Please specify how the FS will be revised to address EPA's comment. |
| GC4 & SC84 | The FS should evaluate other excavation techniques that could minimize impacts within the eelgrass beds. |
| GC6. | The original comment noted a disconnect between Appendix D and Table 2-14 which presents the PRGs. EPA presumes from the response to General Comments 6 and 1 that Table 2-14 will be revised such that it does not include the 5.48 mg/kg arsenic nearshore and offshore sediment PRG based on shellfish ingestion. Please clarify how Table 2-14 will be revised.<br><br>EPA does not believe that it is appropriate to apply the Site Remediation Regulations for soil to sediment. |
| GC7. | The original comment requested a cost sensitivity analysis to address the potential impacts of several uncertainties associated with the proposed alternatives. |

Regarding the amount of sediment to be removed while excavating in the wet, it does not matter that the estimate is based on a planned 2-foot excavation even though only the top 6 inches may be contaminated. (Although, at several locations, contamination above PRGs is expected to be deeper than 2 feet.) Once the 2-foot cut has been made and contaminated sediment sloughs into the excavation, more sediment than planned will have to be excavated to remove the sediment that migrated into the excavation. This will create an additional volume of contaminated sediment and require additional labor to perform the extra excavation. Therefore, the contention that a single 2-foot excavation covers the uncertainties is not correct. If the Navy's intention was to excavate to a one-foot depth throughout the site to remove the initial contamination, and then conduct a second round of excavation to a one-foot depth to remove contaminated sediment that sloughed or migrated into the initial excavations, then the sediment volume estimates would be more appropriate, but the labor costs would be underestimated based on the current FS costing. Consequently, as EPA has requested and as the Navy agreed to previously, the Navy needs to present and discuss a conceptual excavation plan, either a two-round excavation plan, as discussed in this comment, or another viable scheme should be presented (perhaps based on similar work at another location, *e.g.*, McAllister). The costs associated with this plan, including all line item costs, should be presented. Since it is possible, even with a two-round excavation plan, that some additional excavation would be required after the second round of excavation, the Navy should also incorporate the cost sensitivity analysis EPA has requested. (Please refer to *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, Section 6.2.3.7, page 6-13, for a discussion of circumstances that warrant a cost sensitivity analysis.) The cost sensitivity analysis would satisfy the first two bullets in the original comment. Please edit the FS accordingly.

The cost sensitivity analysis for the space requirements may be omitted; however, the discussion of the space requirements should be quantitative estimates, not qualitative. The FS should determine with some level of confidence that the alternatives are implementable as planned. If insufficient space is available, at best, the costs associated with multiple equipment and stockpile moves and the associated project down time would be unaccounted for. Please edit the FS accordingly.

GC8. The comment regarding the dioxin reassessment appears unresolved since the Navy response indicates correspondence on this issue will be provided under separate letter. EPA remains waiting for a response to its March 18, 2002 letter.

SC4 & SC15 In developing institutional controls, it is more likely that future development at the site will involve construction or utility workers who may contact the contaminated groundwater. Therefore, any proposed institutional controls

protocol should address the risks posed to any workers who may need to excavate within the contaminated groundwater.

SC31 The Navy should also explain how it will record and enforce the land use restrictions while the property is under the control of the Navy.

SC36 The response does not adequately address the issue that the shoreline (the "sediment areas") has historically been used for recreational purposes. The FS indicates that this area requires remediation to meet residential standards. EPA seriously doubts that fencing is a sufficiently protective remedial measure to keep people from recreationally using the shoreline and wading into the shallows, particularly if the park is reopened or the area is developed for housing.

SC41 EPA has final authority to determine ARARs. Since EPA needs to determine that the remedy is ARAR compliant before approving the remedial action and under Section 17 of the FFA, EPA has final authority to select the remedial action.

SC49 Low Temperature Thermal Stripping (LTTS) is more dependent on the nature of the contaminants than on the characteristics of the soil and sediment. Therefore, it may be possible to design an appropriate LTTS system without the benefit of bench-scale or pilot-scale testing, but vendors strongly encourage the testing. Omission of the testing is more problematic for soil washing because that technology is sensitive to the characteristics of the contaminated media. It is not apparent that sufficient characterization of the site soil and sediment has been conducted to provide the data necessary to design a soil washing system. The response states that clarifying test will be added to the FS. Please review this response and if correct, please ensure that the clarifying text added to the FS discusses why bench-scale or pilot-scale testing for LTTS and soil washing would not be required to design the treatment systems.

SC85. I acknowledge that the majority of the costs would generally occur in the first five years (with the possible exception of Alternative 2).. However, a significant percentage of the costs occur after the fifth year. The appropriate discount rate to use for an alternative is based on the expected life of the alternative. However, I recognize that the purpose of the present worth analysis is to establish an appropriate current dollar cost for the alternatives. If it appears that the cost analysis does not reflect an equitable current dollar cost for an alternative, the *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, Section 6.2.3.7, page 6-13, suggests that a sensitivity analysis may be conduced to evaluate the potential impact of the discount rate on the cost of an alternative. The Navy may choose to incorporate a sensitivity analysis for the discount rate into the FS.

SC88. Please revise the costs for the limited action alternative to include the costs of monitoring sediment migration and recontamination.

SC89. Please clarify whether EPA's proposed text change will be made (*i.e.*, "once all of the habitat restoration requirements are met.").

SC91. Although there is uncertainty associated with the transfer of arsenic from sediment to humans via shellfish ingestion, EPA reiterates its recommendation to develop a risk-based PRG and cleanup goal for arsenic in fish and shellfish. If the Navy chooses not to develop a PRG, the Navy should provide site-specific data, characterize the uncertainty associated with ingestion of arsenic-contaminated shellfish, and characterize the uncertainty associated with transfer of arsenic from sediment to humans via shellfish ingestion.

SC95 If the RI Oil Contaminated Soil Policy only addresses TPH, it should be removed because TPH issues are outside the scope of the CERCLA remedy.

SC99. According to EPA's Directive 9355.4-01, *A Guide on Remedial Actions at Superfund Sites with PCB Contamination* (August 1990), 1 ppm of PCBs for residential soil is a recommended action level, not the cleanup level. If 1 ppm is used as the cleanup level for PCBs instead of a risk-based PRG, a risk with site-specific exposure parameters should be calculated using 1 ppm to ensure that the total site risks from other contaminants of concern and from PCBs do not exceed EPA's or RIDEM's acceptable risk range. EPA recognizes, however, that the PCB concentrations in soil and sediment at this site yield site-specific risks lower than 1 x 10-6 and would not require development of a PRG for PCBs.

SC125, SC128, & SC129 Each alternative should have its own set of tables so that the differences among the various alternatives are clearly shown. Therefore, EPA reiterates its request that there be individual Tables for Alternatives 4 and 5.

## REFERENCES

Connelly, Nancy A., Knuth, Barbara A., and Bisogni, Carole A. September 1992. *Effects of the Health Advisory and Advisory Changes on Fishing Habits and Fish Consumption in New York Sport Fisheries.* Report for New York Sea Grant Institute Project No. R/FHD-2-PD. Series no. 92-9.

May, Helen and Burger, Joanna. 1996. *Risk Analysis*, Volume 16, No. 4. *Fishing in a Polluted Estuary: Fishing Behavior, Fish Consumption, and Potential Risk.*