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Project Number GN1611

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**3713**

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Kenneth Finkelstein, PhD  
National Oceanic and Atmospheric Administration  
1 Congress Street, Suite 1100  
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Reference: CLEAN Contract No N62472-03-D-0057  
Contract Task Order No. 008

Subject: Response to Comments, Draft Action Memorandum for Soil Removal Actions,  
Site 09 - Old Fire Fighting Training Area  
Naval Station Newport, Newport RI

Dear Ms. Keckler, Mr. Kulpa, and Mr. Finkelstein:

On behalf of the U.S. Navy, NAVFAC Mid-Atlantic, this letter transmits the response to comments on the Draft Action Memorandum for Soil Removal Actions at the Old Fire Fighting Training Area (OFFTA) at Naval Station Newport, in Newport Rhode Island dated 9/15/06. Comments were received from USEPA on October 31, 2006, from RIDEM on November 3, 2006, and from NOAA on September 29, 2006.

Comments from USEPA and RIDEM were discussed at the RPMs meeting held on November 15, 2006, and these responses reflect those discussions. The Action Memo will be revised in accordance with these responses and issued as a final for signature.

In accordance with the statement of work, copies of this material have been provided to those on the distribution list below for their information. If you have any questions, please do not hesitate to contact James Colter at (757) 444-4217.

Very truly yours,

Stephen S Parker, LSP  
Project Manager

SSP/rp

Enclosure

c: J. Colter, NAVFAC (2, w/encl.)  
C. Mueller, NAVSTA (2, w/encl.)  
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File GN1611-3.2 (w/o encl.) File GN1611-8.0 (w/encl.)

**ATTACHMENT A**  
**Responses to Comments from the USEPA**  
**Draft Action Memorandum for Soil Removal Actions September 19, 2006**  
**Comments Dated October 31, 2006**

**1. General Comment:**

*On May 31, 2005, EPA commented on the PDI Report. Specifically, EPA stated that: "Some of the language used and data interpretation in the report when describing the nature and extent of contamination is not as meticulous as it could be, which creates implications regarding contaminant conditions with which EPA does not agree. However, in the interests of completing the Pre-Design Investigation (PDI) Report and moving on to the remedial phase, EPA accepts the findings of the investigation with the understanding that the details of the removal action will be resolved during development of the Removal Action Work Plan. To be clear, the data generated for the PDI Report will be used to guide the development of the Removal Action Work Plan but acceptance of the PDI Report creates no commitments regarding data interpretation or the details to be required in the Removal Action Work Plan."*

*EPA remains concerned that the Site has not been adequately characterized given its historical Site usage. In conducting a more extensive cleanup of the Site, as was envisioned before the Navy's Optimization Review, areas of the Site that had not been adequately investigated would have been investigated and contaminated soil would be removed during the construction. Now, if a limited removal is implemented, as the Navy proposes, areas of the Site could remain unexplored. As an example, it should be noted that only as a result of EPA pressing for additional borings at the Site was the one area found that Navy now proposes to remove. It is EPA's opinion that this is not the only area at the Site that meets the Navy's current removal criterion. Consequently, EPA does not believe the limited removal action proposed by the Navy should proceed without being coupled with additional surface and subsurface soil sampling in areas suspected to have high levels of contamination. The future Removal Action Work Plan should include additional investigations to locate and remove buried structures and take additional samples around any such structures.*

**Response:** The removal action will include conduct of 10 exploratory test pits in areas to be determined by the state to locate additional structures of concern not previously found. This effort will be detailed in the Removal Action Work Plan (RA work plan). If the EPA feels that more than 10 will be required to accomplish this objective, and if they wish to participate in selection of the locations for these exploratory test pits during the removal action, this accommodation will be made in review of the draft RA work plan.

**2. p. 5, §6a** *Bullet 'a' states, "Although a risk evaluation for petroleum has not been conducted, there does not appear to be a current exposure route available to these contaminants, except to a construction worker excavating at the site." This statement is misleading. The top foot of soil contains PAHs and lead, and therefore a complete exposure pathway exists. Visitors and workers could contact PAHs and lead in the surface soil.*

**Response:** The Navy does not disagree that contact can occur. The risk to recreational visitors is within the acceptable risk range. Risk to workers will be quantified in the revised FS. This will be clarified in the revised document.

**3. p. 5, §6c** *The following text should be included under the regulatory authorities section, "The Navy is required to take response actions pursuant to CERCLA under the terms of the FFA."*

**Response:** Concur, this passage will be added.

**4. p. 6, §8a** *In the fourth sentence of the first paragraph the text states that the public comments do not require a revision of the proposed action. However, the action proposed in this Action Memorandum is significantly different from the action anticipated by the July 2003 Proposed Plan. Consequently, this sentence should be deleted or revised to reflect a change to the Navy's current plan.*

**Response:** The Navy is looking into whether a new fact sheet and comment/response period is necessary.

**5. p. 6, §8a** *The first bullet states that the TPH contamination exceeding 30,000 mg/kg extends to a depth of 8 feet below ground surface. In fact, the greatest TPH concentration detected at the Site (40,270 mg/kg) was found at a depth of 6 to 8 feet below ground surface, while the sampling interval above (4 to 6 feet) had a TPH concentration an order of magnitude lower. Since no sample was collected deeper than 8 feet below ground surface, and field screening data and olfactory and visual evidence indicated significant contamination in the 8 to 10 foot boring interval, it is quite possible that the contamination could go deeper. The text should clarify this.*

**Response:** The text will be revised to clarify the depth of the exceedance is not certain.

**6. p. 6, §8a** *The third bullet discusses inspection of the piping associated with the manhole structure but not removing it unless it is determined to be a continuing source. This is not sufficient. Any piping found during the removal action should be removed to ensure that contamination left in place during this removal action does not mobilize through the piping or pipe bedding to the site boundaries where it could migrate into the bay. Please revise this bullet accordingly.*

**Response:** The bullet will be revised to state that all structures found, including piping, will be opened, inspected and evaluated to determine if they constitute a possible continuing source, and if there is reason to believe they may be connected to a continuing source or have previously been a source of contamination, they will be tracked and removed. In accordance with agreements made at the 11/15/06 RPMs meeting, a decision tree will be included in the RA work plan that will be used in the field to assist in these determinations.

**7. p. 7, §8a** *The sixth bullet indicates that the eelgrass beds will be protected to the extent possible. This is not sufficient. While it is understood that the details of the revetment will be provided in another document, it is critical that this Action Memorandum presents a more proactive commitment that will be consistent with the design activities. This includes taking all necessary measures to construct the revetment without adversely impacting the eelgrass beds. The preservation of the eelgrass beds cannot be compromised.*

**Response:** The Navy is in full agreement with the regulatory parties on the importance for protection of the eelgrass beds. The revetment is being designed with such protection as a primary objective, and we welcome comments on that design as it progresses, particularly in this regard. The language in the action memorandum will be strengthened to reflect this priority.

**8. p. 7, §8a** *Please explain the Navy's intent regarding confirmation sampling and post-excavation sampling. It is not clear from the descriptions on page 7 where these*

*sampling activities will occur. The confirmation sampling description mentions excavations, which suggests that confirmation sampling will be implemented in excavations other than just the one excavation where TPH exceeded 30,000 mg/kg. However, the post-excavation description mentions excavations that could be interpreted to mean that post-excavation samples will only be collected from excavations other than the one associated with the UCL exceedance for TPH rather than from all soil left in place around the Site. Also, please define in the Action Memorandum what the Site contaminants of concern are for the post-excavation sampling.*

**Response:** Post excavation sampling will be conducted after removal within each excavation to determine that the action level for this removal action (30,000 mg/kg TPH) has been achieved. Details on the process and number of samples for the post excavation sampling will be presented in the RA work plan. The fact that post excavation sampling will occur within each excavation will be clarified in the Action Memorandum, Section 8a.

**9. p. 7, §8a** *The discussion under "Staging of Material" is not complete. Please state that water released by excavated soil and debris will be managed to prevent the migration of contamination. The details should be presented in the Removal Action Work Plan.*

**Response** The Navy concurs, this will be clarified in the revised Action Memorandum, and details will be presented in the Removal Action Work Plan.

**10. p. 9, §8g** *The last sentence requires clarification. Five-year reviews and long-term monitoring of the revetment will likely be required to ensure that the remedy remains protective, unless future actions remove contamination to unrestricted concentrations. Please edit the text accordingly.*

**Response:** The Navy concurs, and this will be clarified. However, bear in mind that the ROD for the final action will determine the need and frequency of monitoring, in regards to the 5 year review process.

**11. Figure 3** *This figure is misleading because it only shows TPH contamination at an elevation of two feet (Naval base mean low water). Many locations have much greater TPH contamination than depicted in this figure. One or more additional figures should be provided to more accurately depict the concentrations of TPH in the soil. For example, a figure that presents the maximum TPH concentration at each location would be useful to assess the Navy's limited removal proposal.*

**Response:** The Navy proposes to add Figures 2-4A, 2-4B, 2-4C and 2-4D from the conceptual site model (TtNUS, March 12, 2006) as support information for this request. These figures show TPH concentrations at elevations of +4 feet, +2 feet, 0 feet, and -2 feet. The commenter should be advised that Figure 2-4B of this reference depicts the same image as that provided on Figure 3 of the Action Memorandum (+2 feet).

**12. Figure 3** *Two of the most recent boring locations, SB503 and SB509, do not appear on Figure 3 and should be included.*

**Response:** The Navy concurs, these will be added as requested.

**ATTACHMENT B**  
**Responses to Comments from the RIDEM**  
**Draft Action Memorandum for Soil Removal Actions September 19, 2006**  
**Comments Dated November 3, 2006**

**General Comment:**

*As the Navy is aware there are disagreements between the agencies concerning the risk assessments performed at the site. These assessments are being used by the Navy in support of both the scope for this interim action and the final overall remedy. While the Office of Waste Management fully supports the removal of contaminated soil, and surface and subsurface structures at the site it is this Office's position that the Navy take advantage of this opportunity to expand the remedial effort. This expansion may include options such as, removal of additional soils, placing oxidants prior to backfilling, installing leaching galleries (for insitu oxidation or bioremediation), phytoremediation, etc. In addition to remediating onsite contaminants a number of these measures may also address the adjacent sediments. Further, expanded remedial actions may avoid issues concerning the risk assessments performed at the site and reduce and/or eliminate the need to further characterize the site. That is, the remedial investigation conducted to date was sufficient to support a complete removal action; it is not adequate for the proposed limited action. Finally, please be advised that these options are commonly used in the private sector as they are low cost, remedial alternatives which allow the site to achieve compliance within an acceptable time frame, while at the same time avoiding the time and expense of a long term monitoring programs and concurrent reporting requirements.*

Response: On September 21, 2006, RIDEM went on record that they prefer to conduct removal actions than wait until a ROD is completed to conduct a remedial action. The determination as to whether to conduct a removal action (hot spot removal) or remedial action (complete action with a final remedy) at this site was discussed at several meetings in the course of 2005 and 2006. At the Tiger Team review meeting held April 13, 2006, RIDEM was briefed on the approach to conduct the removal action and why. The action proposed is based on the recommendations from this meeting.

It is the opinion of the Navy that the additions to the removal action that the state proposes have a low probability of reducing risk and contaminant concentrations. Complex efforts such as in-situ bioremediation, chemical oxidation, and installation of large leaching galleries are not advisable in a haphazard manner. They will only be undertaken after a feasibility study is conducted to evaluate their effectiveness, because despite the opinions rendered in the comment above, these efforts are more costly and complex than they appear, and they need to be designed toward specific objectives. However, low cost and low impact installations such as passive collection piping within planned excavations can be added at the States request for the purposes of allowing the project to move forward.

RIDEM should be reminded that the removal action will include performance of 10 exploratory test pits in areas to be determined by RIDEM to locate additional structures of concern not previously found (this was an agreement made at the 4/13/06 meeting). This effort will be detailed in the Removal Action Work Plan (RA work plan). The EPA may also wish to participate in selection of the locations for these exploratory test pits during the removal action. This effort will be described in the draft RA work plan.

1. **Soil, Fill and Debris Removal**  
**Page 6.**

*The work plan calls for the removal of underground structures. In previous discussions it was agreed that the underground tanks and associated piping, oil water separators, and associated piping, etc. depicted in engineering plans and other historical documents for the site would be investigated and remediated as part of this removal action. Please include provisions in the work plan for the investigation and removal of these tanks, oil water separator, associated piping, etc.*

Response: In accordance with the agreements made at the Tiger Team meeting 4/13/06, the removal action will include the three known foundations and piping likely to constitute a continuing source of contamination. The Navy also agreed to conduct 10 exploratory test pits in areas to be determined by RIDEM to locate additional structures of concern not previously found. This effort will be detailed in the Removal Action Work Plan (RA work plan).

The Action Memorandum will be revised to state that all structures found, including piping, will be opened, inspected and evaluated to determine if they constitute a possible continuing source, and if there is reason to believe they may be connected to a continuing source or have previously been a source of contamination, they will be tracked and removed. In accordance with agreements made at the 11/15/06 RPMs meeting, a decision tree will be included in the RA work plan that will be used in the field to assist in these determinations.

2. **Soil, Fill and Debris Removal**  
**Page 6.**

*The work plan does not include the removal of free product in soil (petroleum saturated soils). Please include provisions for the removal of free product in soil.*

Response: The Navy and RIDEM are in disagreement regarding whether petroleum-impacted soils constitute the presence of free product. The Navy is preparing a statement on this matter and it will be forwarded to RIDEM. Because of this disagreement, the removal action is being conducted based on a measurable concentration of TPH in soil of 30,000 mg/kg.

3. **Soil, Fill and Debris Removal**  
**Page 6.**

*The proposed TPH removal limit is thirty thousand ppm. Soil above residential and/or industrial commercial standards must be addressed. The Office of Waste Management strongly recommends that the Navy either remove these soils concurrent with the removal of soils, which exceed the UCL or employ an alternate lower TPH standard, which is followed by additional remedial efforts. The open excavations and the equipment at the site offer the Navy a unique opportunity to greatly reduce the cost and time associated with the remaining TPH contaminated soils. Potential solutions include, mixing of backfill soil with oxidants for insitu oxidation, backfilling with stone and installing low cost vertical, perforated PVC pipe, which then could be used as a leaching galleries for insitu oxidation or oxygen and other supplements for insitu bioremediation. Construction of the above upgradient of the site and/or in alternate locations. Employing phytoremediation to address contamination above and below the water table. A number of these solutions offer an additional advantage in that they may also result in the remediation of adjacent sediments. Further, many of these measures are routinely used by the private sector as they are low cost remedial alternatives. Please be advised that the final remedial approach for the site has not been approved. Conducting an expanded removal action*

*and/or engaging in additional remedial activities at this time may avoid the time and expense of later remedial investigations, remedial actions and/or lengthily monitoring requirements.*

Response: In regards to installation of in-situ systems, please refer to the response to the general comment, above. The Navy is aware that a final remedial approach for the site has not been approved. A final remedial approach will be proposed after the FS is revised.

**4. Soil, Fill and Debris Removal**  
**Page 6.**

*Elevated levels of metals, such as, lead were found at the site. The work plan has not noted whether these areas will be co excavated with the TPH contaminated soil. Please note if these areas will be co excavated. In addition a map must be included depicting the distribution and concentration of metals left behind based upon the current proposed approach for the site.*

Response. At the Tiger Team review meeting held April 13, 2006, RIDEM was briefed on the approach to conduct the removal action and the target contaminants. It was made clear at that meeting, and in the Conceptual Site model provided March 17, 2006 there is no risk to receptors from lead in soil. Therefore, lead is not actionable at the site under the current and anticipated future use of the site.

**5. Stone Revetment**  
**Page 6.**

*The Navy has proposed replacing the existing revetment at the site with a wider revetment, which will cover the intertidal area. This new revetment would be considerable wider then revetments found elsewhere on Coasters Harbor Island and else where on the base. This change in the revetment may adversely affect the eelgrass bed that abuts the site (changes in the hydrodynamics of the area if a wider revetment is installed). Further, covering the intertribal area with a revetment will destroy the beach environment and change it from a sand, mud, cobble, beach habitat to a rock revetment. Therefore, the DEM does not support the revetment as proposed and any replacement revetment must stay within the footprint of the existing revetment. That is, unless the portions outside of the existing footprint are covered with a minimum of 18 inches of sand, mud and cobble (similar to current conditions) and the overall height, including the 18-inch cover does not exceed the current typography.*

Response: The revetment is undergoing a careful design to assure that the eelgrass beds are not damaged by its installation and presence. The low angle of the finished slope will result in a more protective environment for the eelgrass beds than a higher angle and steeper slope. RIDEM should be aware that the shoreline at half of the site is already a stone revetment, though it is one made up of asphalt, concrete and brick. RIDEM should also be aware that the east portion of the shoreline has no revetment, and therefore a new one could not stay within the existing footprint. The affected area is a sand and gravel beach-face with fill and debris. The interpretation of the shoreline as a mud, cobble, beach habitat is incorrect. Finally, at the meeting 4/13/06, RIDEM did not object to the proposed remedy for the shoreline which was reconstruction of a revetment and excavation of associated intertidal soils.

The Navy requests that RIDEM hold comments on the revetment design until a 30% submittal is made (anticipated January 2006), which will show the existing and proposed slopes.

6. **NAPLs Controls During Excavation.**  
**Page 7.**

*The work plan notes that NAPLs will be controlled short term during excavation. Please note that, if present, long-term measures must be taken to remove NAPLs from the groundwater. Backfilling with crushed stone and installing a vertical, PVC, perforated, pipe at the end of the excavation is one possible mechanism for free product removal.*

Response: The Navy is in agreement that measurable NAPL in groundwater under a steady state condition is actionable, and will require remediation. Passive recovery wells as suggested by RIDEM may be useful to determine if such a condition exists after excavation, and a viable avenue to address such a condition.

7. **ARARs**  
**Page 8.**

*Please make the following modifications to the list of ARARs:*

*Rhode Island Remediation Regulations (entire regulations, not just Section 8).*

*Rhode Island Underground Storage Tank Regulations (deals with underground storage tanks and associated support structures),*

*Rhode Island Leaking Underground Storage Regulations (deals with leaking underground storage tanks and associated support structures),*

*Rhode Island Above Ground Storage Regulations (deals with above ground storage tanks and their support structures),*

*Rhode Island Oil Pollution Control Regulations (deals with release of petroleum to waters of the state, including groundwater)*

*Rhode Island Water Pollution Control Regulations (deals with release to water of the state and any modifications to a storm water discharge).*

Response: The regulations cited above are believed to be regulations "To Be Considered" (TBC) in the conduct of a removal or remedial action, and they will be added to the action memo as such. Further discussion on this topic is advisable with the lead regulatory agency.

8. **Figure 3**

*The estimated cost for the removal of 1330 cubic yards of material is 1.3 million dollars (approximately 977 dollars per ton). It is anticipated that much of the material can be disposed at a RCRA Subtitle D landfill (municipal landfill) at \$65 per ton for waste and \$15 per ton as daily cover). Excavation, transport, sampling and engineering cost are not reflective of other removals carried out on the base. Accordingly, it is recommended that the Navy review the costs and allocate any savings to additional remedial actions at the site.*

Response: The total expected cost of the action is considerably more than just the disposal cost cited above. As RIDEM is undoubtedly aware, there are costs aside from disposal costs, including excavation of the soil, moving it over the road to the disposal facility, post excavation sampling & analysis, waste characterization, water control, test excavations, breaking up foundations, transportation and disposal of concrete debris, management of free product (if found), as well as work plans, designs, health and safety plans and monitoring, personnel management, oversight, site meetings with the regulators and responses to comments on all documents prepared that all add to the total cost of the project.

**9. Figure 3**

*In the key and the map please delineate the areas to be excavated.*

Response: The target areas are identified on the map. The anticipated excavation areas will be detailed in the removal action work plan.

**ATTACHMENT C**  
**Responses to Comments from NOAA**  
**Draft Action Memorandum for Soil Removal Actions September 19, 2006**  
**Comments Dated September 29, 2006**

**General Comment:**

*Thank you for the subject document that concerns (mostly) the subsurface soil and structures removals at the OFFTA. NOAA does not have any comments or recommendations on these actions but we did note the planned addition of the shoreline protection structure. As stated on Page 7, sediment will be removed to allow placement of the seawall revetment. NOAA requests some clarification: is this a seawall or a revetment? The latter slopes seaward and is generally considered by coastal engineers to allow better protection of the mainland. However, more seabed is lost when using a revetment. If that is the case, NOAA would like to learn if there is to be an additional mitigation project to replace the lost seabed. Granted this is a relatively small amount of area but we would like to learn how small.*

Response: The shoreline protection that is proposed will be a stone revetment placed at the same location and general elevation as the existing intertidal zone, a large part of which is currently covered with concrete, asphalt, brick and other construction debris and eroded fill from the site. Since the existing material will be removed for the purpose of installation of the revetment, that fill will be replaced with stone, on the same general slope and extent as currently exists. Therefore, there should be little or no encroachment on the seafloor. If a greater angle is required to protect the subtidal habitat from wave reflection, the on-shore top of slope will be moved landward (south) to limit encroachment. A 30% design document is anticipated in January 2007 to show the initial details of the slope and extent of the new revetment.