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LETTER REGARDING U S EPA REGION I COMMENTS ON DRAFT FINAL FEASIBILITY  
STUDY AT SITE 8 NETC NEWPORT RI  
6/5/2012  
U S EPA REGION I



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
REGION 1  
5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MASSACHUSETTS 02109-3912

June 5, 2012

Maritza L. Montegross  
Remedial Project Manager  
NAVFAC MIDLANT, Code OPNEEV  
9742 Maryland Avenue, Bldg. Z-144  
Norfolk, VA 23511-3095

Re: Draft Final Feasibility Study  
Site 08, NUSC Disposal Area  
NAVSTA Newport, Rhode Island  
May 2012

Dear Ms. Montegross:

EPA has completed its review of the "Draft Final Feasibility Study for Site 08, NUSC Disposal Area," dated June 2012, as prepared by Tetra Tech NUS, Inc., on behalf of Naval Station Newport, RI. The Draft Final Feasibility Study (FS) summarizes the site history, offers remedial action objectives, and develops and evaluates remedial alternatives designed to remediate site soils, groundwater, and sediments. EPA evaluated the Draft Final FS to determine if it was consistent with CERCLA, the NCP, EPA's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (October 1998), and other applicable EPA guidance and policies. In addition, EPA evaluated the Revised Draft FS for consistency, technical accuracy, and completeness. EPA also evaluated the Draft Final FS to ensure that it adequately reflected the Navy's responses to EPA's comments issued on the Revised Draft FS and agreements reached during the comment resolution period.

Attached are EPA's comments on the Draft Final FS. EPA is prepared to discuss these comments with the Navy during our conference call scheduled for tomorrow, June 6, 2012. EPA appreciates the significant strides that the Navy has made in revisions to the FS, as we move towards a final FS for this site. EPA is confident that we can reach consensus on resolution of the enclosed comments quickly to allow for finalization of the FS in accordance with our schedule.

If you have any questions, please contact me at (617) 918-1754 or at [lombardo.ginny@epa.gov](mailto:lombardo.ginny@epa.gov).

Sincerely,

Ginny Lombardo  
Remedial Project Manager

Attachment

cc: Pamela Crump, RI DEM  
Deb Moore, NAVSTA Newport  
James Ropp, TtNUS  
Stephen Parker, TtNUS  
Ken Munney, USF&W  
Chau Vu, EPA  
Bart Hoskins, EPA  
David Peterson, EPA  
Greg Kemp, Mabbett & Associates, Inc.

**EPA Comments on  
Draft Final Feasibility Study for  
Site 8 – NUSC Disposal Area  
Naval Station Newport  
May 2012**

1. Page ES-3, Page 2-12, 2<sup>nd</sup> RAO Bullet, and Page 5-14: Note that the Draft Final FS refers to the prevention of “the use of site groundwater for human consumption”. Navy’s response to EPA’s September 8, 2011 General Comment 2, indicated that the FS would be modified “to indicate that groundwater LUCs would prohibit the installation of groundwater supply (extraction) wells, including public and private drinking water wells and irrigation wells in addition to prohibiting any use of groundwater as potable.” This is reflected in the LUCs description included on page 5-5. Please revise the RAOs on Page ES-3 and Page 2-12 and the statement on Page 5-14 to be consistent with the Navy’s response to General Comment 2 and the LUC information provided on Page 5-5.
2. Page 1-39, Sediment, Fish Tissue, Surface Water: Consistent with EPA’s comment on the Draft Proposed Plan, provide additional clarification regarding the basis for why the fish tissue exposure route was not carried forward in the FS.
3. Page 2-4, Section 2.1.4.2: In the second sentence insert “and floodplains” after “wetlands”. Remove the third sentence.
4. Page 4-2: The last sentence on this page states: “Any wetland areas impacted by the remedy would also be restored.” If any of the soil alternatives include areas of wetland soils (opposed to sediment areas that will be addressed under the sediment alternatives), then under the ARARs analysis there needs to be a determination as to which alternative is the Least Environmentally Damaging Practicable Alternative for protecting wetland resources under the federal Clean Water Act.
5. Page 4-4 and Page 4-6: On page 4-4, revise 3<sup>rd</sup> full sentence on the top of this page to read: “Therefore, if the use of the Paved Storage Area were to change in the future, including transfer of the property outside the Navy, or if the Paved Storage Area becomes inactive, *or if there is reason to believe that sources under the Paved Storage Area are inhibiting groundwater cleanup*, the Navy would complete follow-on geophysical investigations in that area and would remove subsurface debris, as necessary.” Similarly, on page 4-6, revise the last sentence of the 2<sup>nd</sup> paragraph to state that the additional geophysical investigations and removal of anomalies would occur if the property was transferred. EPA does not agree that the property could be transferred without completion of the geophysical investigation of the Paved Storage Area. These sections should be consistent with Navy’s response to EPA’s August 11, 2011 General Comment 1.
6. Page 4-4, 3<sup>rd</sup> Bullet: Clarify the reason for the removal of soils represented by sample locations DA-SB142, DA-SB145, DA-SB146, DA-SB153 and B179-SB1/2/3.

7. Page 4-7, Component 1: Revise the parenthetical to read “(Section 4.1.2, Component 3)” and note here “with the exception of the LTDD of PAH-contaminated soils.”
8. Page 4-21, Overall Protection: Revise the end of the 4<sup>th</sup> sentence of this section to read: “...as LUCs would still be required due to the underlying groundwater contamination at the North Meadow, *until groundwater cleanup goals are met.*”
9. Page 5-5, Component 2: LUCs: In the 2<sup>nd</sup> paragraph, 3<sup>rd</sup> sentence, delete “If necessary”. EPA believes that it will be necessary to establish some form of LUC on groundwater use for adjacent property owners, particularly the golf course, to ensure that potential groundwater use on that property does not impact the protectiveness of the NUSC groundwater remedy. In addition, the LUC description needs to explain that LUCs inside the compliance boundary of the Waste Management Area (WMA) would be permanent, preventing the use of groundwater, and outside of the WMA, LUCs would be temporary until groundwater standards are achieved.
10. Page 5-22 and Page 6-21, Compliance with ARARs: Insert “Environmentally” after “Least.”
11. Page 6-12 and Page 6-16, Compliance with ARARs: EPA does not make a TSCA determination until public comment is solicited on the Proposed Plan and EPA signs the ROD. As such, revise the last sentence to state: “Accordingly, and based on the provisions of 40 CFR § 761.61(c), EPA will make a determination in the Record of Decision, based in part on any public comment received on the Proposed Plan if the Navy selects this alternative, as to whether in-place management of PCB contaminated sediments will not pose an unreasonable risk to public health or the environment.”
12. Table ES2: The “Treatment” criterion for GW2 should be labeled “No.”
13. Table 2-1, Page 2: For the “Consideration” text for the federal MCLs and MCLGs, add to the end of the first sentence: “in all areas outside of the compliance boundary for any waste management area.” For the Health Advisory “Consideration” text, add at the end of the second sentence: “in all areas outside of the compliance boundary for any waste management area.” At the end of the third sentence add: “outside of the waste management compliance boundary and will be maintained permanently within the compliance boundary.”
14. Table 2-1, Page 3: For the RI Remediation Regulation “Consideration” text, add at the end: “PRGs based on these standards will be achieved outside of the compliance zone for the waste management area and will be used as monitoring standards inside the compliance boundary.”
15. Table 2-2, Page 3: To the “Synopsis” for the Freshwater Wetlands standards, add a new last sentence: “Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.”
16. Table 2-3, Page 1: Revise the text of the TSCA “Consideration” text to limit the discussion to sediment.

17. Table 2-3, Page 4: In the “Consideration” text for the Groundwater Protection Strategy, change the first three sentences to: “Under federal standards, groundwater within the Site is considered a potential drinking water source except within the compliance boundary of any waste management area established under the soil or sediment alternatives; therefore, groundwater must achieve federal drinking water and risk-based standards or more stringent State groundwater standards outside of the compliance boundary. Groundwater use restrictions outside of the compliance boundary will be maintained until these standards are achieved. Inside of the compliance boundary groundwater use restrictions are permanent as long as the waste management area remains in place.”
18. Table 4 ARARs Tables: Address comments made to the Table 2 ARARs Tables where relevant in these alternative-specific ARARs tables. Make changes noted below to each Chapter 4 ARAR table for all of the soil alternatives, where the same issue is repeated for each alternative’s tables.
19. Table 4-4, all pages: Regarding the “Action to Be Taken” text for all of the ARARs and TBCs, long-term monitoring needs to occur for all areas under a cover, not just for the Paved Storage Area. (Make the changes also to the SO3 and SO4 Chemical-Specific Tables.)
20. Table 4-5, Page 1: For the “Action to be Taken” text for the CWA, Section 404, remove the last sentence. (Make the changes also to the SO3 and SO4 Location-Specific Tables.)
21. Table 4-5, Page 4: Move the citation to the RI Freshwater Wetlands Rules and Regulations from the “Citation” column to the “Synopsis” column (along with the Act). In the “Citation” column include the citation to the Act (the Rules and Regulations appear not to have a citation). (Make the changes also to the SO3 and SO4 Location-Specific Tables.) In the “Synopsis” text add at the end: “Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.” In the “Action to be Taken” text change “wetlands” to “state jurisdictional wetland and buffer zone.”
22. Table 4-6, Pages 2-3: The “Action to be Taken” text for the MCLs, MCLGs and Health Advisory entries should be changed to: “[The standard] will be used to develop performance standards for monitoring the compliance boundary for the waste management area. If soil contamination levels have been reduced enough so that no site risk remains, monitoring can be ended.” (Make the changes also for all other Action-Specific Tables for the other soil alternatives.)
23. Table 4-6, Page 3: All of the State Air ARARs identified in Table 2 apply to this alternative since it includes ex-situ treatment that may have air emissions.
24. Table 4-6, Pages 5-10: The State Solid Waste standards apply to all areas where a cover is required, not just under the Paved Storage Area. (Make the changes for all other Action-Specific Tables for the other soil alternatives.)

25. Table 4-13, Page 2: For the “Reduction in Toxicity...through Treatment”, Alternatives SO1, SO3, and SO4 should be listed as “None.”
26. Table 5 ARARs Tables: Address comments made to the Table 2 ARARs Tables where relevant in these alternative-specific ARARs tables. Make changes noted below to each Chapter 5 ARAR table for all of the groundwater alternatives, where the same issue is repeated for each alternative’s tables.
27. Table 5-1, Page 1: Add citations to the federal MCLGs and federal Health Advisory included in the Table 2 Chemical-Specific ARARs Tables.
28. Table 5-1, Page 2: Remove the RI Water Quality standards, as those standards are Action-Specific ARARs.
29. Table 5-4, all ARARs: In the “Action to be Taken” text replace “Paved Storage Area” with “waste management area.”
30. Table 5-5, Page 2: Move the citation to the RI Freshwater Wetlands Rules and Regulations from the “Citation” column to the “Synopsis” column (along with the Act). In the “Citation” column include the citation to the Act (the Rules and Regulations appear not to have a citation). (Make the changes also to the GW3 and GW4 Location-Specific Tables.) In the “Synopsis” text add at the end: “Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.” In the “Action to be Taken” text change “wetlands” to “state jurisdictional wetland and buffer zone.”
31. Table 5-6, Page 1: The first sentence of the “Action to be Taken” text for the MCLs, MCLGs and Health Advisory entries should be changed to: “[The standard] will be used to develop performance standards for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover.” (Make changes to all other Action-Specific Tables for the other GW alternatives.)
32. Table 5-6, Page 2: In the “Action to be Taken” text for the Groundwater Protection Strategy, change the first three sentences to: “Under federal standards, groundwater within the Site is considered a potential drinking water source except within the compliance boundary of any waste management area established under the soil or sediment alternatives; therefore, groundwater must achieve federal drinking water and risk-based standards or more stringent State groundwater standards outside of the compliance boundary. Groundwater use restrictions outside of the compliance boundary will be maintained until these standards are achieved. Inside of the compliance boundary groundwater use restrictions are permanent as long as the waste management area remains in place.” (Make changes for all other Action Specific Tables for the other GW alternatives.)
33. Table 5-13, Page 2: For the “Reduction in Toxicity...through Treatment”, Alternatives GW1 and GW2 should be listed as “None.”

34. Table 6 ARARs Tables: Address comments made to the Table 2 ARARs Tables where relevant in these alternative-specific ARARs tables. Make changes noted below to each Chapter 6 ARAR table for all of the sediment alternatives, where the same issue is repeated for each alternative's tables.
35. Table 6-1, Page 1: Remove the citation to the RI Water Quality Regulations (unless used to develop the sediment cleanup standards).
36. Table 6-5, Page 1: For the "Action to be Taken" text for the CWA, Section 404, insert "Environmentally" before "Damaging" in the second sentence and remove the last sentence. (Make changes for all other Location-Specific ARARs Tables for the other SD alternatives.)
37. Table 6-5, Page 2: For the Floodplain and Wetland Management "Action to be Taken", describe how the material added as part of the Enhanced Natural Recovery will not affect the flood storage capacity of the pond and that the overall remedy will not affect downstream floodplain resources by maintaining sediment contamination behind the dam.
38. Table 6-6, Page 1: For the TSCA "Action to be Taken" text in the first sentence replace "will be placed under a cover system" with "will be subject to enhanced natural recovery." In the third sentence change "The ROD..." to "If this alternative is chosen by the Navy, the ROD..."
39. Table 6-7, Page 2: For the Floodplain and Wetland Management "Action to be Taken" text describe how the material added as part of the sediment cover will not affect the flood storage capacity of the pond and that the overall remedy will not affect downstream floodplain resources by maintaining sediment contamination behind the dam.
40. Table 6-9, Page 1: For the TSCA "Action to be Taken" text in the third sentence change "The ROD..." to "If this alternative is chosen by the Navy the ROD..." (Make this change also to the SD4 Action-Specific table.)
41. Table 6-13, Page 1: In the "Action-Specific" row, the text for SD3 refers to location-specific, rather than action-specific standards. Revise to note that the alternative will comply with action-specific ARARs.
42. Table 6-13, Page 4: In the "Ability to Construct and Operate" row note that for SD2 and SD3 the Navy would need to maintain the NUSC Pond dam.
43. Note that Figure 2-10 was not included in the hard copies. However, it is listed on the Table of Contents and was included in the electronic copies.
44. Figures 4-1, 4-2, 4-4: Show the compliance boundary for the proposed waste management area.
45. Figure 4-3: Delete the references to geotextile, as there is no geotextile planned for the soil cover.

46. Figure 5-1 and 5-2: Modify figures to show where groundwater outside of the waste management area compliance boundary will need to achieve groundwater standards versus the area inside of the compliance boundary where performance standards will be used to monitor groundwater (note if there are different compliance boundaries for the different soil alternatives).

47. Appendix B.1:

- The volume of contaminated sediment in Deerfield Creek has decreased by more than 50% from 115 cubic yards to 51 cubic yards. Please explain the basis used for reducing the volume of contaminated sediment in Deerfield Creek.
- The area of surface soil exceeding industrial PRGs is said to be 192,757 sf (14,278 cy); however, the alternative description in Section 4.1.2 states that only 147,000 sf (11,600 cy) of surface soil (to 2 ft bgs) will be excavated and treated. Assuming that the difference between these two volumes is associated with the additional contaminated surface volume managed in accordance with Component 3 of this alternative plus the surface volume that will be left in place beneath paved areas, Navy needs to edit the alternative description to better clarify this.
- Regarding the number of verification samples required, EPA had recommended that sidewall samples be collected every 25 feet of excavation perimeter and this value was used in the calculations on this page to arrive at the number of verification samples required for SO<sub>2</sub>. However, the text in Section 4.1.2 (Page 4-5) states that samples will be collected every 50 feet of excavation perimeter. Please correct the text to correspond with the Appendix B.1 calculations, using one sample per 25 feet of perimeter.
- Please edit the calculations to clarify how Navy determined that only 12 verification samples would be required for Alternative SO<sub>3</sub>. Figure 4-2 shows the equivalent of six 50-foot diameter excavation areas located outside the area that will be capped. These areas will require sidewall sampling every 25 feet as well as 2 to 3 bottom samples per excavation so it appears that 50 to 60 verification samples will be required for this alternative just to address these excavations. Please review and correct or clarify the number of verification samples required.

48. New Appendix B.1b:

- There is an inconsistency between the calculation assumptions in this new appendix and the figures (Figure 4-1, 4-2, and 4-4). The calculations assume excavation diameters of 20 feet whereas the figures scale to 50 feet in diameter. Please review, provide the correct proposed excavation diameter, and make any necessary corrections to the FS.
- Alternatives SO<sub>3</sub> and SO<sub>4</sub> – It is unlikely that Navy will be able to implement these alternatives without significantly more excavation and off-site disposal (or consolidation) than indicated by the calculations. In order to place a two-foot cover over portions of the areas requiring a soil cover, it will first be necessary to excavate some soil in order to maintain appropriate topography to match existing site features. Over-excavation (more than 2 feet) may be required in some locations where the soil cover thins to less than two feet to match existing site features. Also, for the steep slopes, in some areas it may not be feasible to apply a two foot soil cover without modifying the slope. These adjustments will add costs to these alternatives that are not accounted for in the cost estimates.

Examples where excavation will likely be required prior to covering include: around the perimeter of the paved area, along Deerfield Creek and the unnamed stream, along NUWC Pond, and potentially along the northeastern property boundary. Navy needs modify the FS to address these additional excavations and to account for this additional work in the cost estimates and/or acknowledge these concerns and uncertainties in the text. For SO4 the situation may be more difficult to manage because soil excavated from elsewhere on the site will be consolidated in the cover areas prior to applying the two-foot soil cover.

49. Appendix B.2: In the Navy's response to EPA's August 11, 2011 Specific Comment 47, Navy indicated that 49 wells are assumed to be available for monitoring. The calculations on page 2 of this appendix as well as the cost estimates confirm that the intention is to monitor groundwater at 49 locations. The text here states that replacement of the abandoned wells has already been accounted for in the soil alternatives; however, that is not correct. Review of the calculations for the soil alternatives as presented in Appendix B.1 and review of the costs estimates indicates that 25 wells will be abandoned but only 5 or 10, depending on the alternative, will be replaced. Please correct the FS to account for the additional new wells required to complete the 49-well monitoring network that this FS assumes will be available when the remedy is implemented.
  
50. Appendix B.2: Navy added calculations for each groundwater alternative identified as *Time for Fresh Groundwater to Fully Replenish Site Aquifer*. Based on review of the associated text in Section 5 of the FS, these calculations are intended to estimate the time required to re-establish oxidizing conditions allowing mobilized metals to precipitate. The Navy's conclusion is that up to five years would be required for the South Meadow and Building 179 areas. A deficiency in the assumptions inherent in these calculations is that the replenishment would be equivalent to plug flow wherein fresh groundwater completely displaces contaminated groundwater as it flows through the aquifer. In reality true plug flow will not occur, intermixing will occur, and therefore it will require several volume displacements to flush the contaminated aquifer and restore natural groundwater conditions. While sufficient oxidizing conditions may become re-established before natural groundwater conditions are fully restored, Navy should revise the FS to acknowledge that multiple volume displacements, not a single volume displacement, will likely be required before mobilized metals are no longer problematic. Therefore, the restoration time is likely to be longer than estimated.