N00102.AR.002055
NSY PORTSMOUTH
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LETTER AND COMMENTS FROM MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION ON RESPONSE TO COMMENTS REGARDING REVISED DRAFT FEASIBILITY STUDY REPORT FOR OPERABLE UNIT 2 (OU 2) NSY PORTSMOUTH ME
01/13/2011
MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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January 13,2011

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9742 Maryland Ave
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Attn: Linda Cole

re: Responses to Comments, Revised Draft Feasibility Study Report for OU2, Portsmouth Naval Shipyard, Kittery, Maine, October 2010.

Dear Linda,

The MEDEP has completed its review of the subject document. Our comments follow.

1. Concentrations of lead as high as 25% exist in surface soil at the southwest corner of Building 298. Our December 23,2008 comments on the 2008 Revised Draft FS Report for OU2 insisted that this soil must be removed. The Navy's responses discuss the use of a cap to prevent exposure to this contamination.

This is not a point of negotiation, The Navy must remove the cluster of extremely high concentrations of lead from surface soil in this area.

Please note that the MEDEP will not concur with a Record of Decision that does not specify removal of the highly contaminated soil at the southwest corner of Building 298.

Based on the text in the Revised Alternative Descriptions either Alternative DRMO-3 or DRMO-4 would satisfy this requirement (though without figures it is not clear exactly what areas would be excavated under DRMO-4).

See Comment 3 for a additional information.

2. Please label buildings 298 and 310 in the Section 1 figures.

3. RTC 2. "...alternatives will be revised so soil with high lead (greater than cleanup levels for the protection of construction workers) would either be removed or capped with a permanent cap system."

Given the high concentrations of lead in this area (southwest corner of Bldg 298) this soil must be removed. In this case, seven surface soil samples (0-2 ft bgs) at the southwest

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corner of Bldg. 298 have concentrations of lead ranging **from** 1% to 25.5% **(99-PT01. 99-PT02, 99-PT03, 99-PT04,** DS-03, DSB-3 and **TPI-SB12).** 25.5% is the highest concentration of lead at OU2 and is present within the top 6" of soil. This area is easily **accessible** to excavation equipment and can be easily removed. MEDEP will not allow such high concentrations to remain on site, even with a cap, given their location in surface soil and ease of removal. As previously stated in our December 2008 comment, this soil **must** be removed. See Comment 1.

4. RTC 5. "The November 2005 Building 298 Trenching Closeout Report is available in the Administrative Record as document **N00**102.AR.001510." MEDEP does not have a copy of the entire Administrative Record. Please forward a copy of this document to us as requested.

5. RTC 10. "There are a few isolated sample locations outside of the area **delineated** based on **4,000 mg/kg** of lead that had concentrations greater than **2,000 mg/kg."**

"...**distribution** of locations with lead concentrations exceeding **1,600, 2.000.** and 4,000 **mg/kg** were not significantly different..."

This response needs clarification. The Navy must provide figures delineating the different concentration contours. Nevertheless, the Navy stated in Section 2.5, "...distribution of locations with lead concentrations exceeding **1,600, 2,000.** and 4,000 **mg/kg** were not significantly different..." If this is the case the Navy should remediate down to the **2,000 ppm level.** This would be more conservative and would remove any confusion in the public's eye about why the Navy would clean up to 4,000 ppm when the **remediation** goal is **2,000.**

6. RTC 13. "Construction activities in the 100-year floodplain, within the OU2 shoreline area, are not anticipated as part of any alternatives for **OU2.** Therefore, the 100-year floodplain **ARARs** will not be added to these action specific ARARs tables."

In the discussion of the RCRA Floodplain Restrictions for Hazardous Waste Facilities in Section 6.1.2 of the FS Report for OU3 the Navy writes, "Portions of OU3 along the shoreline are marginally within the 100-year floodplain, therefore these restrictions would be relevant and **appropriate** for design, construction, operation, and maintenance of hazardous waste landfill covers for **OU3."** We note that Alternative DRMO-5 includes a RCRA C cap for the area now **covered** by the interim cap. A portion of this area is included in **FEMA's** July 1986 100-year flood map (see Figures 1 and 2, attached). Therefore the 100-year floodplain **ARARs** must be included in both the location- and action-specific ARARs tables. Also see Comment 14.

7. RTC 15. The response states that ex-situ chemical fixation will not be retained. However, the revised text indicates it will be retained. Please clarify.

8. RTC 19. "Decision to remove contaminated media based on unacceptable risks for a receptor are based on the exposure unit and not individual soil sample locations.

Remedial option for capping would prevent unacceptable exposure to soil, and therefore, is a viable alternative for evaluation in the FS."

See Comments 1 and 3.

9. Responses to EPA Comments Dated March 9,2009, Comment 66. In their response to this comment the Navy indicates they will revise the October 2008 PRG Development document. Have these revisions been made? The PRG Development document attached to the responses is the original Oct. 2008 version.

10. Response to EPA Legal Comment 26. "The Maine risk guidance documents will be removed from the text and **ARARs** tables, consistent with the June 2010 Final **OU1** FS Report." Similar to our objections expressed in an April 6,2010 letter to the **USEPA** regarding EPA legal comments on the **OU1** FS, MEDEP strongly objects to the removal of the Guidance Manual for Human Health Risk Assessments from the OU2 Feasibility Study. Please note that the Guidance Manual for Human Health Risk Assessments has been listed as To Be Considered (TBC) in the Records of Decision for Portsmouth Naval Shipyard Operable Unit 3 and for **Brunswick** Naval Air Station's Site 7. This document must be included in the OU2 FS text and ARAR/TBC tables.

11. Attachment B, Revised Alternatives for OU2. None of the alternatives reference an accompanying figure. The report must include the relevant figures. MEDEP cannot comment on the revised alternatives without them. Therefore, please **provide** the MEDEP with figures reflective of the revised alternatives prior to submittal of the draft final revised FS.

12. **Att.** B, Revised Alternatives DRMO-3 and -4. A summary of the November 19,2008 discussion lists an action item that the Navy will revise the alternatives in the FS to include excavation of the contaminated material in the capped area . The descriptions of these alternatives implies that contaminated soil under the cap will be excavated, however, this should be explicitly stated.

13. Att. B, Revised Alternative DRMO-3, p. 7. The Navy states that shoreline stabilization revetment on the western end of the DRMO area extending to Building 298 is not required because contamination will be removed so that no unacceptable residential risk remains (above 6 feet bgs). However, regardless of what human health risk remains on-site the purpose of shoreline stabilization is to prevent contamination of the river **from** eroded contaminated soil. Because soil with high levels of lead below six feet bgs will remain shoreline stabilization is necessary.

14. Att. C, 1.6.1.3, p. 1-14. "Based on a flood zone map for the PNS area, the 100-year flood zone in the vicinity of OU2 is at an elevation of 105 feet, and the 100-year coastal flood zone based on wave action is at an elevation of 109 feet (FEMA, July 1986). The OU2 shoreline is within these two zones. As indicated in Section **1.6.1.2, OU2** is at an elevation of 110 feet to 140 feet. Therefore, with the exception of the OU2 shoreline,

OU2 is not located within the 100-year flood zone, and wave action would not result in flooding of the site."

The FEMA July 1986 100-year flood map referenced by the Navy clearly shows that the 100-year flood zone extends part way **into** the DRMO, see Figures 1 and 2, attached. Unless the elevations cited by the Navy are directly **from** a FEMA document associated with the flood map, **i.e.,** a more precise description of the flood zone, this text is wrong and must be revised to indicate that portions of the DRMO are within the FEMA **100-**year flood zone.

15. Att. C, 1.6.2, 1-18, first paragraph, last sentence. "Therefore, the extent of OU2 contamination may not be defined in the area west of the DRMO. It might be helpful to mention here that the west boundary of OU2 will be better defined after the Pre-Design Investigation results.

16. **Att.** C, 1.6.2, p. 1-19. Update this section as needed to reflect the removal of lead contaminated soil from the DRMO Impact Area.

17. Att. **C,1.6.2,** 1-19. "The majority of the **contaminated** soil was found in surface fill... While this seems logical given the nature of the activities at the DRMO it is important to note that the majority of soil samples were collected from the surface fill so one would expect the data to be skewed towards the surface soil.

MEDEP evaluated the lead soil and depth data outside the waste disposal area and determined that there is no trend in mean or median lead concentrations with depth for the upper 12 feet, although there is a spike in mean lead concentrations at 1.5 feet. Below 12 feet there appears to be a decrease in mean and median lead concentrations, but the mean lead **concentrations** at 16 and 18 feet are still greater than 1,000 **mg/kg** (see Fig. 3).

MEDEP does not expect the Navy to excavate below agreed-upon depths, but it is important to carefully describe the distribution of lead with depth so that we know what we are leaving behind after excavation and we can apply **LUCs** appropriately. As seen in Figure 4, we **cannot** say that soil below 6 feet has lead concentrations less than the unacceptable risk. In fact, we cannot predict what the lead concentration of soil below 6 feet will be.

18. Att. C, 1.6.2, p. 1-20. "...the elevated levels in the unfiltered samples were **from** soil particulates in the groundwater." The Navy should not dismiss the presence of suspended lead particles in these wells. Unlike in soils, colloids and other suspended **material** in groundwater can be transported more easily in aquifers that are composed of large rock fragments and large voids.

19. **Att.** C, **1.6.2, 1-21**, third paragraph, first sentence. "...most of the contamination at OU2 is in the soil above the high tide level." Please provide evidence to support this statement. As described in Comment 12 above, **knowledge** of the distribution of lead at

depth is constrained by the lack of data at depth, making it possible for lead amounts to appear greater near the surface than at depth.

20. Att. C, 1.6.3, p. 1-22. "Surface water concentrations are considered low enough **(i.e.,** similar to or less than the surface water criteria) that surface water would not adversely impact sediment concentrations." If surface water concentrations are similar to surface water criteria then it seems possible that given the huge volume of dilution in the river there is a significant groundwater source in this area. Please discuss this possibility. Also, please provide a table showing a comparison between surface water concentrations and surface water criteria or provide a specific reference (document and table number).

21. Att. ***C,*** 1.6.5, p. 1-24. "...future hypothetical residential land use should use 1-acre exposure units for areas not currently used as residences." It is not clear if **1**-acre exposure units were used. Please clarify.

22. Attach. C, 1.7, Conceptual Site Model – Groundwater, p. 1-25. While the monitoring wells within the DRMO sample water within the ground, this water is really seawater. In highly permeable material such as the rock fragment fill, the **freshwater** lens at a freshwater-seawater interface will be very thin. The groundwater samples (except **JW-1** and DW-5) in the DRMO have chloride concentrations that range from 45 to 115% that of seawater, supporting this model. Hence, most of the groundwater in the near-shore monitoring wells represent inundated seawater that is slightly diluted by fresh groundwater and is not water that originated as precipitation and moved downward and outward towards the river. This concept is not described clearly in this report or the Supplemental RI and should be included as part of the conceptual site model.

23. Att. C, 2.1.1, p. 2-3. "...no State of Maine chemical-specific **TBCs** were identified." Delete this sentence as the Navy identifies the State of Maine's January 2010 Remedial Action Guidelines as a chemical-specific TBC, both within this section and within Table 2-1. Also, add "and State of Maine" back to the first sentence in this section.

24. Att. C, **2.2, 2-17,** first paragraph, last sentence. The average depth of 6 feet was used for "estimation of volume of contaminated material for the **FS."** This statement should be qualified by indicating that this is not an estimate of the volume of all the contaminated material at OU2. Rather, it's an estimate of the volume above 6 feet bgs. A significant volume of contaminated material will be left in place by restricting excavation to 6 feet.

25. Att. C, **2.5, 2-19.** Exposure point concentrations (EPCs) are mentioned in this section but there is no explanation or demonstration of how they were calculated. Please provide the calculations of EPCs as an appendix.

26. Attach. C, 2.5, p. 2-20. This section references Figs. **2-1, 2-2** and 2-3 extensively yet the Navy did not provide updated figures.

27. It is not clear from the text or Figures 2-1, 2-2 and 2-3 if the remediation areas include the purple hatched area, the interim cap area and the waste disposal area or just the purple hatched area. The remediation area should of course include all three areas.

28. The text indicates that the area of lead and copper contamination in the DRMO Impact Area is shown on Figs. 2-1, 2-2 and 2-3. These figures do not show that area.

29. Att. C, 2.5, p. 2-20. "This [dumpster storage] area was excluded from the remediation area for occupational workers..." Fig. 2-2 indicates the dumpster storage area is included in the remediation area for occupational workers. In fact, Fig. 2-1 and Fig. 2-2 appear to be identical.

Please feel free to contact me at (207) 287-8010 if you have any questions.

Sincerely,

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