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EMAIL AND COMMENTS FROM MAINE DEPARTMENT OF ENVIRONMENTAL  
PROTECTION REGARDING DRAFT REMEDIAL INVESTIGATION REPORT FOR OPERABLE  
UNIT 9 (OU 9) NSY PORTSMOUTH ME  
06/17/2011  
MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

## Cohen, Deborah

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**From:** McLeod, Iver J [Iver.J.McLeod@Maine.gov]  
**Sent:** Friday, June 17, 2011 5:10 PM  
**To:** Cole, Linda L CIV NAVFAC MIDLANT, IPTNE  
**Cc:** Evans, Chris; Wolfe, Theodore E; Silverman, Diane; audet.matthew@epa.gov; Cohen, Deborah; Thyng, Frederick M CIV NAVFAC MIDLANT, PWD Maine  
**Subject:** OU9 draft RI report - MEDEP comments  
**Attachments:** OU9 Draft RI comments June2011.doc

Linda,

I've attached our comments on the OU9 draft RI report. I kind of rushed through the risk assessment comments so I hope they all make sense. As I've said before, we had similar issues for the HHRA for both the OU7 and OU9 RI reports so agreements we made for OU7 can also apply to OU9. But feel free to contact Diane if you're not clear on something. Note that Diane did not review the OU9 HHRA but it's similar enough to the OU7 HHRA that I think she'll be able to answer any questions you may have. I'm fine with whatever decisions or agreements she makes.

Any technical questions ask Chris Evans.

Talk to you next month.

Iver McLeod  
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June 17, 2011

NAVFAC MIDLANT  
9742 Maryland Ave  
Bldg Z-144, 1st Floor  
Norfolk VA 23511-3095  
Attn: Linda Cole

re: Draft Remedial Investigation Report for Operable Unit 9, Portsmouth Naval Shipyard,  
Kittery, Maine, February 2011

Dear Linda,

The Maine Department of Environmental Protection (MEDEP) has completed its review of the Draft RI report for OU9. Our comments follow. Note that some of our concerns regarding the Human Health Risk Assessment (HHRA) are similar to those expressed in our December 14, 2010 comments on the Draft OU7 RI. Having reached tentative agreement with the Navy on addressing the OU7 concerns during our April 8, 2011 conference call we are confident that similar agreements can be reached regarding any OU9 HHRA concerns.

1. Executive Summary, ES-1. "...therefore site contaminants do not contact groundwater." After this sentence please add something such as, "Leaching of contaminants to groundwater is not an issue at this site as discussed below."
2. 1.1 Purpose and Scope, p. 1-1. After the last sentence on the page indicate why bedrock groundwater at OU9 is not a concern.
3. 1.4. Summary of Environmental Concerns, p. 1-7, 2<sup>nd</sup> sentence. Please strike the word "clean" as the fill material has levels of PAHs above EPA screening levels and MEDEP residential soil guidelines.
4. 2.2. Data Usability, p. 2-2. The second to last paragraph discusses unexpected lead and PAH results from the fill material and indicates additional samples were collected. The last paragraph only mentions lead. Please indicate whether or not additional elevated PAH concentrations were detected.
5. 2.2 Data Usability, p. 2-3 Bullet 1, last sentence. Please change the last "OU9-22" to "OU9-13."

6. 3.2.1 Shoreline Protection, p. 3-3. "The finished slope of the shoreline was 1:1 or less, as shown on as-built drawings." Is this sentence referring to the elevation contours shown on the as-built drawings? These are very difficult to read. Should this sentence have referred to Fig. 3-3, Cross-section B-B'?

Also, the first section of this section seems to be missing some words from the end, probably "was installed."

7. 3.2.1 Shoreline Protection, p. 3-4. "As-built drawings of pre-excavation, excavated, and post-excavation topographic conditions are provided in Appendix A." It appears that only pre-excavation and post-excavation as-built drawings are provided in App. A.

8. 3.5.2. OU9 Hydrogeology, p. 3-11. Please indicate that OU9 bedrock groundwater was not investigated and therefore no conclusions regarding groundwater properties can be made.

9. 3.8 Climatology, p. 3-14. "...because of its location near the ocean, there tends to be a little less snow and more rainfall in Portsmouth than in Portland." Both cities are essentially on the ocean. Therefore, it is unlikely that this is the reason for less snow in Portsmouth. Please revise or remove this statement.

10. 4.0, Nature and Extent, p. 4-1, final paragraph. The maximum background concentration is relied on for more than just general understanding of nature and extent in this evaluation. The representative background concentrations are more appropriate, particularly since most of the site has fill at the surface.

11. Section 4.1, para. 2. Although PAH concentrations are not as high in the unexcavated area as those in the ash (10,000s mg/kg) there are 8 of 19 that exceed the industrial screening level. Please revise the text to indicate they are moderate *relative to the range of site concentrations*.

12. 5.1.1. Polycyclic Aromatic Hydrocarbons, p. 5-2. In the first sentence of the last paragraph in this section please add "overburden" before "groundwater".

13. 5.2.2, Potential Exposure Routes, p. 5-4, para. 2. "Recreational users are not likely to be exposed to soil in this area under current conditions because soil is covered with grass and trees."

Grass is not a substitute for a true cover of hazardous materials, due to the reworking and mixing of soils by freeze-thaw, creation of dust if the grass is dead or dried out, etc. MEDEP understands the value of keeping remaining stands of trees in place at the Shipyard, but Navy must ensure that the grass is maintained to reduce exposure to the ash present in the unexcavated area.

14. 5.3. Contaminant Fate and Transport Summary, p. 5-5. In the last sentence add, "...as long as future site conditions remain equivalent to current site conditions."

15. 6.2.2 Selection of Chemicals of Potential Concern, p. 6-7. In the last sentence of the first paragraph, after "...not present at OU9" add language such as, "and, as discussed in Section 5.0, these compounds do not easily leach from soil."

16. 6.2.2. Background Concentrations Comparison, p. 6-7. "Several chemicals were not selected as COPCs based on the results of the background comparison." As stated in the 2009 MEDEP *Guidance for Human Health Risk Assessment for Hazardous Waste Sites*, "...neither USEPA nor DEP/MeCDC permits the exclusion of inorganic or organic compounds from the human health risk assessment based on comparison to background levels. As discussed in our April 8, 2011 call regarding the OU7 Draft RI Report, the MEDEP would be satisfied with a discussion and presentation of background cumulative risks (EPA Remedial Action Guidance for Superfund Table 9) in an appendix.

It is important to recognize that no contaminants from the fill should be eliminated as COPCs based on background, even taking into account Navy policy. This is because the fill material in no way reflects background Shipyard activity as it was imported from off Seavey Island.

Nevertheless, as long as the cumulative risks are presented in the report as discussed above, the proper management decisions can be made.

17. 6.3.4 Exposure Point Concentrations, p. 6-12. EPCs must be calculated for contaminants eliminated as COPCs based solely on background.

18. 6.4.3 Toxicity Criteria for Carcinogenic Effects of PAHs, p. 6-16. Please clarify how the default ADAFs were selected.

19. 6.5 Risk Characterization, p. 6-16. "...contaminants with concentrations that exceed screening levels but that do not exceed site background levels are likely representative of regional contamination, not site-related contamination." Clearly contaminants in the fill are not a result of past Site 34 activities. Nevertheless, these contaminants came to be located at Site 34 due to Navy activities. Therefore the Navy must calculate risks for all compounds in the fill with maximum concentrations greater than the RSL for carcinogens or one-tenth the RSL for non-carcinogens.

20. 6.7.1.3 Exposure to Lead, p. 6-34. "...lead concentrations were determined to be within site background concentrations. Therefore, adverse receptor effects are not anticipated due to soil lead exposure at OU9." The fact that site concentrations are within background concentrations has nothing to do with whether or not adverse effects will occur. Adverse effects may occur if concentrations, background or site-related, exceed some risk level. Please strike this sentence.

21. 7.1.2 Fate and Transport of Contaminants, p. 7-2. Please add a brief discussion to this section indicating that leaching of contaminants from subsurface soil to bedrock

groundwater is not a concern since PAHs tend to bind to soil particles (as discussed earlier in the report).

22. 7.2.1 Conclusions, p. 7-4. "Based on the risk evaluation, subsurface soil is a potential medium of concern for OU9." Based on the risk evaluation surface soil is also a potential medium of concern for OU9 when comparing to MEDEP's target ILCR of  $1 \times 10^{-5}$ . Please incorporate this information into Section 7 using language similar to that used in Section 7 of the OU7 RI.

23. Appendix A.1, Table A-2. The overburden calculation needs to be limited to the 10-foot depth evaluated by the risk assessment. The most likely exposures are in the top five feet, ash is fairly widespread spatially across the site, and inclusion of depths beyond 10 feet simply dilutes the percent ash present at the site. This volumetric approach is interesting, but may under-represent risks. If this were applied to sites with deep overburden, virtually any concentration could be present below 2 feet and would be interpreted to represent no risk.

In addition, although ash is certainly associated with the highest PAH values, there are several borings with benzo(a)pyrene equivalents in the range of 1-58 mg/kg that have no ash identified in their logs, often in the recent fill material. These locations include OU-15, OU-18, OU-19, OU-20 and OU-22. Were these concentrations applied to ash or non-ash portions of the site? MEDEP was unable to locate the calculations for the weighted EPC values, to confirm which concentrations were applied to ash vs non-ash soils. Please reference their location or provide the calculations.

24. Section 4 and Appendix B. The graphical evaluation and the data tables indicate that a new approach is needed for the background comparisons of compounds where the detection limit in new site samples is multiple orders of magnitude lower than detection limits for background samples. This is an issue for the PAHs and to a lesser extent antimony and mercury, particularly where  $\frac{1}{2}$  the detection limit is used in calculations and plots.

Based on the data tables the full background dataset was utilized rather than the screened version described in the Facility Background Study Development report that removes outliers and the BGS-05 location. Please revise the tables and the background evaluation as needed or justify inclusion of the full dataset.

25. App. B, Background Comparisons, Methodology, p. 1. Please indicate what software package was used to perform the various tests, e.g. Quantile test, Gehan test, etc.

26. Appendix B, Background Comparisons, Table 1. Note 4 indicates that if more than 4 site concentrations are greater than the maximum background concentration the site is shifted above background. Is that value of 4 based on numbers of samples or other factors?

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

Sincerely,

Iver McLeod  
Project Manager  
Bureau of Remediation and Waste Management

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