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LETTER REGARDING SEACOAST ANTI-POLLUTION LEAGUE REVIEW COMMENTS ON THE DRAFT DATA QUALITY OBJECTIVES FOR OPERABLE UNIT 6 (OU 6) NSY PORTSMOUTH ME
1/17/2003
LEPAGE ENVIRONMENTAL SERVICES

Lepage Environmental Services, Inc.

P. O. Box 1195 • Auburn, Maine 04211-1195 • 207-777-1049 • Fax: 207-777-1370

January 17, 2003

Portsmouth Naval Shipyard
Code 106.3R, Bldg. 44
Attn: Ms. Marty Raymond
Portsmouth, New Hampshire 03804-5000

Subject: Draft *Data Quality Objectives (DQOs) for Operable Unit 6 (OU6)*

Dear Ms. Raymond:

We are transmitting comments on behalf of the Seacoast Anti-Pollution League (SAPL) regarding the December 2002 Draft *Data Quality Objectives (DQOs) for Operable Unit 6 (OU6)*. The following comments incorporate input from Dr. David R. Brown:

1. General Comment. SAPL concurs with the majority of the Maine Department of Environmental Protection's comments in the MEDEP letter dated January 13, 2003. The MEDEP's comments will not be duplicated below except where SAPL feels additional emphasis is needed.

2. Page 1, INTRODUCTION. "*Appendix 2 contains the results of the OU6 human health risk evaluation. The results of the risk evaluation concluded that potential risks were acceptable.*"

For the reasons described in comments below, SAPL cannot support the Navy's conclusion that potential human health risks at OU6 are acceptable.

3. Page 3, Background Information. The second bullet on page 3 should be revised to reflect the wording on page 1-2 of the OU3 Record of Decision. The bullet should be amended to start with the statement "Institutional controls to restrict land and fresh groundwater uses within the JILF boundary to prevent unacceptable human exposure to site contaminants." to be consistent with the ROD and because of the concern regarding human health risks associated with OU6.

4. Page 4, Background Information. "*OU6 is the management of migration operable unit for the JILF, that is, this OU addresses the migration of groundwater contaminants from the JILF to the offshore. The area of concern (AOC) is the intertidal area in Jamaica Cove and Clark Cove, both of which abut the JILF.*"

SAPL notes that the 2002 Final *Estuarine Ecological Risk Assessment* (EERA) states that the Sullivan Point AOC, which also abuts the JILF (Jamaica Island Landfill), has intertidal seeps, and that the Conceptual Model, as shown on Figure 1 in the EERA, shows the Sullivan Point AOC as receiving migration from the JILF. This section of the DQOs must be revised to explain why the seeps associated with the Sullivan Point AOC are not considered part of OU6, particularly when the EERA found benthic and salt marsh receptors there to be at intermediate risk.

5. Page 4, Background Information. SAPL suggests that the second bullet be updated to reflect the Navy's November 2002 proposal to prepare a decision tree for the initiation of the OU6 Work Plan. A timeframe, such as the anticipated completion date for construction at OU3, should also be provided. The third bullet should be revised to state that much of the Phase 1 construction was completed by September 2002, and the remaining salt marsh planting is scheduled for spring 2003.

6. Page 7, Land Use. *"The current shoreline along the JILF in Clark Cove will have a gentler slope to allow for construction of rip-rap shoreline erosion controls."*

SAPL notes that elsewhere in the document, the Navy makes the argument that the steep and rocky nature of the shoreline prevents human access. Constructing a gentler slope should make for easier access.

7. Page 9, Human Health Risk Screening for OU6 Seep Water and Sediment. As noted in Comments Number 14 and 15 below, SAPL has several outstanding concerns about the *Facility-Based Human Health Risk Screening Levels for Intertidal Surface Water and Sediment* mentioned in the first paragraph.

8. Page 9, Problem Statement. *"Changes to the intertidal area around the JILF after the OU3 remedial action is completed are expected; however, the impact of these changes on human health risk will need to be assessed as part of OU3 monitoring. Therefore, no sampling to support a human health risk assessment is included in these DQOs."*

Please explain how the Navy anticipates assessing the impact of intertidal-area changes on human health risk once the OU3 remedial action is completed, and, since intertidal areas adjacent to the JILF are involved, why the impact should not be assessed as part of OU6 activities.

9. Pages 13 & 14, How the Data will be Evaluated. SAPL concurs with the MEDEP (Comment Number 6, dated January 13, 2003) that the seep data should not be averaged, and that maximum concentrations should be compared with standards. The U. S. Environmental Protection Agency's letter dated January 3, 2003, contained a similar statement. This comment also applies to the Decision Rule presented on page 19.

10. Appendix 2, Page 1, Section 1.0 INTRODUCTION. As noted in Comments Number 14 and 15 below, SAPL has several outstanding concerns about the *Facility-Based Human Health Risk Screening Levels for Intertidal Surface Water and Sediment* mentioned in the first paragraph.

11. Appendix 2, Page 2, Section 2.0 SELECTION OF CHEMICALS OF POTENTIAL CONCERN. SAPL concurs with the MEDEP (Comment Number 7, dated January 13, 2003) that it is not appropriate to eliminate a chemical from consideration as a Chemical of Potential Concern (COPC) based on background alone. The question to be answered is what is a receptor going to be exposed to at OU6 and what is the risk associated with exposure.

12. Appendix 2, Pages 2 & 3, Section 2.1 Intertidal Surface Water Evaluation. SAPL concurs with the MEDEP's position in Comment Number 8 (dated January 13, 2003) regarding arsenic (comparison with the maximum concentration from all freshwater background wells is not acceptable; why was benzo(a)pyrene subjected to lengthy statistical analysis and arsenic wasn't), and in Comment Number 9 regarding chromium (explain how suspended solids might have been responsible for chromium levels when the sample was clear with a turbidity reading of 0 NTU).

13. Appendix 2, Pages 3 & 4, Section 2.1 Intertidal Surface Water Evaluation. As stated in Comment Number 11 above, SAPL believes that it is inappropriate to eliminate COPCs based solely on comparison with the Shipyard's background data. SAPL concurs with the MEDEP (Comments Number 8 and 10, dated January 13, 2003) that arsenic and benzo(a)pyrene must be retained for risk assessment, and that the conclusions of the document cannot be accepted until an acceptable risk assessment is performed.

14. Appendix 2, Page 4, Section 3.0 METHODOLOGY FOR/RESULTS OF EXPOSURE ASSESSMENT AND RISK CHARACTERIZATION OF COPCs IN SEDIMENT. The Navy notes that the ages of the three receptor groups (adults, adolescent child age 7 through 16, and young child age 4 through 6) are the same as those used in the December 2002 *Technical Memorandum on Facility-Based Human Health Risk Screening Levels for Intertidal Surface Water and Sediment* (Technical Memorandum). As SAPL has commented on the Draft Final Technical Memorandum (Comment Number 4, dated October 29, 2002), the Navy's assertion that children under the age of 4 "*will not play in seeps or sediment because the shore is rocky and not safe for children*" is not acceptable. Some areas along the Back Channel and in Jamaica and Clark's Coves would provide relatively easy access to children . Also, in residential scenarios, children could easily be carried to other less accessible areas as well. But more importantly, very young children do not share an adult's perception of risks and safety. Given the opportunity, they will play in the sediment of seeps, since there is ample evidence that children love to play in mud. SAPL stated that the Navy's implicit sociological and behavioral assumptions should be discarded entirely and that the Navy should engage in extremely conservative modeling when the human health of very young children is the concern.

The Navy's response to SAPL's October 29th comment was to change "will not play" to "are unlikely to play". This does nothing substantive to address the points that SAPL made in the October comment. SAPL stands by its October 29th position that the very young should not be excluded from Shipyard risk assessments.

15. Appendix 2, Pages 4 & 5, Section 3.0 METHODOLOGY FOR/RESULTS OF EXPOSURE ASSESSMENT AND RISK CHARACTERIZATION OF COPCs IN SEDIMENT. The Navy has proposed an exposure frequency of 13 days, which is half of the facility-wide exposure of 26 days proposed in the Technical Memorandum. SAPL disagrees with the Navy's use of both exposure frequencies.

SAPL believes that the Navy's starting point of 26 days for facility-wide exposure is not conservative. SAPL had commented in its October 29th letter (Comment Number 2) that the 26-day exposure scenario was actually developed in response to comments on the Navy's proposed *Exposure Assumptions for Evaluation of Child Exposure to Dioxin-like PCBs in Surface Water*, dated January 29, 2002, for the OU6 Human Health Risk Evaluation. The assumption was that a receptor may visit the OU6 shoreline an average of 2 days per week over the course of the summer (June, July, and August). Therefore, the 26-day exposure was intended to apply to a single site (OU6), not the entire Shipyard. For facility-wide exposure, SAPL believes that, to be conservative, the exposure scenario consider a resident that could have daily access to the shore, not just OU6, from spring through fall.

The Navy proposes using half the facility-wide exposure frequency, or 13 days, because "*most of the beach area at Clark Cove and Jamaica Cove is rocky and not conducive to recreational activities that are likely to result in frequent contact-intensive receptor exposure to sediments.*" As SAPL stated in Comment Number 3 (October 29, 2002) on the Draft Final Technical Memorandum, the Navy's assumption that the rocky shore prevents access, particularly access by children, is wrong. Not all of the shipyard shoreline is rocky, nor do all the rocky sections pose barriers to access. RAB members had no trouble walking along the Site 32 shoreline on a recent site tour, and were able to access the Site 34 shore during a site visit in December 2002. Furthermore, participants in a site tour last year witnessed children playing on the shore in the vicinity of OU3, at a time when presumably few children would have had access to shipyard property. Assumptions that rocky shorelines create impenetrable access barriers should be dropped from the analysis. SAPL agrees with the MEDEP (Comment Number 12, January 13, 2003) that an exposure frequency of 13 days is not acceptable.

16. Appendix 2, Page 5, Section 3.0 METHODOLOGY FOR/RESULTS OF EXPOSURE ASSESSMENT AND RISK CHARACTERIZATION OF COPCs IN SEDIMENT. The Navy uses an adherence factor of 0.2 mg/cm2 because, "*although mud flats do exist at the coves, they are only exposed for a few hours per day during the low tide. Also, they are very difficult to*

traverse; a receptor would sink into the mudflats and could not easily walk through the area." SAPL does not believe that this is an accurate characterization of the OU6 shoreline, particularly in Jamaica Cove. According to Ms. Marty Raymond of the Shipyard's Environmental Office (telephone conversation on January 8, 2003), the recently constructed mudflat in Jamaica Cove has some soft spots, but otherwise can be walked on without much difficulty. Furthermore, it is anticipated that some post-construction consolidation will occur in the future, presumably resulting in an even firmer substrate for walking. That said, SAPL also concurs with MEDEP's Comment Number 13 (January 13, 2003) that the adherence factor should be based on the nature of the material a receptor would encounter, not on accessibility. [The MEDEP comment also notes that the Navy uses the same material description to justify two different adherence factors - 0.2 mg.cm2 in theOU6 DQOs and 1 mg/cm2 in the Technical Memorandum.] Since a receptor will be encountering mud, the adherence factor of 0.2 proposed by the Navy for OU6 is much too low. Risks must be recalculated using a higher, more conservative adherence factor.

17. Appendix 2, Pages 6 & 7, Section 4.0 UNCERTAINTY ANALYSIS. Comments 15 and 16 above, also apply to passages in this section concerning frequency of exposure and adherence factors.

18. Appendix 2, Page 7, Section 4.0 UNCERTAINTY ANALYSIS. "*The maximum arsenic concentration detected in the unfiltered (8.7 ug/L) and filtered (11.1 ug/L) seep samples collected from Jamaica and Clark Cove approximate or do not exceed the current federal Safe Drinking Water Act (SWDA) maximum contaminant level for arsenic (10ug/L).*"

SAPL is troubled by the presentation of this comparison. It exemplifies the Navy's position and tone in this risk assessment that if detected concentrations are close to, or only exceed a standard by a little, it is acceptable to ignore the associated risk. The Navy claims that the OU6 risk assessment and DQOs are very conservative, yet there is no factor of safety built into this type of comparison. A conservative risk assessment wouldn't 'just miss' the screening criteria. For a conservative risk assessment at OU6, the variable nature of the seep concentrations and the small number of samples require either that more samples be gathered from the seeps under differing and defined conditions, or that safety (or uncertainty) factors be added. This risk assessment appears to do the opposite, removing safety factors and justifying the action by the statistical uncertainty due to the small sample numbers.

19. Appendix 2, Pages 8 & 9, Section 5.0 SUMMARY AND CONCLUSIONS. The Navy concludes that there are no unacceptable human health risks from exposure to chemicals in intertidal seeps or sediment in Jamaica or Clark Coves. SAPL cannot accept the results of the risk assessment presented in Appendix 2 for the reasons described in the comments above (freqeuncy of exposure and adherence factors wrong, consideration of arsenic and benzo(a)pyrene needed, etc.).

20. Attachment 3. The high numbers used in the hand calculations reduce the exposure to nothing. SAPL is concerned with how much exposure a person gets on a day when exposed, and how does that compare with the acceptable daily exposure - are actual exposures at least one to two orders of magnitude below the acceptable exposure? Without this information, it can't be determined if a child going to OU6 in the summer won't be exposed to concentrations exceeding acceptable levels.

21. Additional Comment. With the OU6 Risk Assessment, the Navy has moved beyond standard risk assessment protocols. For this reason, SAPL suggests an external, technically-sophisticated peer review by a technical expert not involved with the Navy or this site. SAPL would be happy to participate in developing criteria for such a review.

If you have any questions regarding the comments above, please give me a call at 207-777-1049.

Sincerely,

Carolyn A. Lepage

STATE OF MAINE CAROLYN A. LEPAGE 1982 CERTIFIED GEOLOGIST

Carolyn A. Lepage, C.G.
President

cc: Jim Horrigan, Seacoast Anti-Pollution League
Iver McLeod, Department of Environmental Protection
Matt Audet, Environmental Protection Agency
David R. Brown, Sc.D.

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