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LETTER AND COMMENTS ON BEHALF OF SEACOAST ANTI POLLUTION LEAGUE ON U S  
NAVY SECOND ROUND OF RESPONSE TO COMMENTS REGARDING REVISED DRAFT  
FINAL ESTUARINE ECOLOGICAL RISK ASSESSMENT NSY PORTSMOUTH ME  
11/1/1998  
LEPAGE ENVIRONMENTAL SERVICES

# Lepage Environmental Services, Inc.

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November 1, 1998

Peter Vandermark  
Seacoast Anti-Pollution League  
P. O. Box 1136  
Portsmouth, New Hampshire 03802

Subject: Review of Responses to Comments on the Responses to Comments, *Revised Draft Final Estuarine Ecological Risk Assessment*

Dear Mr. Vandermark:

As you requested, we are transmitting comments to the Seacoast Anti-Pollution League (SAPL) concerning the Navy's second round of responses to comments on the April 1997 *Revised Draft Final Estuarine Ecological Risk Assessment*. The report, prepared by the Navy's Marine Environmental Support Office in Narragansett, Rhode Island, presents methods for and results of assessing risks to ecological receptors in the Piscataqua River from contaminants associated with the Portsmouth Naval Shipyard. This document will be finalized shortly and will be used in making decisions regarding remedial actions for both onshore and offshore areas.

We had presented our original comments on the Risk Assessment in our letter to you dated August 23, 1997. The Navy provided responses to those comments in early 1998. Many of the responses were satisfactory. Where questions or issues remained unresolved, we prepared another round of comments in our letter to you dated March 23, 1998. We received the Navy's responses to that second round of comments, as well as revised report sections and a Glossary, at the end of September 1998. The following comments incorporate Dr. David Brown's input.

## **Responses to David R. Brown, Sc.D., Comments**

1. A number of fundamental methodological issues remain to be resolved. For example, the mathematical rationale of the Weight of Evidence approach tends to bias the results away from a finding of high risk. Using the Clark Cove data as an example, Table 1-3 shows a low magnitude of risk for surface water and sediment with medium and high level of confidence in the conclusion. The risks of exposure and effects illustrated on Figures 7-1 and 7-2 on pages 7-84 and 7-85 show elevated and high exposures in lobsters and mussel residues and seeps. Effects at the probable and potential levels were found for Arbacia and Fuccoid biomass. However, the use of measures with low and medium end point weights reduce the overall risk assessments to the "low" range. Based on these findings and the Clark Cove discussion beginning in Section 7.1.5, measures of potential risk drivers should be included in the decisions regarding remedial actions for onshore and offshore areas. Sullivan Point and Jamaica Cove similarly have exposures with low end points that should bias the risk conclusions.

Other concerns are described in Dr. Brown's tenth comment, which begins on page 18 of the Navy's September 1998 responses. These issues must be acknowledged in the final Risk Assessment because of their implications for interpreting and applying the results of the assessment. Rather than wait for yet another round of comments and responses, since it doesn't appear that the Navy is willing to revise the text to address these comments, Dr. Brown's March 1998 comments, the Navy's September 1998 responses, and this comment letter could be incorporated (with appropriate references in the body of the report) in an Appendix. It is important the readers and users of the risk assessment understand some of the limitations of the methods used and how they affect results and interpretations.

2. One of the issues reiterated by Dr. Brown related to the use of extremely small datasets to calculate statistical values. The Navy has an opportunity to address sample size limitations during the recently proposed offshore sampling. Areas where only a small number of samples were collected should be resampled so that an adequate amount of data is available to base risk management decisions on.

### **Responses to Lepage Environmental Services, Inc., Comments**

The numbering of the following comments corresponds to the numbering in our original comment letter dated August 23, 1997, and our follow up comment letter dated March 23, 1998.

**10. Page 3-5, Section 3.2.2.** Our previous comments related to the dilution and transport of chemicals or particulates associated with the DRMO (Defense Reutilization and Marketing Office) by the very high river currents adjacent to the site, and where the materials would be deposited and accumulate. The Navy's responses referred to Figure 3-2 for locations of depositional areas in the lower estuary, and included revisions to the text.

One of the difficulties the reader encounters is that Figure 3-2 is very difficult to read. The shading makes it impossible to read the symbols for many locations. Another difficulty is identifying the areas most likely to receive contaminants from the Shipyard. The map shows the distribution of sediment types in the estuary, but neither the map nor the text identify which of the map unit(s) is (are) relevant to this issue. At various places in the Risk Assessment, fine-grained sediments are mentioned as important to contaminant transport and accumulation. The text must clearly identify which map units are most important as accumulation areas for potential contaminants from the Shipyard. Figure 3-2 must be revised so that it can be read and understood.

**12. Page 3-6, Section 3.2.7.** In addition to several other questions, we asked what are the other hazardous materials disposed in the underground tanks at SWMU [Solid Waste Management Unit] #11 and what the contaminants were.

While the Navy's responses and revised text answered the other questions, the question of what other hazardous materials were disposed and might be migrating in to the estuary has not been answered. Please respond.

**16. Page 3-8, Section 3.3.1.** Our original question was: Is there any commercial fishing going on in the estuarine pelagic habitat described in this section? Recreational fishing is mentioned, and if there is any commercial fishing, it should be mentioned as well. Please respond. The Navy's September 1998 response to our additional March 1998 comment about citizen concerns regarding the safety of fishing in the estuary was that this question was addressed by the 1994 Human Health Risk Assessment. This would be an appropriate place to refer the reader to the Human Health Risk Assessment for additional information.

**18. Page 3-14, Section 3.4.5.** Exposure of several species, such as harbor seals, is anticipated to be low due to their rare occurrence at the Shipyard. We asked how the Navy knew these species rarely occur or that seals are not frequently seen around Seavey Island - had anyone made a study of seal activities around the island.

The Navy responded that the information was based on casual observations. This response should be added to the text as it will inform readers of the basis for the Navy's statement. Otherwise the reader is likely to assume it is based on some scientific study.

**20. Page 4-2, Section 4.1.1.** The Navy's response regarding how the importance of a receptor to the ecology of the estuary was determined, how complete the array of "important resource species" documented in Short's 1992 *Great Bay Estuary Profile* is, and how selected receptors were proven to be sensitive to the COCs (contaminants of concern) was helpful and should be added to the text to clarify the issues we raised.

**30. Page 4-16, Section 4.2.3.** With regard to locations where ground water and surface water could migrate through more than one SWMU, the Navy's September 1998 response cites Sites 8, 9, and 11 at Operable Unit (OU) 3 as an example where this might occur. This information should be added to the text to illustrate the concept.

**31. Pages 4-16 through 4-19, Section 4.2.3.** We had asked where and how the Navy looked for visible ecological damage associated with the industrial waste outfalls at SWMU #5 and other SWMUs in this section. The Navy's September 1998 response was that qualitative descriptions were based on observations made during numerous site visits. This information should be added to the text to document the basis for the Navy's statements.

In the September response, the Navy provided revised text relating to the mercury burial vaults. While the revisions are helpful, the sentence that begins "Because the vaults at MBII are not impacted by saltwater..." must be removed because it is misleading. The location of MBII, including its depth of burial and proximity to saline groundwater, is not known.

**40 & 41. Pages 5-21-23, Sections 5.4.6 & 5.4.7.** We asked about the Navy's plans to conduct additional monitoring of lobsters and winter flounder, given the uncertainties and small sample size mentioned in the text. The Navy's responses indicated monitoring for three to five years was likely necessary to discern trends, and that the Navy has recommended Equilibrium Partitioning to perform monitoring in the offshore areas of concern. Please clarify what is entailed with Equilibrium Partitioning and how it differs from the monitoring performed in the past. Does the Navy plan to conduct monitoring for the three-to-five year period? Our understanding of the Navy's current proposal for offshore monitoring includes juvenile lobsters, mussels, and sediment. Does the Navy plan to monitor winter flounder as well?

**43. Page 8-2, Section 8.1.** Because it appears that DDT compounds are potential risk drivers, although they have not been linked to a specific SWMU, we asked for additional information regarding the use, storage, handling, and possible disposal of DDT compounds at the Shipyard. The Navy responded that pesticides were handled and stored at several locations, but the concentrations measured in soils at SWMUs did not exceed background concentrations.

While this response may be correct as far as it goes, it is misleading with regard to the potential impact of pesticides on the offshore environment. Concentrations of DDT detected in seep samples have repeatedly exceeded water quality criteria, which means high levels of DDT are migrating from the Shipyard to the offshore ecological receptors. This information should be included in the Ecological Risk Assessment report, and the Navy's proposed offshore monitoring must address this issue.

### **Executive Summary**

We believe the Executive Summary to be greatly improved with the latest revision. Our comments are as follows:

**1. Page 1-1, Section 1.1.** The term 'Superfund' should be used somewhere in the first paragraph. Also, the text should clearly state what is being cleaned up.

In the second paragraph, what is known or suspected to have been released should also be clarified. There appears to be a word missing in the second sentence. The relationship of SWMUs and OUs should be explained. While SWMUs figure prominently in this report, current activities are organized around OUs.

The first sentence in the third paragraph should specify that it is the Piscataqua River estuary. The term 'chemical stressors' in the first bullet should be clarified for the lay reader. The third bullet should state that it is ecological risks to the offshore environment.

It is very helpful to have the information regarding the offshore human health risk assessment provided. Comparable information for the onshore ecological risks should also be provided.

**2. Page 1-2, Section 1.2.** The term 'persistent chemicals' used in the second paragraph should be clarified.

The first sentence of the third paragraph should be rewritten to be more 'user-friendly' to the lay reader. The relationship between Contaminants of Potential Concern (COPCs) mentioned in the third paragraph and Contaminants of Concern (COCs) used on the next page should be explained. The first 'the' in the eighth line should be eliminated. Aesthetic and commercial importance of a natural resource are mentioned in the eighth and ninth lines. Recreational importance should be added.

**3. Page 1-3, Section 1.2.** The last line in the first paragraph (and likely elsewhere in the document) should state that blue mussels are of concern.

**4. Page 1-5, Section 1.3.** While DDT compounds may not have been linked to a specific SWMU, concentrations of DDT in seeps at several locations have exceeded water quality criteria. This information must be added to the last paragraph on the page. The last sentence in the last paragraph is a bit confusing. What contamination - lead, DDT?

**5. Page 1-6, Section 1.4.** The basis for believing that the risk assessment had a 'self-correcting capability' must be provided. The limitations of the assessment also include the methodological issues raised by Dr. Brown. A fourth bullet should be added to address these.

### Glossary of Terms

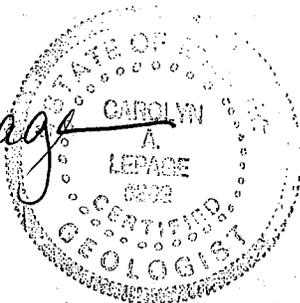
The addition of the Glossary will be very helpful to readers. While we did not review the entire list of terms, we suggest adding COPCs (Contaminants of Potential Concern), EW (Endpoint Weight), OU (Operable Unit), and TRVs (Toxicity Reference Values).

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

Sincerely,



Carolyn A. Lepage, C.G.  
President



cc: Iver McLeod, Department of Environmental Protection  
Meghan Cassidy, Environmental Protection Agency  
David Brown, Sc.D.  
✓ Marty Raymond, Portsmouth Naval Shipyard