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LETTER REGARDING SEACOAST ANTI-POLLUTION LEAGUE REVIEW COMMENTS ON  
APRIL 2002 DRAFT REMEDIAL INVESTIGATION QUALITY ASSURANCE PROJECT PLAN  
FOR SITE 32 NSY PORTSMOUTH ME  
5/22/2002  
LEPAGE ENVIRONMENTAL SERVICES

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May 22, 2002

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

Subject: Review of April 2002 Draft *Site 32 Remedial Investigation Quality Assurance Project Plan*

Dear Ms. Raymond:

We are transmitting the following comments on behalf of the Seacoast Anti-Pollution League (SAPL) on the April 2002 Draft *Site 32 Remedial Investigation Quality Assurance Project Plan* (RI QAPP). Comments are as follows:

- 1. Page 1-2, Section 1.2.1 QAPP Contents.** The bullet for Appendix F should be amended to indicate that it includes the responses to comments on the Draft Data Quality Objectives (DQOs) for Site 32.
- 2. Page 1-3 USEPA-NE QAPP Worksheet #2.** Item 8 states that the Navy will use the data to prepare the report of the investigation, risk assessment, and feasibility study, as necessary, for Site 32. Wouldn't the data also be used to support a Record of Decision, should that become necessary? If so, the entry for Item 8 should be revised.
- 3. Page 1-10, Section 1.3.1 Site Location and Description.** The section ends with the statement that the Shipyard historian should be contacted to determine any constraints or requirements during investigation. It is not clear why this is necessary. It would seem that the historian should already have been contacted, while the QAPP was still in the formative stage, so that appropriate measures could be planned for. On the other hand, if there are specific issues that the historian would need to address, they should be identified in the QAPP. Please clarify.
- 4. Page 1-12, Section 1.4.1, Previous Investigations.** The paragraph on the *Estuarine Ecological Risk Assessment* (EERA) should state that the EERA identified intermediate risk for sediments in the Back Channel Area of Concern, which is adjacent to Site 32.

- 5. Page 1-12, Section 1.4.1, Previous Investigations.** The text states that the data from the EERA and the 1996/1997 seep/sediment monitoring will not be used in the Site 32 RI data evaluation because more recent data is available. Why isn't this an instance where more data is better? Please clarify. Also please clarify if the locations of sediment monitoring for Operable Unit 4 are the same as they were during the 1996/1997 monitoring.
- 6. Page 1-13, Section 1.4.1, Previous Investigations.** The first bullet on the page states that several seep sampling locations that were previously assumed as being groundwater seeps are actually storm sewer outfall locations. In its 3/1/02 comments on the Site 32 DQOs, SAPL asked if there were other locations (other than Outfall #63) previously or currently labeled as seeps that might actually be outfalls. The Navy's response (see page F-13 in the QAPP) states that it is possible that sample 1017 taken at the end of outfall 63-A immediately east of OF-63 was an outfall sample improperly labeled as a seep. The first bullet on page 1-13 appears to be in conflict with the Navy's response at the top of page F-13. Please clarify and correct as needed.
- 7. Page 1-13, Section 1.4.1, Previous Investigations.** The Navy implies that the MTADS anomaly in the southeastern corner of Site 32 is not likely to be drums and is not of concern for this investigation. However, the MTADS survey only covered one fourth to one third of the site, which does not provide the confidence to ignore the anomaly. It would be appropriate to investigate the MTADS anomaly further during the RI rather than ignore it.
- 8. Page 1-14, Section 1.4.1, Previous Investigations.** The paragraph at the top of page 1-14 contains the statement that the metals concentrations noted in the sediment are believed to be from the slag, rather than from groundwater migration from Site 32. This implies consensus has been reached that there is only one source for the metals concentrations in the sediment, which is not the case. It is possible that some of the metals may be derived from either groundwater or stormwater discharges. The text should be revised.
- 9. Pages 1-14 - 1-16, Section 1.4.2, Summary of SSI Findings.** SAPL had commented (comment number 63, dated May 2, 1999) on the *Site Screening Report* (SSI report) that there were numerous instances (tabulated in Table 4-5 in the SSI report) where the numerical detection limit was significantly greater than the Minimum Detection Limit (MDL). That affected the frequency of detections listed in the SSI report's Table 4-6. The relatively high numerical detection limits also exceeded screening criteria in several instances. Therefore, the actual number and magnitude of the exceedances may be greater than identified in Table 4-6 and elsewhere in the SSI report. As examples, SAPL pointed out that the numerical detection limit for lead exceeded the MCL in two out of five samples, and that the MDL for thallium exceeded both the MCL and MEG by a factor of at least two while the numerical detection limit for thallium was as much as 100 times the MEG. In addition to explaining why detection limits could be elevated, the Navy also acknowledged that the elevated limits could result in an underestimation of risk. The Navy also stated that if a risk assessment were to be performed for

Site32, the presence of elevated detection limit results would be discussed in the uncertainties section of the risk assessment. SAPL provided an additional comment, dated 7/28/99, on the Navy's response that the text of the SSI report should be revised to include statements that the actual number (and possibly magnitude) of screening criteria exceedances may be greater than what was identified in Table 4-6 of the SSI report.

It is important that any discussion of criteria exceedances presented in the QAPP also include information on elevated numerical detection limits and MDLs, and that these elevated limits affect the number of exceedances reported. In addition, the concentrations in comparison with EPA Region IX residential, not just industrial screening levels, must be reported.

**10. Page 1-16, Section 1.4.3, Geology and Hydrogeology.** The bullet at the bottom of the page (and text elsewhere in the QAPP) states that the fill is 2 to 15 feet thick. However, the SSI report (see pages ES-8 and 5-4, for example) states that the fill ranges in thickness from 8.5 feet to 18 feet, with an average thickness of 13.2 feet. Which is correct? The fill should also be described briefly in this section. The SSI report states on page 5-4 that the fill encountered included rock fill, metal fragments and shavings, brick, wood, sandblast grit, pottery, glass, and coal and cinders. This information should also be presented in the QAPP.

**11. Page 1-17, Section 1.4.3, Geology and Hydrogeology.** The third bullet should include a brief description of the type of bedrock encountered at Site32. While the bedrock apparently slopes toward the Back Channel offshore area, page ES- 8, the SSI report also states that through the center of the site along a north-south line, the bedrock surface is higher than the areas immediately to the east and west. This information should be added to the QAPP.

**12. Page 1-17, Section 1.5.1, Potential Contaminant Migration Mechanisms.** The first bullet in the section should be corrected to clarify that it is the storm sewer system being discussed. The last bullet on the page states that infiltration of precipitation is not likely to be a significant current migration mechanism because most of the site is paved or covered by buildings. The current paved surface also prevents erosion of soil. This should be added to this section.

**13. Page 1-18, Section 1.5.2, Storm Sewer Discharge Information.** This section contains several bullets that don't appear to have anything to do with the storm sewer discharge system. Is there a section heading missing? Please clarify. The third bullet states that groundwater may be entering the system at outfall OF-63. It would be more accurate to state that groundwater might be entering the system upgradient of OF-63. Comment 6, above, applies to the second and fourth bullets relating to outfalls being mistaken for seeps. Please clarify in the fifth bullet if it is fine sediment, or sediment in general, that becomes more predominant progressing from mid to low tide. The eighth and ninth bullets appear to duplicate information contain in the sixth bullet. Please clarify.

- 14. Page 1-19, Section 1.5.3, Conceptual Risk Model.** The Onshore portion of the section states that there are no ecological risks. While it is clear that is true for current conditions, what are the potential future risks to onshore ecological receptors should the protection of the pavement and building cover be removed in the future? The Offshore portion should include a bullet regarding potential ecological impacts of the slag. Shoreline erosion, as well as erosion of site soil should the building/pavement cover be removed, are also of concern. The third bullet should be amended to include exposure to sediment in the intertidal zone.
- 15. Page 1-19, PROBLEM STATEMENT.** The removal of the buildings/pavement would create site conditions that could allow exposure to and erosion of, site soils. What is the potential risk associated with this scenario?
- 16. Page 1-20, PROBLEM STATEMENT.** The text states that the slag may be the source of the elevated copper found in the intertidal sediments. Is the slag also a possible source of the elevated nickel concentrations in the offshore? Please clarify.
- 17. Pages 1-19 - 1-20, PROBLEM STATEMENT.** The Navy's response to SAPL's comment number 8, dated 3/1/02, regarding the Site 32 DQOs states that the Navy will perform an interim action on the stormwater system, regardless of the outcome of the investigation results. The stormwater system interim action is also mentioned in the DQO section in Appendix B. However, there is nothing included in Section 1 about this interim action. Information should be added, perhaps to Section 1.6, about the stormwater system interim action, particularly because implementation of the interim action may affect the sampling proposed in the QAPP.
- 18. Tables 1-3 - 1-7.** Comment number 8, above, also applies to the tables.
- 19. Page 2-1, Section 2.1 PROJECT PLANNING MEETINGS.** The first paragraph should mention that the responses to comments on the DQOs are included in Appendix F.
- 20. Pages 2-1 & 2-2, Section 2.2 PROBLEM DEFINITION.** The first bullet should mention that the Problem Statement step of the DQO process was used to develop the problem definition for the Site 32 RI. The last sentence of the paragraph below the bullets on page 2-2 should be amended to include potential impacts of shoreline erosion. "Only" should be removed from the statement about future ecological risks from migration of chemicals via groundwater from Site 32 to the offshore being evaluated using modeling of contaminant transport from onshore to offshore. How will the potential for ecological risks (assuming the pavement/buildings are removed in the future) associated with soil erosion and migration be evaluated?
- 21. Page 2-2, Support for Site 32 FS and Interim Action.** The first sentence in the section does not appear to be complete and should be rewritten.

**22. Page 2-7, Section 2.5 DECISION RULES.** The first principal decision requires that a chemical exceed background levels before the risk associated with that chemical can be considered. SAPL has commented previously (see comment number 10 on the Site 32 DQOs, dated 3/1/02, for example) about the use of background concentrations in making decisions relating to risk. SAPL notes that the USEPA recently commented on the Site 34 DQOs (comment number 3, dated 4/8/02) that updated USEPA Region 1 risk assessment guidance/policy does not consider it acceptable to drop contaminants of concern based on a comparison to background. Chemicals that exceed risk criteria must be retained for risk assessment, regardless of background concentrations. This comment applies to this section and similar passages in the QAPP, such as in Sections 2.6 and 4.1.5.2, and Appendix C.

**23. Page 2-10, Section 2.6 SAMPLING DESIGN AND RATIONALE.** The Navy concludes that only one round of sampling from each monitoring well and seep location is sufficient to conservatively characterize risks from exposure to these media. However, the nature and extent of contamination, not just risk, must be characterized. SAPL and the MEDEP have already stated their objections to only one round of sampling to characterize a site. In addition to checking seasonal variability, confirmation of sampling data is also needed to ensure that representative samples are being collected before remedial decisions are made. While the data cited in Appendix G may show the highest concentrations occur during the spring for non-tidally influenced wells, the same cannot be said for tidally influenced wells. The text in Section 2.6 must be corrected to reflect this. Presumably seeps might exhibit variations similar to tidally influenced wells. Therefore, collecting samples during the spring alone will not guarantee that the highest concentrations will be caught in tidally influenced sampling locations. This issue requires additional discussion.

**24. Page 2-11, Section 2.6 SAMPLING DESIGN AND RATIONALE.** The text states that surface water samples will be collected at the end of the mixing zone. Information regarding how the mixing zone is defined and where the sample to characterize the end of the mixing zone will be collected must be added to the QAPP.

**25. Page 3-11, Table 3-5.** The Project Schedule Timeline laid out in the table has field activities scheduled to begin in October 2002 and completed by March 2003. This does not appear to allow for the spring groundwater sampling that the Navy is proposing, particularly given the comments below regarding the time necessary between well installation and development and between well development and sampling. Please clarify.

**26. Page 3-5, Section 3.5.2 Assessment Findings and Corrective Action Responses.** The USEPA and MEDEP should concur with changes in scope as work progresses. Major scope changes should also be documented in the RI report.

- 27. Page 4-1, Section 4.0 FIELD SAMPLING AND ANALYSIS PLAN.** The second bullet on page 4-1 states addresses interim actions that may occur at Site 32, but the first bullet mentions only a single interim action. The text must be revised to clarify how many interim actions are being considered and what they will address.
- 28. Page 4-1, Section 4.0 FIELD SAMPLING AND ANALYSIS PLAN.** The third bullet states that two additional monitoring wells will be installed. What is the justification for installing only two wells, and the rationale for their locations? This information should be added to the QAPP.
- 29. Page 4-2, Section 4.1.1 Archaeological Considerations.** Why is the Shipyard historian is being consulted so late in the planning process? It would be prudent to collect historical information early on the planning process, that is, prior to preparing the QAPP, not after. It also makes sense to consult the historian now, not at the last minute (4 weeks before the investigation) about potential negative impacts on archaeological resources so that appropriate actions can be planned, reviewed, and approved.
- 30. Page 4-3, Section 4.1.5.1 Hollow-Stem Augering and Split-Barrel Soil Sampling.** The second paragraph states that the Phase One borings will extend down to the bottom of the fill. However, the third paragraph states that borings will go only to 10 feet below ground surface (bgs). What is rationale for limiting the boring depth when the fill material ranges from 8.5 to 18 feet in depth, with an average depth of about 13 feet? The borings should be extended to reach below the bottom of the fill material (to confirm fill thickness), at a minimum, in order to characterize (at least visually) the fill and to better define nature and extent of contamination. In addition, why were the four specific borings selected to be sampled for groundwater modeling parameters?
- 31. Pages 4-4 - 4-5, Section 4.1.6 Sediment Sampling.** What is the rationale for only analyzing sediment samples for copper and nickel and not other parameters, such as other metals or dioxin? Is there any effect of mixing on the chemical characteristics or availability in sediments that have been in a reducing environment?
- 32. Page 4-7, Section 4.1.8 Preparation for Phase Two Soil Sampling.** Comment number 22, above, regarding background data, applies to this section. What is the basis for the initial proposal of three samples per one-acre decision unit? If the Navy proposes to reduce or increase that number of samples, how will the proposal be presented for review and approval?
- 33. Page 4-8, Section 4.2.1 Tidal Study.** Why not include all the monitoring wells (not just the TP-series) in the tidal study so that the tidal study so that the extent of tidal influence on site groundwater can be more completely understood?

**34. Page 4-8, Section 4.2.2 Soil Sampling.** *At the completion of this phase of the investigation, each decision unit are planned to have had three soil boring locations sampled. These three locations count both the samples collected as part of the SSI in 1998 plus the samples collected in this field investigation.* Up until this point, the reader has assumed that the three samples per decision unit would be new samples, collected as part of the RI. So this passage is confusing and appears to contradict the information in the rest of the QAPP as well as the DQOs. Please clarify.

**35. Page 4-9, Section 4.3.1.1 Monitoring Wells.** What is the rationale for installing only two monitoring wells and for selecting their proposed locations? SAPL notes that the slot size for well screens was 0.020 inches in the SSI, but 0.010 is proposed in the QAPP. Why the difference? Which slot size is better-suited for the material to be screened? The cement/bentonite grout should be allowed to cure for much longer than the 24 hours prior to well development proposed in the QAPP. The time period specified in the SSI Work Plan was 14 days. Why the difference? Why are the wells to be temporary installations? Please clarify.

**36. Page 4-10, Section 4.3.1.2 Monitoring Well Development.** As noted in Comment number 35, above, the cement/bentonite grout should be allowed to cure for much longer than the 24 hours prior to well development. proposed in the QAPP. The fourteen days proposed in the SSI Work Plan is more like it.

**37. Page 4-10, Section 4.3.2 Monitoring Well Purging and Groundwater Sampling.** As noted in Comment number 23, above, one round of sampling is insufficient to characterize and confirm nature and extent of contamination at the site.

**38. Page 4-11, Section 4.3.2.2 Monitoring Well Purging.** The minimum of four days proposed between well development and sampling is insufficient. An interval closer to two weeks would be more appropriate.

**39. Page 4-13, Section 4.3.2.4 Aquifer Testing.** *Any test that does not have 70% recovery in the ten minute time period will be considered estimated, and a hydraulic conductivity value less than the calculated value will be reported.* An explanation of the method of selecting the hydraulic conductivity for wells with less than full recover must be provided for review and approval. Information about how the results will be identified, qualified, and applied in the RI report must also be provided. In addition, adding a bit more time (another five to ten minutes) to the test may result in a complete recovery.

**40. Page 4-14, Section 4.3.4 Second Phase of Sediment Sampling.** Any areas that are not sampled as part of Phase II because of an interim action should be sampled as part of the interim action to confirm that the measures taken are effective and that no unacceptable risk or potential source remains.

**41. Page 4-26, Section 4.14 HUMAN HEALTH RISK ASSESSMENT.** While it is proper to refer the reader to the details of the human health risk assessment in Appendix C, this section is too brief - four lines is not sufficient. A summary of the assessment process should be presented in Section 4.1.4. Also, Comment number 22, above, applies to this section and Appendix C.

**42. Page 4-26, Section 4.15 GROUNDWATER MODELING.** The Navy proposes to use the modeling method used for OU3. What is the reference for this method? What are the criteria for deciding to proceed to the next level of modeling (MODFLOW with MT3D or a similar model)?

**43. Page 5-1, Section 5.0 FIXED LABORATORY ANALYTICAL PLAN.** Information concerning laboratory analysis for chemical parameters is presented in this chapter. Where is similar information regarding grain size analysis presented?

**44. Page 5-1, Section 5.1 METHOD DETECTION/QUANTITATION LIMITS.** Why is silicon being analyzed for the groundwater modeling? SAPL's concerns regarding detection limits are expressed in Comment number 9, above.

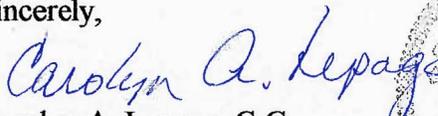
**45. Page 6-1, Section 6.0 DATA MANAGEMENT AND QUALITY ASSESSMENT.** Where are the contents and requirements of the RI report spelled out?

**46. Page 6-14, Section 6.3.2 Data Quality Assessment.** The section concludes with the statement that once the data evaluation from this investigation is completed, investigation objectives may be revised in anticipation of additional data collection. What is the process for revising the objectives and/or proceeding with an additional investigation?

**47. Appendix F.** In the interest of time, comments on the responses to comments on the Site 32 DQOs will be sent under separate cover.

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: James Horrigan, SAPL  
Iver McLeod, MEDEP  
Meghan Cassidy, USEPA