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LETTER AND COMMENTS ON BEHALF OF SEACOAST ANTI POLLUTION LEAGUE
REGARDING INTERIM DRAFT FEASIBILITY STUDY REPORT FOR OPERABLE UNIT 3 (OU
3) NSY PORTSMOUTH ME
5/20/2000
LEPAGE ENVIRONMENTAL SERVICES

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May 20, 2000

Johanna Lyons
Seacoast Anti-Pollution League
P. O. Box 1136
Portsmouth, New Hampshire 03802

Subject: Review of the April 21, 2000 Interim Submittal for the *Draft Feasibility Study Report for Operable Unit 3*

Dear Ms. Lyons:

We are transmitting the following comments on the April 21, 2000 Interim Submittal for the *Draft Feasibility Study Report for Operable Unit 3* (OU3) to the Seacoast Anti-Pollution League (SAPL). The Interim Submittal includes separate sections on 8 different topics ranging from changes to the human health risk assessment to development of dilution factors. The information in the submittals was assembled in response to previous comments on the *OU3 Feasibility Study Report* (FS). We have organized our comments on a section-by-section basis, as follows:

1. Spatial Distribution (Tag Maps) of COCs in Soil and Groundwater. The text of this section indicates that concentrations of contaminants were compared with facility background values. As noted in our comment letter dated April 26, 2000, we remain concerned with the development and application of background data as documented in the *Draft Final Facility Background Development* report. We also agree with the comments the Maine Department of Environmental Protection raises in their May 15, 2000, letter on the same document. Therefore, there are still issues to be resolved regarding the selection of background sampling locations and how data from background locations should be interpreted and applied in the decision-making process. In addition, it appears that some COCs were not included unless representative concentrations exceeded background. Which contaminants were dropped for this reason?

2. Spatial Distribution (Tag Maps) of COCs in Soil and Groundwater. In a number of previous comment letters, we have stated concerns regarding cumulative risks. The text at the bottom of the first page and top of the second page indicated that total risks for COPCs (contaminants of potential concern) with the same target organ were evaluated, and there were no Hazard Indexes greater than 1 for target organs. This evaluation focused on noncarcinogenic compounds. What are the total risks posed by carcinogens?

3. Spatial Distribution (Tag Maps) of COCs in Soil and Groundwater. The text on the second page states that when comparing the screening levels to chemical concentrations, if the detection limit exceeded the screening level, one half the detection limit was used to consider whether the chemical could possibly exceed the screening level. In a number of comment letters on a variety of documents, we have raised the issue of how to interpret data when detection levels exceed screening criteria. We understand that in statistical analysis of environmental data, it is common to use one half the detection limit for non-detect values in a variety of calculations. However, we believe that it is potentially misleading to use one half the detection limit to judge if a chemical could possibly exceed screening criteria. What is the rationale for this statement? How many instances, for what parameters were possible exceedances excluded?

4. Seep/Surface Water Dilution Factor Development. This section presents, for the first time, a summary of the development of dilution factors used in risk assessment at the Shipyard. As we note in our comments on the Hydrogeologic Issues section, we are concerned with the values used to characterize hydraulic conductivities in the immediate vicinity of the shoreline. Recalculating the dilution factors with hydraulic conductivities for wells along the shore show the potential impacts to be as much as three times greater. In addition, the discussion of the CORMIX model on page 3 states that the initial mixing of groundwater and river water cannot be simulated with the model because groundwater seeping into the river over a large area is very dissimilar from a concentrated outfall entering the river at a single point. We are not familiar with the CORMIX model. Given the concerns with the potential impact of seeps (see comment below), and that seeps are in effect point sources, is it appropriate to use the CORMIX model to evaluate initial mixing at seeps?

5. Proposed Revisions to Human Health Risk Assessment for Exposures to Seeps Based on Actual Site Conditions. The Navy is proposing to reduce the skin exposure scenario for adults and adolescents for the undiluted seeps to feet only. The rationale for the change is that the seeps are only exposed at low to mid tide and consist of only a "sheen flow" of less than one gallon a minute. Therefore, the likely skin exposure is from walking through the seep, and skin area exposures are recalculated to include feet only. We are concerned that, by reducing the skin area exposed, the effects of adolescents, in particular, "poking around" in the seeps or of other activities that may result in exposure of hands and lower arms in addition to feet and lower leg areas, are no longer considered. Therefore, we do not agree with reducing the skin surface area exposed to feet only.

6. Discussion of Hydrogeologic Issues & Estimate of Tidally Influenced Volume ("Wedge") of Landfill. This section explains the Navy's conceptual model for the tidally induced increases in hydraulic potential at monitoring wells located at OU3. We now have a better appreciation of the Navy's position and the data used to develop the conceptual model. We think there is an error in the tidal period used in the equation on the third page of the calculation worksheets attached to the text. According to C.W. Fetter, Jr. (*Applied Hydrogeology*, 1980, see page 147), the tidal period is the time for the tide to go from one extreme to another. Therefore, a value of

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Comments on April 21, 2000 Interim Submittal *OU3 Feasibility Study*

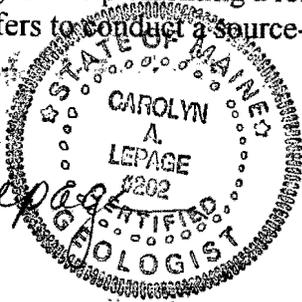
6 hours, not 12 hours, should be used. We are also concerned with the use of values in the calculations that were derived for wells not located near the shore. If a range of values of hydraulic conductivity, saturated thickness, and specific yield are factored into the calculations, the extent of tidal influence (and tidally influenced volumes) can vary significantly from the 150 to 200 feet presented by the Navy. We understand that, as a result of discussions during the May 17, 2000 conference call, the Navy will perform a sensitivity analysis using a range of values. We look forward to the results of this analysis. We do not believe that our concerns on this issue should affect the selection of the landfill cover remedy. However, refinement of hydrogeologic values will likely be needed for the proper engineering design of the cover and for the resolution of groundwater management issues.

7. Position Paper on Management of Migration of Seeps. In summary, the Navy states that monitoring sediment in offshore areas is sufficient to determine Shipyard impacts to offshore areas, that monitoring or toxicity testing in addition to the Interim Offshore Monitoring is not necessary, and that sufficient investigations have been conducted to select and implement a remedy for OU3 with management of seeps being addressed in the OU3 FS. We do not disagree with the selection of sediment for the on-going offshore monitoring. However, we do not believe that the potential impact of the OU3 seeps on intertidal organisms and communities has been evaluated adequately. We concur with the Maine Department of Environmental Protection's May 15th letter regarding OU3 groundwater and seeps, which states seep discharges contain contaminants at concentrations that exceed Ambient Water Quality Criteria (AWQC) prior to mixing, and the Navy's own mixing zone and dilution factor calculations show the AWQC for DDD is exceeded. Furthermore, the *Draft Final Estuarine Ecological Risk Assessment* apparently did not specifically evaluate the intertidal organisms of concern at OU3, nor does the Preliminary Remediation Goal (PRG) development portion of the Offshore Monitoring specifically address impacts from seeps. If Whole Effluent Toxicity (WET) testing is determined to be inappropriate or insufficient to assess impacts, some other mechanism would have to be employed. Now is the time to ascertain potential impacts to intertidal receptors so that the process of selecting and implementing a remedial measure can move forward, particularly if the Navy prefers to conduct a source-control action at OU3 that includes action to address groundwater.

Sincerely,



Carolyn A. Lepage, C.G.
President



cc: Iver McLeod, Department of Environmental Protection
Meghan Cassidy, Environmental Protection Agency
Marty Raymond, Portsmouth Naval Shipyard