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LETTER AND COMMENTS ON BEHALF OF SEACOAST ANTI POLLUTION LEAGUE ON U S
NAVY RESPONSE TO COMMENTS REGARDING DRAFT ONSHORE/OFFSHORE
CONTAMINANT FATE AND TRANSPORT MODELING PHASE 2 REPORT NSY
PORTSMOUTH ME
6/30/1999
LEPAGE ENVIRONMENTAL SERVICES

Lepage Environmental Services, Inc.

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June 30, 1999

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

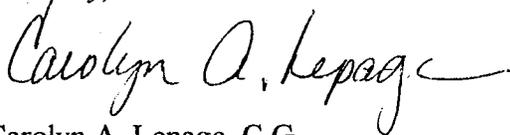
Subject: Review Comments, Responses to Comments on the *Draft On-Shore/Off-Shore Contaminant Fate and Transport Modeling Phase II Report*

Dear Mr. Vandermark:

We are transmitting comments to the Seacoast Anti-Pollution League (SAPL) concerning the Navy's responses to our February 19, 1999, comments on the December 1998 *Draft On-Shore/Off-Shore Contaminant Fate and Transport Modeling Phase II Report* prepared by Tetra Tech NUS, Inc. The majority of the review was performed by Dr. Charles Hebson and his comments are enclosed.

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

Enc.

cc: Iver McLeod, Department of Environmental Protection
Meghan Cassidy, Environmental Protection Agency
Charles Hebson, C.G. & P.E.
✓ Marty Raymond, Portsmouth Naval Shipyard

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15 June 1999

Carolyn Lepage
Lepage Environmental Services
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Auburn, Maine 04211-1195

Subject: Review of PNS Phase II responses

Dear Carolyn,

I have reviewed the TtNUS responses (5/17/99, from Linda Klink) to comments on the Phase II modeling. They have been most responsive to comments on editorial content and typographical errors. However, at this point they appear to be unwilling to consider any further substantive work related to Phase II modeling. This comes out in their responses to comments on the hydrogeologic data and the statistical analysis and presentation thereof.

Hydrogeologic Model (pp 26-27)

I had suggested a Monte Carlo analysis of the hydrogeologic model. In several places (e.g., page 16 of these responses) TtNUS have made a point of saying things like

“The Monte Carlo simulation is particularly suitable and efficient for a spreadsheet type of model. The effort of performing Monte Carlo simulation only lies in selecting statistical distribution and assigning basic statistical parameters such as mean and standard deviation and/or ranges of data. Because of the benefits described above and its simplicity, the Monte Carlo simulation will continue to be implemented in future studies.”

I infer from statements like this that the effort involved is fairly minimal, given all of the groundwork that has been done on the hydrogeologic model. My original motivations for suggesting Monte Carlo on the hydrogeologic model were those of completeness and to bring the general level of analysis to the same level as the water quality model. Also, I believe that Monte Carlo results can profitably inform the RI/FS process if and when that process starts. My opinion has not changed and I remain convinced of the value of doing Monte Carlo analysis of the hydrogeologic model provided it already fits in the spreadsheet framework.

Statistical Analysis (p. 26; p. 27)

My concern with the statistical analysis of data in Appendix D is not so much with the technical merits of the analysis. Rather, I still believe that presentation of the results is not commensurate with the generally high level of the rest of the report. A complete explanatory narrative is needed; whether it appears in the body or appendix is immaterial. I also believe that probability plots/curves are a useful adjunct to the numerical results of a statistical test.

TtNUS Team (p. 24)

I had commented on the anonymity of the TtNUS team that executed the work behind this report. TtNUS responded that it is against company protocol to identify the participants in this work. A very general reference is made to individuals involved, as well as a reference to "supervision of a Maine Certified geologist who will certify the final document". It is proper that TtNUS set its own policies regarding the identity of their employees in this work, yet I would feel better if TtNUS were more forthright in this matter. I am also curious about this Maine Certified Geologist and the nature of supervision provided by this CG.

Closing Remarks

My reasons for asking for better documentation stem from the fact that this is a complicated model of a complex site. This Phase II model report may very well sit on a shelf for a year or more before receiving additional attention. If the documentation is not completed now, problems that materialize at a later time will be more difficult to address. Several common substantive issues appear in comments by the various regulatory and intervener groups. Maine DEP also had questions regarding the hydrogeologic model and parameters; EPA raised questions about the statistical distribution of K_d data. This reassures me that my own comments are in the mainstream of technical review of this project.

As Phase II modeling comes to a close, I am struck by how the "big picture" issue of K_d values refuses to go away. All parties have recognized the importance of this data and yet I am still left with a vague sense of discomfort with the results and the implications for modeling. Within the terms of reference for this analysis, we have little choice but to fall back on "conservative model estimates" (all the more reason for complete documentation of the work that has been done). We need to keep in mind this general uncertainty surrounding fate and transport processes as the project continues.

I hope my comments have been of use to you. Please call if you have any questions.

Yours truly,



Charles S. Hebson
Professional Engineer and Certified Geologist

