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NSY PORTSMOUTH
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LETTER AND COMMENTS FROM MAINE DEPARTMENT OF ENVIRONMENTAL
PROTECTION ON U S NAVY RESPONSE TO COMMENTS REGARDING INITIAL
CONTAMINANT OF CONCERN EVALUATION IN SUPPORT OF PHASE 1 MODELING
EFFORT NSY PORTSMOUTH ME

2/26/1997

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION



STATE OF MAINE

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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February 26, 1997

Mr. Fred Evans
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Northern Division
Naval Facilities Engineering Command
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RE: Response to Comments, Initial Contaminant of Concern Evaluation in Support of Phase I Modeling Effort

Dear Fred:

The Maine Department of Environmental Protection (Department or MEDEP) has completed its review of the Navy's Responses to our Comments (RTC) concerning the Initial Contaminant of Concern Evaluation. I have provided the Department's comments on the RTC below.

General Comment

The MEDEP included a table showing maximum contaminant concentration detected in groundwater and groundwater concentrations at the shoreline calculated by the model using generic site information. The MEDEP references this table in its comments. Please include this table as part of Appendix G.

Specific Comments

4) **Comment:** 1.0 General Screening Procedure

According to the screening procedure the Navy compared the maximum detected groundwater concentrations and calculated potential leachate concentrations with surface water criteria. All chemicals that exceed the surface water criteria were carried forward to the next screening step. However, the Navy is not proposing to make any comparisons to sediment criteria.

According to the Phase I Work Plan, the intent of the modeling work is to evaluate continuing on-shore contaminant migration to off-shore receptors. These receptors

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obviously include benthic biota. However, by focusing solely on surface water criteria it is possible that contaminants that may impact the benthos may be screened out if they do not exceed the surface water criteria. The Navy should attempt to evaluate the migration of on-shore contaminants to off-shore sediments as well as to the surface water.

Response: Comparisons to sediment criteria are not made during the COC screening but as part of the subsequent modeling process. Of note, no known off-shore COCs (based on human health or ecological (under revision) risk assessments) were eliminated as a COC unless warranted by a low on-shore frequency of detection.

MEDEP Response: Based on the results of sediment sampling the Navy may need to include additional COC.

5) GENERAL SCREENING PROCEDURE, Page 2, Para 2-3

- b) **Comment:** "While it is difficult to quantify the "bulk of risk" without a formal risk assessment, if after the completion of the Phase I Modeling all of the 15 chemical(s) show a potential impact to the off-shore it may be concluded that the OU warrants remediation."

This statement suggests that, based on the results of the Phase I model, the Navy will only consider remediation if all 15 CoCs show a potential impact to the off-shore. This does not indicate a conservative approach to the situation.

Response: The modeling report includes a quantitative evaluation of "weighted" cumulative ratios which indicates that the list of 15 chemicals for each given site corresponds with a 99.9% to 100.0% of the exceedances.

MEDEP Response: The procedure used by the Navy to assess the cumulative ratio of exceedance of water quality criteria assumes there is a linear relationship between the exceedance of a contaminant and the risk it presents to the off-shore environment. This may not be the case. The Navy must consider any exceedance of water quality a risk and should be considered in the modeling effort.

- e) **Comment:** "The third step of the screening involved the comparison of the chemicals with the frequency of detection in both groundwater and soils."

Frequency of detection implies the Navy selected soil and groundwater collection points using statistically sound criteria. The MEDEP is not aware that this is the case. For example, the distribution of test boring/monitoring wells at the JILF is primarily near the perimeter of the landfill leaving large areas within the central portion of the landfill that is not characterized.

Response: Although the Navy agrees that the central portion of the landfill has not been characterized, numerous borings and monitoring wells are available near the perimeter of the landfill, which is reflective of the point of exposure for off-shore receptors.

MEDEP Response: The MEDEP needs to review low-flow groundwater monitoring results relative to seep and sediment sample results to assess the adequacy of the monitoring well locations.

10) **Comment:** 2.4 Chemical Specific Environmental Degradation Half-lives, P 7, Para 5

"Decay of organic contaminants can occur by biological and non-biological mechanisms. This decay is quantified by chemical-specific half-life. Half-lives were taken from literature values (Howard, 1990)."

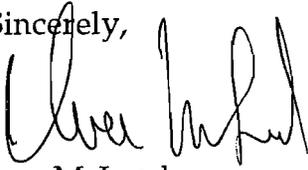
Half-lives for organic compounds that are developed based on laboratory or non-site specific information will most likely not represent the decay of site-specific compounds. This is especially true given the unique transition from fresh to saline groundwater found at PNSY. If site-specific organic contaminant decay data are not available, to be conservative, the model should not allow organic compounds to decay.

Response: It is known that some organic compounds decay; therefore it would be overly conservative to ignore this factor. The following sentence was inserted in the modeling report (Section 5.1.2.5): "The most conservative value of the range was used." As explained in the text, if a half-life could not be obtained from the literature for a specific chemical, it was conservatively assumed that this chemical does not decay.

MEDEP Response: The MEDEP agrees that decay of organic compounds occurs. However, without site-specific verification there is no way of assessing the applicability of the literature values at PNSY. Use of literature decay values can not be considered even an approximation of site conditions without site specific data. The Navy should provide references for each decay value used. In addition, the Navy should provide information indicating how the decay factor was derived (e.g., laboratory experiment, in-situ data, etc.). Please also provide information regarding the applicability of the decay factors in a fresh, brackish, or saltwater environment. Presentation of the fate and transport model results involving a decay factor should clearly indicate the result was derived using non-site specific information.

Please feel free to contact me at (207) 287-8010 if you have any questions.

Sincerely,



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