



**STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION**



**BUREAU OF WATER MANAGEMENT
PERMITTING, ENFORCEMENT & REMEDIATION DIVISION
FEDERAL REMEDIATION PROGRAM**

March 26, 1999

Mr. Mark Evans
U.S. Department of the Navy
Northern Division, Naval Facilities Engineering Command, Code 1823
10 Industrial Way, Mail Stop 82
Lester, PA 19113-2090

Re: US Navy's Letter dated March 10, 1999- Responses to State Comments regarding Draft *Existing Data Summary Report for Basewide Groundwater Operable Unit Remedial Investigation, Naval Submarine Base- New London, Groton, Connecticut*

Dear Mr. Evans:

The Department has received and reviewed your letter dated March 10, 1999. Your March 10 letter responds to our comments dated February 19, 1999 regarding the *Existing Data Summary Report for Basewide Groundwater Operable Unit Remedial Investigation, Naval Submarine Base- New London, Groton, Connecticut*. We have several outstanding concerns. These are addressed below. Our

General Comments

General Comment 1

The Navy disagrees that insufficient ground water data have been collected for the Lower Base. The Navy notes that additional ground water data were collected for the Lower Base during the Lower Base Remedial Investigation, and that groundwater monitoring is ongoing at the DRMO. The Navy feels that sufficient data is available to move ahead within the CERCLA process. The Navy states that ground water options will be addressed during the Lower Base Feasibility Study, and speculates that ground water monitoring will be recommended for each of the sites on the Lower Base.

The Navy's response is acceptable provided that, at a minimum, ground water monitoring is proposed in the Feasibility Study for each of the seven sites on the Lower Base. However, the State remains concerned that if ground water in different parts of the base is looked at in a fragmented manner, rather than as a whole, a less than thorough investigation may result. It is important that ground water throughout the **entire** base be evaluated as a whole. While it may not be necessary to collect additional data within the Lower Base, it is important to refine the conceptual model of

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ground water flow on the base as a whole. The existing conceptual model shows that ground water flows from upland areas of the base, which are to be studied as part of the base wide ground water OU, through the Lower Base, which was studied as part of the Lower Base RI. The ultimate discharge point for ground water throughout the base is the Thames River. During high tides, ground water flow in the Lower Base in close proximity to the river temporarily reverses so that ground water no longer discharges to the river. This effect does not appear to extend landward of the Lower Base.

Data already collected for the Lower Base and DRMO should be considered together with existing data and data to be collected for the remainder of the base under the base wide ground water OU. The Lower Base RI did not identify any significant upgradient sources of ground water contamination. However, it is possible that some upgradient sources which could be contributing to ground water contamination on the Lower Base might be "masked" by ground water contamination sources within the Lower Base. The Navy is assuming that no major upgradient sources are contributing ground water contamination to the Lower Base. This hypothesis must be proven or disproved by collecting sufficient data in upland areas as part of the base wide ground water RI.

General Comment 2

The Navy's response is acceptable to the State.

General Comment 3

The Navy's response is acceptable to the State.

Specific Comments

Specific Comment 1

Please refer to Specific Comment 1

Specific Comment 2

The Navy's response is acceptable to the State.

Specific Comment 3

The Navy's response is acceptable to the State.

Specific Comment 4

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The Navy's response is acceptable to the State.

Specific Comment 5

The Navy's response is acceptable to the State.

Specific Comment 6

The Navy's response is acceptable to the State.

Specific Comment 7

The Navy's response is acceptable to the State.

Specific Comment 8

The Navy's response is acceptable to the State. On March 16, 1999 the Department notified Mr. Corey Rich of Tetra- Tech NUS that additional information is needed to support the Navy's request for approval of its proposed pollutant mobility, ground water protection, and surface water protection criteria for additional polluting substances. The Department can complete its review of the proposed pollutant mobility and ground water protection criteria within 30 to 60 days from receipt of the requested information. However, review of the proposed surface water protection criteria may require additional time.

Specific Comment 9

The Navy's response is acceptable to the State.

Specific Comment 10

The Navy's response is acceptable to the State.

Specific Comment 11

The Navy's response is acceptable to the State.

Specific Comment 12

The Navy's response is acceptable to the State.

Specific Comment 13

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Specific Comment 14

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Specific Comment 15

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Specific Comment 16

The State originally commented that pollutant mobility criteria must be proposed for any substance which is part of a release, but is not listed in Appendix B to the Remediation Standard Regulations. The Navy responded by paraphrasing Section 22a-133k-2(c)(2)(D) of the Regulations, concerning Polluted Soils in a GB Area. The Navy also references information provided in a review course presented on January 24, 1997 by the Department and the Environmental Professionals' Organization of Connecticut. The course information stated that concentrations of inorganics and PCBs may be compared to the ground water protection criteria after the mass concentration is divided by 20.

The Navy proposes to calculate an alternative pollutant mobility criteria for these substances by multiplying the GA ground water protection criteria by 20. If TCLP or SPLP results are available, the Navy will compare those results to the alternative criteria. The Navy will indicate in a footnote to the tables "whether the TCLP/SPLP results verified or disproved the results of the screening".

The State is unsure of the purpose of this proposal, and of the nature of the "screening" process proposed by the Navy. Does the Navy intend to initially screen soil samples by comparing the mass concentration divided by 20 to the ground water protection criteria, and then to compare these results to any available TCLP/ SPLP data?

I spoke with Mr. Corey Rich of Tetra- Tech NUS on March 22, 1999 regarding this issue. He stated that the Navy intended to apply a theoretical 20x "rule-of-thumb" relationship between samples analyzed for total metals using a non-leaching method, and samples analyzed for metals by a leachate method such as TCLP or SPLP. This rule-of-thumb is based on the most conservative case in which all available metals are extracted from a sample by the leachate extraction process, and are detected in the leachate. In this case, a sample with a total lead concentration of 20 mg/kg would produce a TCLP leachate with a lead concentration of 1 mg/l.

Mr. Rich stated that the Navy's intent was to use this rule of thumb to evaluate total metals data for compliance with the pollutant mobility criteria for sites where no existing TCLP or SPLP data is

available. The Navy did not intend to apply for alternative pollutant mobility criteria under Section 22a-133k-2(d)(5) of the Regulations. The use of this rule for screening existing data for the Existing Data Summary Report is acceptable to the State. If the results of this screening indicate that there is potential for leaching to ground water (i.e., if the results of the mass analysis divided by 20 exceed the ground water protection criteria, then further sampling and analysis must be conducted using the TCLP or SPLP procedure. At any sites where remediation is conducted, TCLP or SPLP analysis must be used to determine compliance with the pollutant mobility criteria for metals and PCBs. I strongly recommend that the Navy use the SPLP procedure, rather than the TCLP procedure, when evaluating metals data for compliance with the pollutant mobility criteria.

Specific Comment 17

The Navy's response is acceptable to the State.

Specific Comment 18

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Specific Comment 19

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Specific Comment 20

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Specific Comment 21

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Specific Comment 22

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Specific Comment 23

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Specific Comment 24

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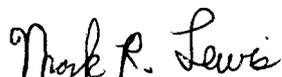
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Specific Comment 25

The Navy states that the April 1, 1998 version of the Region III RBC tables were used in the report. Please note that in evaluating the Navy's request for approval of criteria for additional polluting substances, the Department will use the most recent edition of this table.

If you have any questions regarding this letter, please contact me at (860) 424-3768.

Sincerely,



Mark R. Lewis
Senior Environmental Analyst
Federal Remediation Program
Permitting, Enforcement & Remediation Division
Bureau of Water Management

cc: Kymberlee Keckler, US EPA New England, Federal Facilities Section
Dick Conant, NSBNL Environmental Department
Corey Rich, TtNUS Environmental