STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

February 3, 1998

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: Application for Alternative Direct Exposure Criteria, Area A Downstream, FS/PRAP/ROD, Naval Submarine Base New London, Groton, Connecticut

Dear Mr. Evans:

Mr. Gary Ginsberg of the Department of Public Health has completed his initial review of the Navy's application to use alternative site- specific Direct Exposure Criteria (DEC) for the Area A Downstream site at the Naval Submarine Base New London in Groton. His review has raised several additional questions which must be answered in order for him to complete his review. His questions and concerns are detailed in the attached memorandum. Please provide the required information to me in writing. If you wish to arrange a meeting with Mr. Ginsberg to discuss his concerns, please contact me.

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

Sincerely,

Mark R. Lewis

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

Enclosure

cc: Kymberlee Keckler, US EPA New England, Federal Facilities Section
Richard Conant, NSBNL Environmental Department
Jean- Luc Glorieux, P.E., Brown and Root Environmental
Gary Ginsberg, Conn. Dept. of Public Health

MEMORANDUM

TO: ELSIE PATTON, CTDEP/WATER BUREAU
THRU: MARY LOU FLEISSNER, DPH/EEOH
FROM: GARY GINSBERG, DPH/EEOH
DATE: 12/15/97

re: NAVY REQUEST FOR ADECs

EEOH has reviewed the Navy's request for implementation of alternative direct exposure criteria (ADECs) on the basis of a trespasser exposure scenario in lieu of the default residential and industrial/commercial scenarios. We have the following informational needs regarding the Navy's application at this time. Please let us know if you have any questions regarding our comments.

1. The application does not adequately describe the site and its potential uses by trespassers. Please describe where on the site swimming/water play is possible and by whom. Are there trails from North Lake into the surrounding (contaminated) woods? Is the area used by children on dirt bicycles? How close are the nearest residences? Describe any fencing which currently limits access to contaminated areas.

2. The risk assessment calculates dermal uptake and risks for only certain constituents found on-site (PCBs, dioxins, cadmium). Further, risks were not added across the dermal and ingestion pathways. Dermal uptake from the other semi-volatile and inorganic constituents should be estimated so that dermal exposure estimates are available for all analytes. These should then be cumulated with ingestion exposures to determine if the proposed ADECs are adequately protective in light of the cumulative (ingestion + dermal) risks.

3. Risk-based remediation targets were developed for 2 constituents based upon analogy with other chemicals for which EPA-derived RfDs exist. Thus, 3-methylphenol was used as a surrogate for 4-chloro-3-methylphenol, and 2-methylphenol was used as a surrogate for 4,6,-dinitro-2-methylphenol. Given the chemical differences between the surrogate compounds and the constituents needing remediation targets, greater justification for the approach used is needed. This should take the form of a complete literature search and evaluation for the constituents and their surrogates to determine if they can be considered toxicologically equivalent.

4. The remediation target for lead for the trespasser scenario was taken to be 1000 ppm instead of the RSR target for children exposed to lead of 500 ppm. The basis for the 1000 ppm target was that the trespasser scenario was considered to be more like an industrial exposure scenario, thus invoking the industrial lead soil remediation standard. However, this ignores several important exposure issues: the industrial scenario assumes only 50

mg/day soil ingestion for a 70 kg body weight while the trespasser scenario assumes 100 mg/day soil ingestion for a 43 kg body weight. This higher rate of soil (and thus lead) exposure in the trespasser scenario is partially offset by a somewhat lower frequency of exposure (120 days/year for trespassers; 250 days/year for workers), but it is clear that children trespassers could still receive a higher dose per body weight than would workers. Therefore, additional justification is needed to warrant changing the lead target to a number higher than 500 ppm. Detailed analysis using an adult blood lead model (Bowers, et al., Risk Analysis 14: 183-189, 1994) would be a useful manner to evaluate this issue.

5. Page 3 of the application states that future development (commercial, industrial, or residential is unlikely because it is within the Explosive Safety Quantity Distance arcs of the Area A Weapon Center and because it would be otherwise unattractive for such development. Will this lack of future development be ensured via zoning or deed restrictions?

6. The application does not describe how much sampling data exists for each zone; this is important in interpreting the meaning of the average or maximum concentrations shown in the application. To facilitate the final review the following should be provided: the number of samples analyzed for each constituent in each zone, the frequency of detection, the arithmetic mean and maximum detect. Additionally, the one map provided is unclear with respect to zone boundaries, location of fencing, and density of brush/vegetation. A more useful map is needed.

cc: Mark Lewis, DEP