



STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



November 23, 1994

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

Re: State Comments Regarding Draft Copy, Action Memorandum for the
Defense Reutilization and Marketing Office and the
Spent Acid Storage and Disposal Area
Installation Restoration Program
Naval Submarine Base- New London
Groton, Connecticut, September 20, 1994

Dear Mr. Evans:

Staff of the Permitting, Enforcement, and Remediation Division of the Bureau of Water Management have reviewed the report entitled "Draft Copy, Action Memorandum for the Defense Reutilization and Marketing Office and the Spent Acid Storage and Disposal Area, Installation Restoration Program, Naval Submarine Base- New London, Groton, Connecticut", dated September 20, 1994. The report was prepared by Atlantic Environmental Services, Inc. on behalf of the US Navy's Northern Division Naval Facilities Engineering Command.

The Department is generally in agreement with the proposed options of excavation and off site disposal of contaminated soil at both the DRMO and Spent Acid Storage and Disposal Areas, and capping of the DRMO. We agree that these actions should be carried out as soon as possible, to eliminate the potential threat to public health posed by direct contact with site soils. However, we feel that these options may not be protective of surface and ground water. Further excavation or other remedial action may be required if currently planned studies determine that remaining wastes pose an actual or potential threat to surface or ground water. Our specific concerns are listed below.

All references to CGS mean the Connecticut General Statutes, while RCSA stands for the Regulations of Connecticut State Agencies.

(Printed on Recycled Paper)

79 Elm Street • Hartford, CT 06106 - 5124
An Equal Opportunity Employer

**State Comments- Naval Submarine Base New London Draft Action Memorandum
DRMO and Spent Acid Storage and Disposal Area**

November 23, 1994

Page 2 of 6

GENERAL COMMENTS

Our most important concern is that the 500 ppm total lead or 5 ppm TCLP lead cleanup levels selected may not be protective of ground water or surface water quality. As we have stated in previous letters, the Department is in the process of promulgating and adopting Clean Up Standard Regulations as required by Section 22a-133k of the Connecticut General Statutes. Under these regulations, the proposed pollutant mobility based soil clean up standard for a given site will be based on the ground water quality classification goal at that site. At this site and others with the same ground water quality classification goal of GA, the standard for lead as measured by TCLP will be equal to the current Federal drinking water Action Level of 15 ppb. Since the cleanup standard regulations have not yet been adopted, they are not ARARs which must be complied with by the current Removal Action. However, it is anticipated that the regulations will be in place, and will constitute ARARs, by the time a Record of Decision is issued for the DRMO and Spent Acid sites. For this reason, it would be prudent to comply with these requirements to the maximum extent possible during the current Removal Action.

This concern applies particularly in the case of the DRMO, which will be capped following excavation. On page 38, the Action Memo states that capping of the site "will not prevent implementation of a groundwater recovery and treatment system or of an *in situ* groundwater/soil remediation alternative". This implies that *ex situ* options have been eliminated. It is inappropriate to do so at this time, since ground water and ecological studies have not been completed, and all remedial options have not been evaluated. Capping is intended only to address threats to human health posed by direct exposure to landfill contaminants. Since much of the landfill waste is likely to be saturated, additional measures may be required to address the potential threat or actual impacts to surface and ground water quality posed by saturated landfill wastes. The effectiveness of pump and treat based *in situ* options may be limited by the proximity of the DRMO to the Thames River. Excavation of additional landfill wastes and /or soil may be required if future investigations identify unacceptable impacts on surface water and ground water.

A demonstration that lead is not present above drinking water standards in site ground water will not, by itself, eliminate the requirement to remediate soils with contaminant concentrations which exceed pollutant mobility based soil cleanup criteria. It is the Department's position that any soils with contaminant concentrations in excess of these criteria constitute a potential source of pollution to the waters of the State. Remediation of these soils to applicable soil clean up criteria could be required.

Given the possible future requirement for further remedial action, including possible excavation, the State feels that a bituminous concrete cover should be considered for the purpose of preventing direct contact with contaminated soils. This would be less expensive than the currently proposed impervious cap. It would also present less of an obstacle if further excavation is found

to be necessary when ground water investigations have been completed.

SPECIFIC COMMENTS

Section 2.1.1.2 Target Cleanup Standards, Page 9

The table listing target cleanup standards for various contaminants of concern states that a mass based criteria of 500 ppm was established for lead rather than a requirement based on TCLP extract concentrations. According to the table, this concentration represents the lower end of the range recommended by EPA and the Agency for Toxic Substances and Disease Registry for Protection of Human Health. The table further states that this value was chosen to protect ground water quality, in response to the State's comments.

This statement misrepresents the Department's position. The State agrees that this criteria is appropriate for the protection of human health from the threat posed by direct contact with lead contaminated soils. However, we do not feel that the 500 ppm mass analysis lead criteria is protective of ground water, except for material which is beneath an impervious cap, and above the water table. Further action may be required if soils left in place under this scenario are found to represent an actual or potential threat to ground water quality.

Mass based analysis is appropriate as a measure of the threat to human health posed by direct contact with contaminated soil. However, there is no basis for deciding that ground water quality will be protected by selecting a mass based concentration which is at the lower end of the range of values recommended for direct exposure criteria. The direct contact and pollutant mobility criteria have different goals and are derived by different methods. They cannot be directly related to one another.

The Department prefers that TCLP analysis be used for determining compliance with the pollutant mobility soil clean up criteria. However, in cases where TCLP analysis cannot be used for this purpose, the Department would consider a mass analysis based pollutant mobility soil cleanup criteria equal to 20 x the TCLP based criteria. In the case of lead, the mass analysis based ground water protection criteria would be 300 ppb. This conversion represents a "worst case" scenario in which it is assumed that all of the contaminant of interest is leached from the soil or waste to the ground water.

As an alternative to using TCLP or total metals analysis for determining the potential impact of contaminated soils upon ground water, the State would consider an alternative

***State Comments- Naval Submarine Base New London Draft Action Memorandum
DRMO and Spent Acid Storage and Disposal Area
November 23, 1994
Page 4 of 6***

leaching model using site specific soils. Modelling of contaminant transport in the unsaturated zone would also be required.

Section 2.1.3.2 Site-Specific Geology and Hydrogeology, Page 13

U.S.G.S. is an abbreviation for U.S. Geological Survey, not U.S. Geological Service.

Section 5.1.1.1 DRMO- Excavation and Off-Site Disposal at RCRA Landfill, Page 36

The second to last sentence in the first paragraph is incomplete.

Section 5.1.2 DRMO- Contribution to Remedial Performance, Page 38

The report states here that capping will not interfere with installation of a groundwater recovery and treatment system or an *in situ* groundwater/ soil remedial alternative. As stated more fully above under general comments, this implies that *ex situ* remedial alternatives have already been eliminated from further consideration without the detailed supporting analysis which is required as part of the RI/FS process. The *a priori* elimination of an entire class of remedial technologies is unacceptable to the State. However, waiting for such detailed analysis to be completed would cause an unacceptable delay in the installation of the cap.

To resolve this conflict, the State recommends that our proposed pollutant mobility criteria of 15 ppb as measured by TCLP, or 300 ppb mass concentration, be adopted as a clean up goal for lead contaminated soils for the current removal action. All soils with lead contamination above this level should be removed now, before the cap is installed. This would have the additional advantage of avoiding any problems that could arise if soil with contaminants above this concentration remain in place when the proposed Clean Up Standard Regulation is adopted and becomes an ARAR. In such an event, the existence of a cap would be automatic grounds for an ARAR waiver.

Section 5.1.3, DRMO- Description of Alternative Remedial Technologies, Page 38, and Section 5.2.3, Spent Acid Area- Description of Alternative Remedial Technologies, Page 51

In the first sentence of the first paragraph in both sections, the word "of" should be inserted into the phrase "selection [of] the proposed action".

Table 5-6 DRMO Action Specific ARARs and TBCs, Page 45

***State Comments- Naval Submarine Base New London Draft Action Memorandum
DRMO and Spent Acid Storage and Disposal Area
November 23, 1994
Page 5 of 6***

Connecticut's Air Permitting Regulations (RCSA §22a-174-1 to 29) are potential ARARs for closure of the former landfill at the DRMO. Landfill decomposition gases are considered air pollutants under these regulations. Any landfill with potential emissions of any air pollutant, including methane, greater than 5 tons per year, requires a permit to construct and operate under RCSA §22a-174-3(a)(1)(K). Under Best Available Control Technology Requirements, active landfill gas collection systems will be required for closure of such landfills. This position is more fully explained in a June 20, 1994 memo from our Air Management Bureau, regarding air quality requirements in landfill closures. This document was provided to you previously. However, for your convenience, a copy is attached to this letter.

Section 5.2.1.1 Spent Acid Area- Excavation and Off-Site Disposal RCRA Landfill, Page 48

The first paragraph discusses establishment of an ARAR based TCLP lead cleanup level of 5 ppm. This is based on the fact that soils which leach lead above this concentration are considered a hazardous waste. It appears that for the Spent Acid Storage Area, a waste characterization and disposal criteria is being applied directly as a remediation standard. Such a cleanup level would likely satisfy the RCRA "Clean Closure" requirements and ensure that upon excavation none of the remaining soils would be characteristically hazardous under RCRA. However, DEP would not consider the application of this standard as a cleanup goal to be protective of groundwater. As explained above, Connecticut's soil clean up requirements are based on the goals of protecting human health from direct exposure to pollutants in soils, and protection of surface and ground water quality from pollutants which leach from contaminated soils. Cleanup standards do not necessarily correspond to the RCRA criteria, which are used to characterize soil or for purposes of waste handling and disposal. The pollutant mobility soil clean up criteria for most contaminants is considerably lower than the RCRA "hazardous" criteria.

The State understands that Removal Actions are aimed at the most immediate threats posed by a site and do not typically address ground water. However, it would ultimately be more cost effective and efficient to address potential threats to ground water as part of the current removal action.

Section 5.2.2 Spent Acid Area- Contribution to Remedial Performance, Page 50

As at the DRMO, this section states that although this removal action does not address ground water, it will not be incompatible with any future remedial action and it is anticipated that no further excavation will be required. In addition, the one of the stated goals at the Spent Acid Area is to "clean-close the site to eliminate post closure monitoring and restrictions". The clean up criteria selected for this removal action are suitable for ensuring that none of the soil remaining in place is characteristically

***State Comments- Naval Submarine Base New London Draft Action Memorandum
DRMO and Spent Acid Storage and Disposal Area***

November 23, 1994

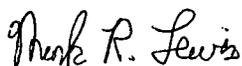
Page 6 of 6

hazardous under RCRA. They are also appropriate as direct exposure criteria. However, the State feels that these criteria are not adequate for protection of ground water. It is not appropriate to determine whether further excavation will be required until ecological and groundwater studies are completed. Though the RCRA "clean closure" requirements would be satisfied, the State's concerns regarding protection of ground water quality would not be addressed.

In addition, it is the State's understanding that all hazardous waste handling and disposal at the Spent Acid Area and DRMO took place prior to the 1980 passage of RCRA. If this is the case, then these sites do not constitute RCRA Land Disposal Units. RCRA closure requirements would not apply to waste or contaminated soil which remains in place.

If you have any questions regarding this letter, please contact me at (203) 424-3768.

Sincerely,



Mark R. Lewis
Environmental Analyst 2
Permitting, Enforcement & Remediation Division
Bureau of Water Management

cc: Ms. Kymberlee Keckler, US EPA Region 1
Mr. Barry Giroux, Atlantic Environmental Services, Inc.

Enclosure

Memorandum

To: Richard Barlow, Chief
Bureau of Waste Management

CC: Glen Daraskevich, APCE Intern
Susan Amarello, Supervising APCE
Bob Rubino, Asst. Director
Steven Peplau, Director

From: Carmine DiBattista, Chief
Bureau of Air Management

Date: June 20, 1994

Subject: Air Bureau Involvement in Landfill Closure Plans

This memorandum is written in response to your questions regarding emissions from landfills. Landfill decomposition gases contain pollutants which are regulated by the Regulations of Connecticut State Agencies §22a-174. Many of these landfill decomposition gases participate in ground level ozone reactions, which are a major concern in Connecticut, a state that is classified as non-attainment for ozone. For these reasons, we would like to have as much involvement in the landfill closure process as needed. We should meet to assure suitable coordination of our respective responsibilities. Following are answers to your questions.

1. Any landfill with potential emissions of any particular air pollutant (including methane) greater than 5 TPY will be required to apply for and obtain air permits to construct and/or operate pursuant to §22a-174-3(a)(1)(K). This requirement will most likely affect all of the landfills, and all applications must be received prior to construction. The review time for each complete application would take approximately 3 to 4 months. This review time might pose a problem with the October 9, 1994 deadline. We will consider ways to deal with these time lines.
2. The cut-off point is the 5 TPY emission level listed above. There also will be Federal requirements for landfills with capacities of 1 million metric tons or greater.

3. Air Management Bureau Staff can be provided to review air emission estimates.

The most important issue, however, is that Best Available Control Technology determinations are also required for each air pollutant for which a landfill has potential emissions of greater than 5 TPY. If a determination is made that air pollution controls are required for a landfill, its landfill gas collection system must be compatible with the pollution controls. Therefore, if the pollution controls require active gas collection, the landfill must be designed with an active gas collection system before its closure plan is approved. If assistance is needed in identifying sources which require active gas collection systems, Air Management Bureau Staff will be provided. Please call me to schedule a meeting to assure proper coordination on this issue.

Thank you.