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*Phil*  
*Hofa*



DEPARTMENT OF THE NAVY  
NAVAL SEA SYSTEMS COMMAND  
WASHINGTON, DC 20362-5101

RECEIVED

JAN 16 1990



IN REPLY REFER TO  
*Paul Day*

EPA HAZARDOUS WASTE POLICY BRANCH  
Docket (OS-305)  
U.S. Environmental Protection Agency  
401 M. Street, S.W.  
Washington, D.C. 20460

January 5, 1990

RECEIVED

JAN 17 1990

SUPERFUND BRANCH

Re: Docket Number F-89-LD12-FFFFF

Dear Sirs:

This letter provides comments on behalf of the U.S. Naval Nuclear Propulsion Program on the proposed treatment standard for D008, high lead subcategory, nonwastewater, issued as part of the proposed rule for Land Disposal Restrictions for the third "Third" of Scheduled Wastes in the November 22, 1989 Federal Register.

The Naval Nuclear Propulsion Program is a joint Department of Energy/Department of the Navy organization responsible for all facets of naval nuclear propulsion, including the overhauling, refueling and servicing of the propulsion plants of nuclear powered ships, disposal of radioactive waste created in the process of such work, and the ultimate disposition of naval nuclear reactor plants. One of our key waste disposal activities is the disposal of reactor compartments removed from defueled submarines being deactivated.

The submarine reactor compartment disposal program was the subject of an extensive environmental analysis, which resulted in the May 1984 issuance of an Environmental Impact Statement. The EIS, which was concurred in by EPA, established that land burial of the compartments was an environmentally acceptable alternative. The reactor compartments are currently being disposed of at the Department of Energy's (DOE) Hanford reservation. Because each reactor compartment contains over 100 tons of lead as radiation shielding and ballast, actions are underway to obtain permits for the Hanford burial trench under the Washington State Administrative Code provisions implementing the State's authority under the Resource Conservation and Recovery Act (RCRA).

The comments which we are supplying on the proposed rule derive from our knowledge and experience with reactor compartment disposal described above, as well as disposal of radioactive waste using lead-shielded containers.

With respect to the reactor compartments, the lead present at the time of burial is completely encapsulated behind or within

Hanford Project Office

JAN 22 1990

Environmental

the metal of the submarine hull and structure. To remove all of the lead would entail significant personnel radiation exposure (over 100 man-rem per reactor compartment) and substantial expense (over \$10 million per reactor compartment). Since the bulk of the lead is protected by over one inch of steel, with smaller portions behind metal plates that are 3/8 inch thick, the Navy is in the process of developing a detailed analysis to be supplied to the State of Washington and EPA Region X showing that the lead is expected to remain contained within the reactor compartment package in excess of several hundred years, well beyond the normal period of concern for post-closure of RCRA burial grounds. Naturally, the arid environment of the Hanford burial ground is conducive to this containment.

For the reasons cited above, it is vitally important to the Navy that the restrictions on land burial of lead contemplated in your proposed rule not preclude continuation of the submarine reactor compartment disposal effort. In our view, disposal of the lead present in the reactor compartment packages as part of the packages is the "Best Demonstrated Available Technology" for this unique application.

With respect to the use of lead as shielding in radioactive waste disposal containers, we note that the proposed rule requires the use of thermal recovery (i.e., melting and recovering the lead) as a treatment standard for non-wastewater, non-radioactive wastes containing more than 2.5% lead. This appears to be inconsistent with the position taken by the Office of Solid Waste in a letter dated June 26, 1987 to the Rocky Mountain Compact region, copy attached. The letter states "...lead whose primary use is shielding in low-level waste disposal operations is not subject to Federal hazardous waste regulations when placed on the land as part of its normal commercial use..." The policy contained in that letter is well founded as removal of the lead is likely to entail personnel radiation exposure. Further, the package in which the lead exists is already designed to provide a high degree of containment since its intended use is for disposal of radioactive materials. Within the Naval Nuclear Propulsion Program, recognizing the environmental burden imposed through use of lead, we minimize its use in new radioactive material disposal containers; nonetheless, lead is more prevalent in older designs.

To resolve or mitigate the concerns cited above, the Naval Nuclear Propulsion Program recommends that EPA consider two alternatives. The first would be to clarify in the final rule that lead shielding used in radioactive waste disposal continues to serve a functional purpose, and that it is therefore not a waste and is not subject to a treatment standard prior to land disposal. This is consistent with the June 1987 EPA letter. We recognize that if this were done, we would still need to obtain a Washington State Dangerous Waste permit for our reactor

compartment packages since the State regulations prevail, but adopting this approach remains advantageous owing to its technical justification and applicability to our other waste activities.

The second alternative entails establishing encapsulation of the lead as a treatment standard for that lead contained in radioactive waste packages, and then defining specific technical criteria for encapsulation, such as encapsulation time or encapsulation media.

We appreciate the opportunity to comment on the proposed EPA rule and wish to emphasize how important we view the adoption of conservative yet reasonable standards, as described above, to permit us to continue to responsibly meet our environmental and programmatic commitments. Should you desire any further information, please feel free to contact me at 602-1695.

*Richard A. Guida*

Richard A. Guida  
Associate Director for  
Regulatory Affairs  
Naval Nuclear Propulsion Program

Enclosure: USEPA letter of June 26, 1987 to Chair, Northwest  
Interstate Compact Committee

Copy to:  
Director, Office of Federal  
Activities, EPA  
Administrator, EPA Region X

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUN 26 1977

Mr. Terry Hussenman  
Chair, Northwest Interstate  
Compact Committee  
Washington Department of Ecology  
FV-11  
Olympia, Washington 98504

Dear Mr. Hussenman:

Thank you for your letter of May 23 in which you requested guidance on treatment and disposal methods for low-level waste that contains uncontaminated lead used as shielding, surface contaminated lead and activated lead.

First, I would like to address activated or radioactive lead. As you know, lead is not a naturally occurring radionuclide. Lead may become radioactive or activated as a result of neutron bombardment while being used as shielding in nuclear power plants, for example. Such activated lead, if short-lived, may be stored to allow radioactive decay prior to disposal. The resultant non-activated or elemental lead may be disposed of as hazardous waste in a hazardous waste disposal facility. If storage for decay is impractical, the activated lead must be managed as mixed waste. You should note, however, that in States authorized to administer the Federal mixed waste program or in States with Federally administered hazardous waste programs, any storage of mixed waste in excess of ninety days for generators and ten days for transfer facilities would require a Resource Conservation and Recovery Act (RCRA) permit. Similarly, designated storage facilities must obtain a RCRA permit.

Lead which is contaminated on the surface may be decontaminated by a number of commercially available processes. However, because lead is malleable and easily gouged or pitted, radioactive contamination is often not limited to the surface and may be imbedded in the lead itself. Where decontamination is incomplete or contraindicated because of occupational health considerations, the lead must be managed as a mixed waste. Also, EPA's Office of Radiation Programs is developing a standard which will delineate levels of radiation which are below regulatory concern (BRC). Once BRC levels have been established, it may be possible to dispose of lead which exhibits BRC levels of radioactive contamination as a hazardous waste.

- 2 -

Lead containers or container liners which are used as shielding in low-level waste disposal operations pose a unique problem. Containers or container liners are not regulated by the Agency (See 40 CFR 261.7) nor would they be a waste because they are fulfilling intended uses. (CFR 40 CFR 261.2(c)(1)(ii)). In this instance, containers or liners may be analogous to commercial chemical products (e.g., pesticides) where as a product, their normal use is placement on the land. Therefore, lead whose primary use is shielding in low-level waste disposal operations is not subject to Federal hazardous waste regulations when placed on the land as part of its normal commercial use.

Encapsulation represents a viable mechanism for mitigating the hazardous waste characteristic lead may exhibit upon EP toxicity testing only in specific circumstances. The EP toxicity test procedure requires grinding the waste into pieces not greater than one square centimeter in size prior to extraction. Therefore, encapsulation would result in a non-hazardous waste only in those instances where it could be demonstrated that the encapsulation process results in a product that would not degrade after disposal, (i.e., is resistant to degradation or fracturing when placed in the land disposal environment). In such instances, you could petition the Agency to waive the EP toxicity test requirement. Additionally, the Agency is revising existing EP toxicity test procedures. Work is underway to develop procedures for evaluating a waste's long term physical stability. These procedures may then be used demonstrate that the encapsulated material will not degrade and allow testing of an intact lead brick or the like, for example.

The Agency has not evaluated specific technologies for encapsulation of lead or other wastes, nor has the Agency performed specific laboratory analyses of materials to determine their resistance to the EP toxicity test. However, a polymer or some other material which maintains its integrity under environmental stress would seem to be suitable.

In view of the urgency of the lead issue, it may be prudent to explore the feasibility of obtaining both a Nuclear Regulatory Commission license and an EPA permit to provide for the disposal of mixed waste.

If I can be of further assistance, do not hesitate to contact me.

Sincerely yours,

  
Marice F. Williams, Director  
Office of Solid Waste

cc: Alan Corson  
Floyd Galpin  
Ken Shuster

## DISTRIBUTION COVERSHEET

<b>Author</b> R. A. Guida, Dept. of Navy  cc: JL Waite  <b>Subject</b> LAND DISPOSAL RESTRICTION	<b>Addressee</b> P. T. Day, EPA	<b>Correspondence No.</b> 9000411
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**Addressee**  
P. T. Day, EPA

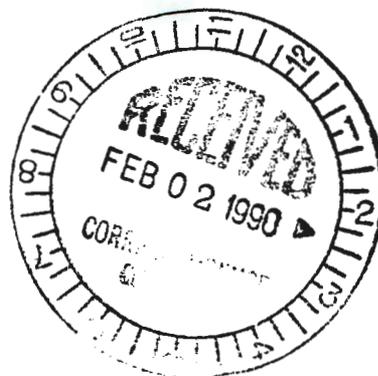
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Administrator, EPA Region X



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

JUN 26 1997

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2V-11  
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