



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

MAR 13 1992

Reply from LHW  
on Rad Coats  
UHS

MEMORANDUM FOR: John E. Glenn, Chief  
Medical, Academic, and Commercial  
Use Safety Branch  
Division of Industrial and  
Medical Nuclear Safety, NMSS

FROM: John H. Austin, Chief  
Decommissioning and Regulatory  
Issues Branch  
Division of Low-Level Waste Management  
and Decommissioning, NMSS

SUBJECT: REQUEST FROM USDA FOR ON-SITE BURIAL OF ANIMAL  
CARCASSES CONTAMINATED WITH LICENSED MATERIAL

Our review of U.S. Department of Agriculture's (USDA's) request for a 10 CFR 20.302 burial on the Jornada Experimental Range in Las Cruces, New Mexico has been completed. Based on our review, we conclude that much less information is necessary than is requested in the draft memorandum to Region I. Specifically, we believe the only additional information necessary is items c (burial location); h (notification of State and local authorities); and i (certification of information). Although the information provided by the USDA was incomplete, it was sufficient to conservatively estimate the potential doses to the general public.

Although the actual activity in the disposal pit is unknown, the licensee appears to have made reasonable estimates of the total quantity of buried radionuclides. We have made conservative assumptions in both the concentrations of the isotopes and in the burial environment and estimated conservative doses using the RESRAD computer code version 4.10. Enclosed is a copy of one of the RESRAD runs. The explanations for the assumptions are contained in the attached note to Mike Weber from Heather Astwood dated February 6, 1992.

The results of these computer runs indicate that even with very conservative estimates of the source term and environmental setting, the maximum potential dose to a hypothetical member of the public is calculated to be about 26 mrem/yr. This calculation assumes no decay of the isotopes since the start of the experiment in February 1991; no loss of the isotopes during the experiment, twice the concentration stated in the report, a distribution coefficient of 1, water table within 4 meters of the bottom of the burial pit, and only 0.5 meters of cover. We would expect more realistic doses to be much lower because of the very conservative nature of these assumptions.

Therefore, even though the information provided by the licensee was limited, it was sufficient to produce conservative estimates of potential doses. Based on the results of our assessment, we are prepared to concur with the approval of this burial pursuant to 10 CFR 20.302, provided (1) the licensee provides the limited information identified and (2) NRC prepares an environmental assessment in support of the license amendment authorizing the burial by the USDA.

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In order to increase the efficiency of the agency's review of 20.302 requests in the future, I suggest that all requests should initially be reviewed by the Decommissioning and Regulatory Issues Branch of the Division of Low-Level Waste Management and Decommissioning and then forwarded to the Division of Medical, Academic, and Industrial Medical Nuclear Safety (IMNS) for concurrence and transmittal to the Region. We will also keep a log of such requests to ensure that they are appropriately recorded in a centralized agency record.

We have coordinated this response with James Smith of your staff. If you have any questions or need additional information, please contact Heather Astwood at 504-3466.



John H. Austin, Chief  
Decommissioning and Regulatory  
Issues Branch  
Division of Low-Level Waste Management  
and Decommissioning, NMSS

Enclosure: As Stated

cc: Jim Smith, IMAB  
Larry Camper, IMAB