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# UNIVERSITY OF HEALTH SCIENCES / THE CHICAGO MEDICAL SCHOOL

2020 West Ogden Avenue Chicago, Illinois 60612 (312) 942-2900

DEPARTMENT OF BIOCHEMISTRY

December 19, 1979

United States Nuclear Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Dear Sirs:

In reply to your IE Bulletin No. 79-19 we submit the following plan of action and information concerning the transfer, packaging and transport of radioactive material: -

1. We will maintain a current set of DOT and NRC regulations concerning the transfer, packaging and transfer of low-level radioactive waste material. It should also be mentioned that we are in possession of the document "A Review of DOT Regulations for Transportation of Radioactive Materials" issued October, 1977. Also, we have detailed printed instructions from waste collection contractor, Atomic Disposal Co., Inc., on their requirements for packaging.

2. We have obtained from Mr. James Bell of Atomic Disposal Co., a copy of this contractor's Materials License No. 12-11286-01 Amendment No. 12. As mentioned above, we have this contractor's instructions for packaging waste. Mr. Bell has also informed us that Atomic Disposal disposes the bulk of its waste in Richland, Washington but also utilizes sites at Barnwell, South Carolina and Beatty, Nevada. Mr. Bell assures us that he will keep us informed of current requirements imposed on Atomic Disposal so that we will be in compliance when we consign the packaged waste material to his company.

3. Persons in this institution who are responsible for the safe transfer, packaging and transport of low-level radioactive material include:

Dr. O.H. Callaghan - Room 406 Tel. (312) 942-2931

Dr. D. Danley - Room 526 Tel. (312) 942-2836

The above persons supervise the transfer of waste to a storage site (Room 1102) within the institution, and collaborate with Atomic Disposal Co. in the final packaging of waste in steel barrels. Barrels are supplied and removed by Atomic Disposal Co.

4. We will use the instructions of Atomic Disposal Co. as a guide to our procedures for packaging, since the aforesaid company has foreknowledge of the burial sites available and the unique requirements which each site may impose on packaging. Atomic Disposal Co. has already notified us of certain changes in requirements for containment of liquid wastes and the special procedures for preserving animal carcasses with low-level radioisotopes. Atomic Disposal has indicated that it will keep us notified of changes. The management represented by Dr. J.M. White, President, has approved these instructions.

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5 and 6. We are scheduling Annual meetings to discuss Radiation Safety Procedures with authorized users, their assistants and building service personnel. At these meetings, packaging procedures as required by DOT and NRC regulations will be described. In the near future a special meeting will be held to describe DOT and NRC packaging regulations, and records will be kept. Special attention will be given to keeping the volume of low-level radioactive waste to a minimum.

7. Our Radiation Safety Committee submits all decisions on policy and safety procedures (including disposal of wastes) to the Administration of our Institution for approval and ratification. It may be said that our Management has audit power over everything the Committee does. The requirements of Bulletin No. 79-19 were discussed with Dr. Joseph White, President, and our actions are routinely reported to Dr. White.

8. Dr. White appointed Dr. V. Nair, Dean of the Graduate School to audit the arrangements for packaging and transportation of low-level radioactive waste. Dr. Nair is familiar with our activities given in Items 1-6. Enclosed is a copy of Dr. Nair's report to Dr. White, concerning his audit on November 27, 1979.

Finally, responses are given to the questions posed in IE Bulletin No. 79-19.

1) During 1978 and the first six months of 1979 we made the following five shipments:

<u>Date</u>	<u>55 gal. drums</u>	<u>20/35 gal drums</u>	<u>Curies (approx.)</u>
4/3/78	5	1	0.0238
8/10/78	5	2	0.007
11/22/78	5	1	0.006
3/20/79	<u>6</u>	<u>2</u>	<u>0.0013</u>
TOTAL	1155 gal.	120 gal.	0.0381 Curies

Also on 12/6/78 a freezer contaminated with (approximately) 0.00005 Curies of  $^3\text{H}$ -compounds, and having a volume of 27 cubic feet was crated, sealed and removed. All of the above shipments were undertaken by Atomic Disposal Company.

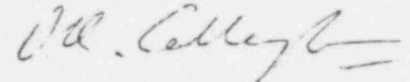
2) The major isotopes in the waste were  $^{14}\text{C}$  and  $^3\text{H}$  with much smaller amounts of  $^{51}\text{Cr}$ ,  $^{32}\text{P}$ ,  $^{39}\text{S}$  and  $^{125}\text{I}$ .

3) Liquid waste chiefly in the form of scintillation counter fluids was dispatched in the 20/35 gal. drums. These consist of an outer 35 gallon drum, containing a 20 gallon drum surrounded by vermiculite and (during 1979) filled partly with vermiculite. Thus, after the beginning of 1979, 15 gallons of liquid waste in a drum was solidified by an equal volume of vermiculite.

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In our next shipment, a new procedure by Atomic Disposal Co. to solidify liquid waste will be used. Fifteen gallons of liquid will be poured on a layer of absorbent made from corn husks. This mixture is contained within a liner bag inside a steel drum.

Sincerely yours,



Owen H. Callaghan,  
Chairman,  
Radiation Safety Committee

OHC:cp

xc: Drs. J. White  
C. Martin  
United States Nuclear Regulatory  
Commission  
Office of Inspection and Enforcement  
Division of Fuel Facility and Materials  
Safety Inspection  
Washington, D.C., 20555

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OFFICE OF THE DEAN  
SCHOOL OF GRADUATE & POSTDOCTORAL STUDIES



TO: Joseph M. White, M.D.  
President

FROM: Vel Nair, Ph.D., D.Sc.  
Dean, School of Graduate & Postdoctoral Studies

*V. Nair*

DATE: November 27, 1979

I have reviewed today the arrangements established by the Radioisotope Committee for the proper packaging and transportation of low level radioactive waste. I have also inspected the radioactive waste storage facilities on the 11th floor. It is my conclusion that the packaging arrangements are in conformity with the latest instructions from Atomic Disposal Company, Inc. outlined in their letter of August 30, 1979.

VN:vb

cc: Dr. Callaghan  
Chairman, Radioisotope Committee

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