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MICHIGAN STATE UNIVERSITY

COLLEGE OF ENGINEERING · DIVISION OF ENGINEERING RESEARCH

EAST LANSING · MICHIGAN · 48824

October 19, 1979

U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
799 Roosevelt Rd.
Glen Ellyn, Illinois 60137

Docket 50-294

RE: IE Bulletin No. 79-19

Gentlemen:

Michigan State University has delegated the responsibility of transfer, packaging and transport of low-level radioactive material to the Department of Radiation, Chemical and Biological Safety. Warren Malchman, Director of the Department of Radiation, Chemical and Biological Safety has answered IE Bulletin No. 79-19 in the letter which has been attached to this response. We would like to supply additional information which pertains directly to the Nuclear Reactor Laboratory.

1. A current set of NRC regulations is maintained at the Reactor Laboratory.

2. Radiation safety is included in the reactor operator training program. This includes discussion and a demonstration of the proper handling and disposal of low-level waste.

During 1978 and the first six month of 1979,

1. 3 shipments totaling .5 cubic meters of low-level waste originated at the Reactor Laboratory consisting mainly of plastic gloves, bags and vials.

2. Less than 10 mCi of low-level waste was shipped. The major isotopes were $Na^{24}$, $K^{42}$, $Fe^{59}$, $Zn^{65}$, $Br^{82}$, $Eu^{152}$, $Lu^{177}$, $Au^{198}$, $Hg^{203}$, $Pa^{233}$.

3. We did not generate any liquid low-level waste.

Should there be any questions, please contact the Reactor Supervisor, James Carrick, at (517) 353-9097.

Sincerely,

Stephen H. Terry
Assistant Vice-President for Business and Finance

James Carrick
James Carrick
Reactor Supervisor

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MICHIGAN STATE UNIVERSITY

DEPARTMENT OF RADIATION, CHEMICAL AND BIOLOGICAL SAFETY
FEE HALL
TELEPHONE (517) 355-0153 or 353-6675

EAST LANSING · MICHIGAN · 48824

September 4, 1979

James G. Keppler, Director
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Re: NRC License Nos.
21-00021-29
21-00021-30
21-00021-32
SNM-390
R-114

Dear Mr. Keppler:

This is in regard to I.E. Bulletin No. 79-19, pertaining to the above Michigan State University NRC licenses. The Department of Radiation, Chemical and Biological Safety maintains a radioactive waste disposal service for all Michigan State University NRC licenses. The material given below is applicable to all of the above NRC authorizations.

1. The Department of Radiation, Chemical & Biological Safety maintains a current set of DOT and NRC regulations concerning the transfer, packaging and transport of low-level radioactive waste material.

2. The Radiation, Chemical & Biological Safety Department maintains a current set of requirements placed on the waste burial firm by the Agreement State. Regulations are checked before packaging low-level radioactive waste materials for transfer and shipment to an Agreement State licensee. Waste collection contractors are utilized and appropriate requirements are obtained from the contractor.

3. The following personnel are hereby designated, in writing, who are responsible for the safe transfer, packaging and transport of low-level radioactive waste material.

   Warren H. Malchman, Director
   Department of Radiation, Chemical & Biological Safety
   University Radiation Safety Officer

   Patrick Miller
   Health Physicist

   Steven Sawdey
   Safety Technician

4. The Director of the Department of Radiation, Chemical & Biological Safety approves instructions and operating procedures to all personnel involved in transfer, packaging and transport of all low-level radioactive material. (Applicable personnel are listed in Item #3). Special attention is given to controls on the chemical and physical form of the low-level radioactive material and on the containment integrity of the packaging. Specific instructions and operating procedures are essentially 49 CFR Parts 170-179 and CFR Parts 19-71.

5. The Radiation Technician is responsible for the day to day safe transfer, packaging and transport of low-level radioactive waste. Periodic training and retraining in the DOT and NRC regulatory requirements are conducted on an ongoing basis. The end result of training, periodic retraining and operating procedures are inspections by the University Radiation Safety Officer and the Health Physicist of each shipment of radioactive waste containers prior to transfer to the NRC licensed or waste collection contractor. As much as possible, a record of training dates, attendees and subject material will be documented.

6. Routine training programs are provided each semester to university personnel in order to assure that the volume of low-level radioactive waste is minimized and that such waste is processed into acceptable chemical and physical forms. In order to "minimize" radioactive waste, training programs emphasize that all potentially contaminated items be monitored, prior to disposal in designated radioactive waste containers. Experimental protocols must be designed to minimize the generation of waste volumes.

7. The Department of Radiation, Chemical & Biological Safety has established and implemented a management, controlled audit function of all transfer, packaging and transport activities to provide assurance that all personnel, instructions and procedures in processes and transport equipment are fun[illegible]ing to insure safety and compliance with regulatory requi[illegible]nts.

8. An audit has been performed (within the required 60 days of the i.e. Bulletin #79-19) of Michigan State University's activities associated with the transfer, packaging and transport of low-level radioactive waste. A record of future audits will be maintained for NRC and DOT inspectors.

9. For 1978 and for the first six months of 1979 the following questions are answered.

   1. There were 17 low-level radioactive waste shipments from Michigan State University. The total volume was 5,670 cubic feet.

2. There was a total quantity of 3.0 curies of low-level radioactive waste shipped. The major isotopes in the low-level radioactive waste were $^{3}H$, $^{14}C$, $^{125}I$ and $^{32}P$.

3. Michigan State University generated liquid low-level radioactive waste. The process used to solidify the waste was absorption in vermiculate, in accordance with instructions by the commercial nuclear waste disposal firm.

If any additional information or material is needed, please let me know.

Sincerely,

Warren H. Malchman
Director

WHM:jp

c.c. Office of Inspection & Enforcement,
Division of Fuel Facility & Materials Safety Inspection
U.S. Nuclear Regulatory Commission
Washington, DC 20055