



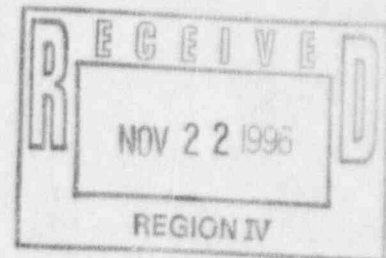
DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
National Institute of Diabetes and
Digestive and Kidney Diseases
4212 North 16th Street
Phoenix, Arizona 85016
(602) 263-1556

November 20, 1996

ATTN: Administrator
U.S. Nuclear Regulatory Commission, Region IV
611 Ryan Plaza Drive, Suite #400
Arlington, TX 76011-8064



RE: License #02-13990-01

Dear Sir:

The following is a written report required under 20.2201b which follows a phone report in accordance with 20.2201a for lost quantities of licensed materials greater than 10 times the quantity specified in appendix C-20.1001 - 20.2401. Phone report was made to Frank Wenslawski, Region IV on October 22, 1996.

Approximately 2 cubic feet of radioactive ^{32}P waste containing (at the time of disappearance) 750 uCi was lost from laboratory 8 in Building 1. This material is primarily in the form of dry papers and plastic tubes, but includes trace amounts of liquid (approximately 2 ul per tube). Based on discussion with laboratory members, the material was lost on Monday or Tuesday of the week of October 7, 1996. On October 9, a laboratory staff member noticed that the trash bin was empty, but had no reason at that time to be alarmed. On October 10, the laboratory staff member responsible for taking care of the radioactive trash, discovered that the trash bin was not as full as he would have expected and contacted his supervisor (Dr. Thompson) to see if the supervisor had emptied the container. As soon as it became clear that a quantity of radioactive material could be missing, Dr.

Thompson checked the outdoor dumpster with a pancake probe geiger counter. The dumpster had recently been emptied and only several bags of paper trash remained. There was no evidence of radioactivity either on or in the dumpster. Dr. Thompson then checked the floor of the laboratory in the area of the waste container, the waste container and the floor leading out of the laboratory including the laboratory door knob and again found no radioactivity. The janitorial closet, including handles on faucets, vacuum cleaner handle, handles of mops, mop buckets, and contents of the vacuum cleaner were checked and revealed no radioactivity. A smear survey of this same area was run and the results verified that no ^{32}P contamination had occurred. The laboratory members were asked if they had removed the trash and no one admitted removing the radioactive trash. Because a new janitorial service had been started on Monday, October 7, 1996, it became clear that they could have removed the trash unknowingly. Dr. Thompson

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called the cleaning company on October 10, and spoke with the owner. The owner was informed that we might be missing some radioactive trash and it was possible that his people might have removed it. He responded that he would check with all the personnel that had been in the lab and let Dr. Thompson know. On Friday, the cleaning company owner called stating that none of his people admitted to removing the trash, but that he had not contacted the cleaning crew supervisor. Dr. Thompson left a message for the owner of the cleaning company with his mobile phone service. The message asked that the cleaning company owner contact Dr. Thompson at work or at home if it was discovered that the housekeeping supervisor had removed the trash. No call was received. On Friday afternoon, the Radiation Safety Officer (Dr. Mott) was notified that a quantity of radioactive trash could be missing. Dr. Mott had not been aware that a non-hospital staff housekeeping group had been contracted to clean laboratory 8. Because the janitorial service had not received radiation safety officer approved training for working in a laboratory containing radioactive materials, the secretary for the administrative officer was informed that there was a violation of NRC regulations when a cleaning crew was working in lab 8 and in the absence of the administrator, she should contact the cleaning company and indicate that training was required before further work could be done in lab 8. On Tuesday, October 15, 1996 following the 3-day holiday, Dr. Thompson put together materials on radioactive hazards and reviewed these with the radiation safety officer. Dr. Thompson presented these materials covering biohazards, acids and radioactive hazards to the janitorial service in a meeting with them on Tuesday evening, October 15, 1996 in laboratory 8. At this time, the laboratory crew was again questioned regarding the removal of radioactive waste from the particular container from which the material had been lost. Again, none of the crew admitted removing trash from that particular container. Since the laboratory is locked and a key card is required for entry, it is unlikely that someone from the outside removed the material. The only personnel with access to the laboratory are those with key cards and include the members of the Phoenix Epidemiology and Clinical Research Branch as well as members of the associated CDNS located on the fifth floor of the Indian Hospital (the administrative officer has information on the individuals who have cards for this area).

The most probable fate of the ^{32}P radioactive waste is removal from the radiation hazard labeled trash bin, transfer to the outside trash bin and transport to the local landfill. No further efforts have been made to recover the material. The circumstances surrounding the removal of the radioactive waste are not clear. It is difficult to understand why any unauthorized person would remove the top of the trash bin, which was clearly labeled as containing radioactive materials and secured with four set screws. Removal of this top is necessary to remove the bag of trash inside the trash bin. If the trash was removed via a small hinged door in the top of

the bin, it would have to be accomplished by dumping the trash (contaminating the surfaces of the trash bin) or by removal of trash one handful at a time. The fact that there was no contamination observed by ^{32}P in a survey of the area on or around the trash bin or in the janitorial closet, suggests that the material was removed as a single bagged unit and not removed through the small hinged opening at the top of the trash bin. There is no reason to believe that laboratory members would have removed the trash without notifying the laboratory supervisor upon realizing that an apparent problem existed. A memo was circulated to all of the PECRB staff in both Building I and on the fifth floor of the Indian Hospital asking for any information that might be available on the whereabouts of the missing radioactive waste. At the time of writing of this report, no further information is available concerning the disposition of the lost radioactive waste.

Due to the form and limited quantity of the ^{32}P involved, it is unlikely that removal and transfer of the radioactive trash to the dumpster would create a significant health and safety risk. It can be estimated that this amount of ^{32}P at an estimated distance of 1 ft. from an individual taking approximately 3 mins. to transfer the material from the lucite box to the dumpster would receive a 15 mRad exposure. Once the material had been transferred to the 140 cubic ft. dumpster, it is extremely unlikely that any further health or safety hazard would exist. Subsequent to filing this written report, should the licensee receive any further information concerning the loss of this material, we will notify the NRC within 30-days of that point in time.

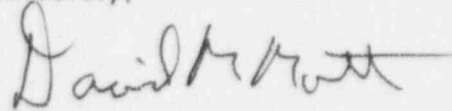
On October 21, 1996, the Radiation Safety Committee met to discuss the course of corrective action to prevent future occurrences of loss of radioactive waste. The committee recommended that laboratories change to locking radioactive waste bins for the collection of radioactive waste and that the contracts for housekeeping staff stipulate that the staff will be trained on recognition of radiation hazards in laboratory areas and given specific instructions as to their responsibilities in cleaning a laboratory area. This training is to be reviewed and authorized by the radiation safety officer. Training would be provided for new housekeeping staff with documentation by both the new staff member and the supervisor as to the completion of the training prior to the new staff entering the laboratory area. This documentation will be kept on file by the radiation safety officer. The radiation safety committee recommended that a memo be sent to the Chief of the PECRB requiring the acquisition of locking trash recepticals and the above mentioned alterations in housekeeping staff contracts.

Corrective action recommended by the Radiation Safety Committee is in progress. Locking radioactive trash bins have replaced the non-locking variety in all labs. The Chief of the PECRB has directed Administration to amend the housekeeping

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contracts as requested above by the Radiation Safety Committee. The training materials for recognition of radiation hazards have been provided to and used by the housekeeping supervisors and staff for documentation of training of new staff.

Sincerely,

A handwritten signature in dark ink, appearing to read "David M. Mott", with a long horizontal flourish extending to the right.

David M. Mott, Ph.D.
Radiation Safety Officer
Clinical Diabetes & Nutrition Section

