



Department of
Veterans Affairs

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Improperly
disposed
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Richard L. Roudebush VA Medical Center
1481 West 10th Street
Indianapolis, IN 46202
(317) 635-7401

SEP 13 1996

In Reply Refer to: 583/0015

United States Nuclear Regulatory Commission
Administrator, Region III
801 Warrenville Road
Lisle, IL 60532-4351

Attention: Michael Vafranzo, Radiation Specialist

Subject: Followup Report of Improperly Disposed Byproduct Material
Richard L. Roudebush VA Medical Center
License No. 13-00694-03 **03001583**

This report serves as the subsequent written report to our August 20, 1996, telephone notification of improperly disposed byproduct material waste. This report is required under 10 CFR 20.220(b). Our institution takes these rare occurrences very seriously, and a full investigation was conducted.

Description of Licensed Material Involved: The material consisted of dry solid research laboratory waste material containing approximately 500-600 microcuries of phosphorus-32 (P-32) orthophosphate liquid residue. Made up of chiefly absorbent paper, plastic, and glass, it was sealed in double polyethylene bags.

Description of Circumstances:

- a. Between approximately 4:00-6:00 pm on July 29, 1996, an Environmental Management Service employee (custodian), working as a replacement to the usual employee in the area, entered a third floor research lab to empty wastebaskets and perform usual maintenance.
- b. In front of fume hood was a standard-issue radioactive waste storage box, approximately 15 inches square and 30 inches high. Since it was for P-32 waste, within a plexiglass box with a hinged top. The box was clearly labeled on two sides with a large radiation warning symbol and the words "CAUTION - RADIOACTIVE MATERIAL."

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- c. The employee removed the bag and contents, and replaced its liner. It was taken to the Medical Center's trash dock, placed in a 4 x 6 foot hopper and compacted into a Galbrath® model PR-2090 roll-off container. Its dimensions were seven feet wide, twenty-one feet long and seven feet high. These containers hold approximately 1.5 days worth of compacted Medical Center refuse.
- d. At approximately 6:00 pm that evening a Research Service employee noticed that the container had been emptied. He questioned the other lab personnel who remained, but no one had noticed it being emptied. The next morning, Tuesday, July 30, 1996, at approximately 10:00 am he notified the custodian, who in turn alerted her supervisor.
- e. At 12:50 pm, the supervisor called the Nuclear Medicine Physicist, who was Acting Radiation Safety Officer (RSO) in the RSO's absence. He proceeded immediately to the lab where the waste originated. He interviewed the lab personnel present and ascertained the waste's contents and probable activity.
- f. At 1:00 pm, the Acting RSO recontacted the supervisor, who reported that the roll-off dumpster container had been exchanged, and that the driver was currently putting an empty container in its place. He proceeded to the dock area and discussed with the truck driver options for searching the dumpster. The driver stated that if we wanted to search the waste on site, it would have to be opened up and spread over the small outdoor dock area. He suggested that the City mass-burn incinerator would be a better place to conduct a search. The Acting RSO agreed that spreading a large load of waste on the dock would create a much greater hazard, and would prevent access to the dock for an inordinate time period.
- g. The Acting RSO immediately called the waste hauler's administrative offices and spoke with the individual in charge. Their standard procedure with such incidents is as follows:
 - 1. The load is allowed to pass through the portal radiation detectors at the facility's entrance;
 - 2. If the alarms are not activated, the load is allowed to continue and be burned; and

3. If the alarm is activated, the load is set aside for either a suitable decay period, or for searching by its originator facility personnel. Indiana State Department of Health Radiological Health staff generally assist in the waste characterization and assay.
- a. At the municipal incinerator, trucks pass through the facility gate, are weighed, and immediately release their contents into a giant pit. This pit serves to convey the waste into a hopper which leads into the furnace itself. The load in question from our medical center probably spent no more than an hour on site before being burned.
- b. Due to the following factors, the acting RSO decided to allow the material's incineration:
 1. P-32 possesses relatively short half-life of 14 days,
 2. The waste character, i.e., dry solids, did not lend itself to further contamination,
 3. The waste was contained within sealed double bags,
 4. The waste was non-volatile,
 5. There was virtually no chance of any further direct human handling of the waste, or even any individuals in close proximity to the waste,
 6. Being a beta-emitter, and encased within over a ton of compacted trash, there was no external radiation hazard from the waste,
 7. Disgorging the compacted waste out of the container, releasing the compacted mass by hand, and searching it through other potentially infectious matter, would have posed a much greater health hazard, and,
 8. Being incinerated in a mammoth municipal incinerator would pose little or no risk to the general public, and would probably produce effluents within allowable concentrations.

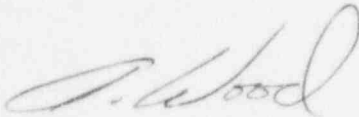
Actions Taken to Prevent Recurrence:

- a. The individual who mistakenly emptied the radioactive waste container was counseled to be attentive to hazard markings on containers.

- b. The entire Environmental Management Service attended an inservice training session given by the Radiation Safety Officer on September 3, 1996. The existing "hands-off" policy for radioactive waste was strongly reemphasized.
- c. We are developing a Standard Operating Procedure to address actions to be taken in case of recurrence of a similar incident. This will specify who is to be notified and what actions are expected to be taken with tracking and searching for the lost or improperly disposed material.

If you have any questions regarding this incident or its subsequent investigation, please contact our facility Radiation Safety Officer, Thomas Schumacher, at FTS 700-332-2311, commercial (317) 635-7401 ext. 2311 or electronic mail at 2977@indianapolis.va.gov.

Sincerely,

A handwritten signature in cursive script, appearing to read "A. Wood", written in dark ink.

Alice L. Wood
Medical Center Director