

SDP/ENFORCEMENT PANEL WORKSHEET**EA:** 02-169**Date of Panel:** August 20, 2002**Licensee:** Department of the Army - Walter Reed Army Medical Center (WRAMC)**Facility/Location:** Washington, D.C.**License Type:** Medical Broadscope**Docket No.:** 030-01317**License No.:** 08-01738-02**Inspection Report No.:** 2002-001**Last Date of Inspection:** July 19, 2002**Date of Exit Meeting Date:** July 19, 2002 (Original)**Panel Chairman (SES Sponsor):** F. Costello**Responsible Branch Chief/Lead Inspector:** P. Henderson**Enforcement Representative:** R. Urban, D. Holody**Other regional attendees:** B. Fewell, R. McKinley**Headquarters attendees:** D. Broaddus, S. Merchant**1. Brief Summary of Issues/Potential Violations:**

During an inspection conducted July 16-19, 2002, a DNMS inspector reviewed the circumstances surrounding a non-reportable event [i.e., lost material greater than 10 times appendix C, but less than 1000 times appendix C, that was retrieved before 30 days - 10 CFR 20.2201(a)(1)(ii)] that occurred on April 27, 2001, at Walter Reed Army Medical Center (WRAMC). Specifically, on April 27, 2001, the licensee's Radiation Protection Officer (RPO) was notified by the waste site that WRAMC waste had triggered the alarm at a Washington, DC waste consolidation site. Upon notification, Health Physics staff were dispatched to the waste site and found that folded or crumpled masking tape was the source of the radioactivity. It was recovered and taken back to the licensee's facility for further identification. The radioactive material was initially thought to be liquid iodine-131 contamination. Health Physics staff attempted to notify the Nuclear Medicine Service, but all staff had left for the day. Health Physics staff held the radioactive material over the weekend for further decay and analysis the following Monday. On Monday April 30, 2001, Nuclear Medicine Service staff informed Health Physics staff that there had been no use of iodine-131 during the previous week. However, still believing that the contaminated tape was a product of Nuclear Medicine Service, Health Physics staff continued to investigate Nuclear Medicine's use and disposition of radioactive material.

On April 25, 2001, the Radiation Oncology Department performed a brachytherapy treatment using 25 ribbons, each containing 11 iridium-192 (Ir-192) seeds with each seed containing 0.381 millicuries (mCi) activity. In preparation for this treatment, Radiation Oncology received a shipment of 30 ribbons, each containing 13 Ir-192 seeds (on April 25, 2001). In the licensee's source storage room, 25 of the 30 ribbons were customized for patient use by immobilizing the end of each of the 25 ribbons with masking tape and

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removing 2 seeds from each ribbon. The 5 extra ribbons and the 25 sub-strands (containing 2 seeds each) were not used for patient treatment and were placed into a lead pig for storage in the source storage room. The licensee believed that they had removed all of the 2 seed sub-strands from the masking tape and placed them in the lead pig in the source storage room. On Monday, April 30, 2001, prior to returning the shipment to the supplier, an inventory was performed of all ribbons and sub-strands. The inventory determined that one sub-strand of 2 seeds was missing. A search was initiated immediately for the missing sub-strand and continued until the next day. On May 1, 2001, Radiation Oncology staff called the Health Physics Office and reported that they could not locate 2 Ir-192 seeds (total activity 0.762 mCi).

Upon receipt of the report from Radiation Oncology, Health Physics staff separated the masking tape with a remote handling tool and visually identified and confirmed that they had recovered the missing Ir-192 seeds. Verification of the source was not made earlier since Health Physics staff believed that the masking tape was contaminated with iodine-131, and they were still evaluating the decay pattern to identify the isotope.

The licensee determined that the two seeds: 1) had remained on the masking tape at the time of customization of the ribbons for patient treatment; 2) had inadvertently been placed in the normal trash in the source room rather than in the lead container; and 3) the normal trash was not surveyed before being removed from the source storage room.

Health Physics staff estimated the extremity dose to the medical physicist who may have placed the Ir-192 seeds in the trash to be less than 4 millirem to the extremity. Health Physics staff further inquired of housekeeping staff who may have picked up the waste and reviewed their procedure for handling waste. Once normal waste is at the compacter, it is handled mechanically. The licensee's review indicated that the maximum possible dose received by a housekeeping worker was 1 millirem. The licensee also reviewed the monthly exposure reports for the Health Physics staff who handled the masking tape upon return from the waste consolidation site and noted that the monthly extremity dose and whole body dose of 178 millirem and 0 millirem, respectively, were typical monthly exposures.

At the time of the event, the RPO discussed this event with a Region I staff and determined that this event was not reportable.

2. Purpose of Panel:

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EX5

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6. Application of Enforcement Policy

a. Enforcement/Performance History:

2000-001	Clear Inspection
1999-001	Clear Inspection

b. Is Credit Warranted for Identification? Explain: No, the violation was self-identified through an event.

c. Is Credit Warranted for Corrective Actions? Explain:

Yes, the licensee revised their written procedures and retrained responsible staff on the following corrective actions:

- * Sub-strands and unused ribbons shall be recounted, identified and correlated with the initial shipment and the patient load for confirmation before the patient load is transported for patient implantation.
- * Immediate notification of Health Physics Office of any source discrepancy for appropriate guidance and recovery.
- * Survey of all accessory materials used in preparation of the patient load in a low background area prior to disposal.
- * Initiate use of a new rectangular lead shield where seeds will be visibly recounted once they are placed in the shield.
- * Upon recovery of any radioactive trash, Health Physics will carefully search and pull apart to determine source of radioactivity.
- * Early notification of all principal investigators to determine genesis of radiation source, should recovery occur prior to Health Physics Office notification of loss.

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7. Is action being considered against individuals? No

8. Non-Routine Issues/Additional Information/Relevant Precedent/Lessons Learned:

A Clear Form 591X was issued in error to the licensee on July 19, 2002.

Ex5

Note that this event was not required to be reported per 10 CFR 20.2201(a)(ii) because the source was recovered before 30 days.

Ex5

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Attachment 1

SDP/Enforcement Panel Disposition Record

Licensee: Department of the Army - Walter Reed Army Medical Center

EA No.: 02-169

Panel Date: August 20, 2002

Issue: Lost Sources

ATTENDEES:

Chair: Costello Branch Chief - Henderson Enf. Reps. - Urban, Holody

OI Rep. - N/A RI Counsel - Fewell Others - McKinley

HQ Reps - Merchant, Broaddus

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