

ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 030-03561

License No.: 53-13519-01

Report No.: 030-03561/96-01

Licensee: Maui Memorial Hospital

Facility: Maui Memorial Hospital

Location: 221 Mahalani Street
Wailuku, Maui, Hawaii

Dates: November 22 through December 11, 1996

Inspector: E. M. Garcia, Senior Radiation Specialist

Approved By: L. L. Howell, Chief Nuclear Materials Inspection
and Fuel Cycle/Decommissioning Branch
Division of Nuclear Materials Safety

Attachment: Supplemental Inspection Information

EXECUTIVE SUMMARY

Maui Memorial Hospital
Wailuku, Maui, Hawaii
NRC Inspection Report 030-03561/96-01

This routine inspection identified one apparent violation and four violations which are described in the letter transmitting the inspection report and in a Notice of Violation issued concurrently with this report. This inspection report is limited to discussion of an apparent violation identified during the inspection as noted below.

Maui Memorial Hospital is authorized to perform diagnostic and therapeutic nuclear medicine procedures, as well as brachytherapy treatments. The nuclear medicine department had nine authorized users and three technologists available, and an average of 130 studies had been performed each month. From January 1 through December 11, 1996, the licensee had performed 42 iodine-131 procedures involving dosages in excess of 30 microcuries and three strontium-89 therapies. In addition, eight brachytherapy treatments were performed using iridium-192 (four), cesium-137 (three), and strontium-90 (one).

Security of Stored Material

- An apparent violation was identified involving a failure to secure from unauthorized access or removal licensed material located in a controlled area. Specifically, an imaging room and the nuclear medicine hot lab were left unsecured and without constant surveillance by licensee personnel on November 22 and 25, 1996. On these dates, waste material contaminated with iodine-131, a 91.2 millicurie strontium-90 eye applicator, and a 3 curie molybdenum-99/technetium-99m generator were stored in the imaging room and hot lab.

Report Details

1 **Security of Stored Material (83822, 87100, 87101)**

a. Scope of Inspection

During the site visit conducted on November 22 through 25, 1996, the inspector toured the licensee's facilities to observe the control of access to license material.

b. Observations and Findings

Licensed material had been stored in the hot lab and brachytherapy source storage room. Both rooms are approved as storage locations for licensed material in NRC License 53-13519-01. The hot lab was located inside the nuclear medicine imaging room and was equipped with a door which could be locked to provide separate access control. Licensed material used in the nuclear medicine department had been stored within the hot lab when not in use. Material stored in this room at the time of the inspection included molybdenum-99/technetium-99m generators, iodine-131, and a strontium-90 eye applicator. The brachytherapy source storage room had also been used to store waste held for decay-in-storage. Materials stored in this area included, on occasion, waste collected from the room used for in-patient iodine-131 treatments.

According to the chief nuclear medicine technologist, at approximately 8:30 p.m. on November 21, 1996, she finished decontaminating and surveying a patient room that had been used for an in-patient iodine-131 therapy. Because it was late in the day, the technologist left the iodine-131 contaminated waste collected from the room in the locked nuclear medicine imaging room. The technologist intended to move the waste to the brachytherapy source storage room the next day. The technologist arrived late the next day and was immediately involved in supporting the NRC inspection. At approximately noon on November 22, the chief technologist and the other two technologists left the hospital for a previously scheduled social commitment. Later that afternoon the inspector and the radiation safety officer (RSO) observed that the door to the imaging room was unlocked, the iodine-131 waste was still in the imaging room, and a service technician from the gamma camera manufacturer was in the room performing equipment maintenance. The RSO subsequently relocated the waste to the brachytherapy source storage room. The inspector confirmed through discussions with the service technician that he had received radiation safety training from his employer but had not received such training from the licensee.

On November 25, 1996, the inspector again found the imaging room unoccupied and unsecured, with the door to the hot lab open. A technologist was in the adjacent room, but she did not have constant view of who entered and left the imaging room or the hot lab. At the time, licensed material stored in the hot lab included a 91.2 millicurie strontium-90 eye applicator and a 3 curie molybdenum-99/technetium-99m generator. The technologist returned to the imaging room after a few minutes and, at the request of the inspector, closed and

locked the door to the hot lab. The door had been left open by the chief technologist who left the imaging room while the first technologist was in attendance.

10 CFR 20.1801 requires that a licensee secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas. 10 CFR 20.1802 requires that a licensee control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. As defined in 10 CFR 20.1003, *controlled area* means an area, outside of a restricted area but inside the site boundary, to which access can be limited by the licensee for any reason. An *unrestricted area* means an area in which access is neither limited nor controlled by the licensee.

On November 22, 1996, the licensee did not secure from unauthorized removal or access waste materials contaminated with iodine-131 that were temporarily stored in the nuclear medicine imaging room. The inspector observed that licensee personnel left the imaging room unsecured, with the contaminated waste present in the room, while they were not in attendance in the department and a service technician (not an employee of the licensee) was working in the imaging room. On November 25, 1996, the licensee did not secure from unauthorized removal or access an eye applicator containing 91.2 millicuries of strontium-90 and a 3 curie molybdenum-99/technetium-99m generator located in the hot lab. The licensee's failure to secure the nuclear medicine imaging room and hot lab on November 22 and 25, 1996, was identified as an apparent violation of 10 CFR 20.1801 and 20.1802.

c. Conclusions

Licensed materials in the form of iodine-131 waste, a 91.2 millicurie strontium-90 eye applicator and a 3 curie molybdenum-99/technetium-99m generator were not constantly secured from unauthorized removal or access nor kept under constant surveillance.

Exit Meeting Summary

On November 25, 1996, at the conclusion of the site visit, the inspector conducted a preliminary exit briefing with licensee representatives. A telephonic exit briefing was subsequently conducted on December 11, 1996, with licensee management. The inspector presented the finding as outlined in this report. The NRC Enforcement Policy was also discussed during this exit.

Licensee personnel acknowledged the findings related to the apparent violation and stated that they had taken corrective actions to address the problem.

The inspector asked the licensee whether any material examined during the inspection should be considered proprietary, and licensee representatives acknowledged that no proprietary information had been reviewed.

ATTACHMENT
SUPPLEMENTAL INSPECTION INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Maui Memorial Hospital

Alan Lee, Hospital Administrator
Eugene Wasson, MD, Medical Director Nuclear Medicine
Thomas Sullivan, Medical Physicist & RSO
Nick Gladdis, Director of Diagnostic Imaging
Judy Williams, Chief Nuclear Medicine Technologist
Mark Mizumo, Nuclear Medicine Technologist
Crystal Jolley, Nuclear Medicine Technologist
Phil Manly, Consultant

Siemens (Gamma Camera Manufacturer)

Johnny Kaneshiro, Camera Technician

INSPECTION PROCEDURES USED

IP 83822: Radiation Protection
IP 87100: Appendix B, Nuclear Medicine Inspection Field Notes
IP 87101: Performance Evaluation Factors

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

030-03561/9601-01 APV Failure to secure from unauthorized access or removal
licensed material stored in the nuclear medicine imaging
room.

LIST OF ACRONYMS USED

APV Apparent Violation
IP Inspection Procedure
NRC Nuclear Regulatory Commission
RSO Radiation Safety Officer