U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.:	030-10809
License No.:	22-16328-01
Report No.:	030-10809/96001(DNMS)
EA No:	97-189
Licensee:	DMS Imaging, Inc. (a.k.a. Northern Medical Imaging)
Locations:	Lakeview Medical Center, 1100 N. Main St., Rice Lake, WI DMS Imaging Hot Lab, 313 West Knapp, Rice Lake, WI
Dates of Visit:	August 23, 1996 and November 5, 1996
Inspector:	Robert P. Hays, Radiation Specialist
Approved By:	Monte P. Phillips, Chief Nuclear Materials Inspection Branch 2 Division of Nuclear Material Safety

Executive Summary

DMS Imaging, Incorporated
Bemidji, Minnesota
NRC Inspection Report 030-10809/96001(DNMS)

A recently employed nuclear medicine technologist (NMT) was conducting licensed activities before a ring badge and whole body monitor had been issued to the employee by the licensee's management. The employee was also not wearing a lab coat as required by the licensee's procedures. Another on-site nuclear medicine technologist was observed by the inspector not wearing ring badge dosimetry or a lab coat as required by the licensee's procedures. Otherwise, all activities were properly conducted. Two apparent violations were identified as follows:

1. Failure of the licensee to have the NMTs wear the required personnel monitoring devices at all times while in areas where radioactive materials are used or stored.

2. Failure to wear lab coats or other protective clothing by the NMTs while working in areas where radioactive materials were used.

Report Details

1. Program Summary

NRC Byproduct Materials License No. 22-16328-01 authorized DMS Imaging, Incorporated to use radioactive materials in unsealed form for human medical use. The licensee was also authorized to use radioactive materials in humans for uptake, dilution, and excretion studies, per 10 CFR 35.100 and for imaging and localization studies under 10 CFR 35.200 and to conduct these studies operating as a mobile nuclear medicine service.

Licensed activities were principally conducted at medical facilities in the states of Minnesota, Wisconsin, and South Dakota.

2. Inspection History

Prior to this inspection, the licensee had been inspected on the average of every two years. An inspection conducted in July 1994, identified two Severity Level IV violations concerning: (1) a unit dose transport case not being properly blocked and braced and (2) transporting hazardous material without a shipping paper. The prior inspection conducted in August 1992, resulted in identifying three Severity Level IV violations concerning: (1) posting of a radiation area, (2) weekly waste surveys, and (3) checks of survey meters at each location of use. No other violations were identified during the previous two inspections.

3. Inspection Scope

This was a routine inspection conducted at one of the licensee's authorized storage and use locations in Rice Lake, Wisconsin. The inspection was an examination of activities conducted under the license as they related to radiation safety and to compliance with the Commission's rules and regulations and with the conditions of the license. The inspection consisted of a review of records including unit dose patient logs, personnel dosimetry, dose calibrator tests, postings, transportation of radioactive materials, and licensee rules for safe use of radiopharmaceuticals. The inspector interviewed both nuclear medicine technologists, conducted independent measurements, and observed activities in progress.

4. Observations and Findings

Upon arrival at the licensee's truck, which was located at Lakeview Community Hospital, Rice Lake, WI, the inspector noted that a patient was being scanned by the nuclear medicine technologist (NMT#1). NMT#1 was observed working at the scanning camera's computer console when the inspector entered. While the patient was being scanned, the inspector observed activities, how the interior of the vehicle was laid out, and looked at dose calibrator logs and survey records on hand. The inspector also examined the licensee's dose transport case, which was labeled as a Department of Transportation (DOT) White-I package containing a vial of

technetium-99m. No problems were noted concerning the use of the dose calibrator, dose calibrator tests, the frequency of surveys, or the packaging of doses for transport.

Just prior to the patient scan being completed, another NMT (NMT#2) entered the licensee's truck. After completing the patient scan, the NMT#1 transported the patient via wheelchair from the truck back inside the hospital. The inspector noted that NMT#1 was not wearing a lab coat or a ring badge, but waited until the NMT had returned from the hospital to discuss the issue.

During the time NMT#1 was gone from the truck, the inspector interviewed NMT#2 and was told that he had been recently hired by the licensee to provide exclusive nuclear medicine services at this hospital. The inspector determined that NMT#2 was completing on-the-job training. The inspector also determined that NMT#2 was not wearing dosimetry (whole body or finger ring) nor a lab coat. The inspector learned that he had not yet been issued dosimetry, nor had he acquired a lab coat. NMT#2 told the inspector that dosimetry had been ordered from the supplier. Upon further questioning, NMT#2 told the inspector that he had, on at least one occasion, eluted the moly/tech generator and had injected a patient with technetium-99m. This was confirmed during the November inspection visit when NMT#2 was shown records of a generator elution and patient injection, both of which contained his initials as the individual performing these activities.

When NMT#1 had returned to the truck from taking the patient back into the hospital he stated that he was not wearing his ring badge because he had not recently been injecting patients and was not required to wear it except when injecting patients.

License Condition 16 of License No. 22-16328-01 requires, except as specifically provided otherwise in the license, that the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the application dated June 27, 1991, which includes implementation of Appendix I to NRC regulatory guide (RG) 10.8, Rev. 2. Item 7. of Appendix I to RG 10.8, Rev. 2, "Model Rules for Safe Use of Radiopharmaceuticals," requires individuals to wear personnel monitoring devices at all times while in areas where radioactive materials are used or stored. Item 8. of Appendix I to RG 10.8, Rev. 2, requires individuals to wear a finger exposure monitor during the elution of generators; during the preparation, assay and injection of radiopharmaceuticals; and when holding patients during procedures.

Personnel monitoring records reviewed by the inspector indicated that for certain monitoring periods, the dose to the hand of NMT#1 indicated an "M" or minimal dose, while his whole body badge indicated that he had received a dose during the same monitoring period. Having an "M" reading for extremity doses would not be expected given the routine handling of radioactive material, particularly eluting generators.

Failure of the NMTs to wear the required personnel monitoring devices at all times while in areas where radioactive materials are used or stored constitutes an apparent violation of License Condition 16.

Since the inspector had noted that neither of the NMTs was wearing a lab coat or other protective clothing in areas where radioactive material was used, the inspector questioned them as to the cause. The NMT#1 stated that he had gotten engine grease/oil on his lab coat from having to adjust a generator on the truck so he was not wearing it. NMT#2 stated that he had not yet obtained one. The inspector asked if there were other lab coats available and was told that they were all at the laundry and none were available to wear. License Condition 16 requires, except as specifically provided otherwise in the license, that the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the application dated June 27, 1991, which includes implementation of Appendix I to RG 10.8, Rev. 2. Item 1 of Appendix I of RG 10.8, Rev. 2, requires individuals to wear laboratory coats or other protective clothing at all times in areas where radioactive materials are used.

Failure to wear lab coats or other protective clothing by the NMTs while working in areas where radioactive materials were used constitutes an apparent violation of License Condition 16. Specifically, lab coats or other protective clothing were not worn during patient injections or during a patient scan conducted in the mobile service truck.

5. Other Areas Inspected

The inspector also reviewed the organization and scope of the program, training and instructions to workers, facilities, equipment (such as the dose calibrator), materials used, conduct of radiation and contamination surveys, postings, handling of waste, transportation of radioactive materials, notifications and reporting of events to NRC, and compliance with licensee rules for safe use of radiopharmaceuticals. No violations or concerns were identified by the inspector in these areas.

6. Conclusion

Two apparent violations were identified. Although the two apparent violations were not of high safety consequence, based upon information obtained during the inspection, it appeared that the NMT was allowed to work or perform licensed activities in areas where radioactive materials were used without first receiving dosimetry. This issue was forwarded to the NRC's Office of Investigations for further review.

7. Exit Meeting Summary

The findings and conclusions described in this report were discussed with licensee management during a telephone exit meeting conducted on August 28, 1996, with the licensee's operations manager and Radiation Safety Officer (RSO). During the exit telephone conference, the inspector asked the individuals what was the

licensee's policy on wearing dosimetry and lab coats. The RSO stated that NMTs were trained and informed that they were to wear lab coats at all times while in restricted areas and were also required to be issued and wear dosimetry before performing routine duties. In addition,the licensee representatives did not identify any information reviewed during this inspection and proposed for inclusion in this inspection report as proprietary in nature.

List of Personnel Contacted

Dennis Clemenson - President and Radiation Safety Officer
Jim Ballan - Vice President Operations
* Matt Sprister - Nuclear Medicine Technologist
* Spencer Feldt - Nuclear medicine Technologist

* Interviewed during the inspection on August 23, 1996.
# Attended the exit meeting via telephone on August 28, 1996.

List of Acronyms Used

NMT	Nuclear Medicine Technologist
RG	NRC Regulatory Guide
RSO	Radiation Safety Officer