



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION V

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FEB 13 1985

MEMORANDUM FOR: Leonard I. Cobb, Chief
Safeguards and Materials Programs Branch, IE

FROM: James L. Montgomery, Chief
Nuclear Materials Safety and Safeguards Branch

SUBJECT: COMMENTS ON INSPECTION PROGRAM FOR MEDICAL LICENSEES

The following are the collective comments of the inspectors in my Branch who work in the medical licensing and inspection areas. The comments follow each of the five questions listed in your January 15, 1985 memorandum to me.

1. The inspection frequencies for medical licensees appear to be adequate.
2. The inspection areas we believe deserve principal attention are:
 - Licensee audits.
 - Dose calibrator and molybdenum breakthrough tests.
 - Technician training.
 - Misadministrations and incidents.
 - Radiation surveys.
 - Personnel dosimetry.
 - Storage and consumption of food in radioisotope use areas.
 - Proper control of radioactive material used in therapy.
3. We interview the medical technologists and "walkthrough" the procedures to assure the medical staff has an understanding of and purpose for the dose calibrator testing procedures.
4. Typically, the medical courses gave considerable instruction on biology and nuclear medicine but little on techniques of conducting the inspection. Training that would be meaningful to the inspector should include:
 - A glossary of medical terms issued to the student.
 - An overview of radioisotope use in nuclear medicine including a discussion of 10 CFR 35.100 groups.
 - Demonstrate and discuss cross sectional models of generators (especially older models) and show proper elution techniques.

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- Dose calibration emphasizing proper linearity, accuracy and geometric variation tests.
 - Demonstrate proper molybdenum breakthrough tests.
 - Xenon 133 and Technetium 99m aerosol dispensing systems.
 - Iodine 131 and 125 bioassay instrumentation.
 - Proper iodination practices (health physics).
 - Demonstration of strontium 90 eye applicator use.
 - Brachytherapy sources; problems with seeds such as rupture and loss.
 - Use of incinerators.
 - Internal audits and management control.
 - Group discussion of typical noncompliance items with medical licensees.
5. We also believe QA requirements should apply to imaging equipment used in nuclear medicine. This should include tests for spatial and energy resolution, uniformity and linearity.

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