

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D.C. 20555

July 22, 1985

IE INFORMATION NOTICE NO. 85-61: MISADMINISTRATIONS TO PATIENTS  
UNDERGOING THYROID SCANS

Addressees:

Licensees authorized to use byproduct material for human applications.

Purpose:

This information notice is intended to alert recipients of potentially significant problems pertaining to human applications of byproduct material. In four recent cases, because of errors, patients received significant, unnecessary radiation exposures. It is expected that licensees will review the information in this notice for applicability to their facilities and consider actions, if appropriate, to preclude similar problems occurring at their facilities. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

In the first case, a referring physician telephoned the hospital to request a "radioactive iodine scan" for his patient. The written request was to be forwarded to the nuclear medicine department at a later date. When the patient arrived at the nuclear medicine department, the written request had not arrived. The nuclear medicine physician did not review the patient's history to evaluate the need for this scan or direct which isotope to use. The nuclear medicine technologist had interpreted the physician's telephone order as a total-body iodine-131 scan and administered a 5 millicurie dosage of iodine-131 to the patient. When the written request arrived at the hospital the next day, the request was for a "thyroid scan," which required a 5 millicurie dosage of technetium-99m. As a result of the misadministration, the patient received a dose of from 6500 to 9000 rads to the thyroid instead of the 0.7 rads that would have resulted from the use of technetium-99m.

In the second case, a 5 millicurie dosage of iodine-131 was administered to the wrong patient. The patient's identification was not verified and the iodine-131 was administered to a patient that was supposed to receive a 5 millicurie dosage of technetium-99m.

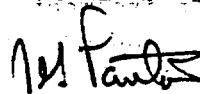
In the third case, because of incorrect patient scheduling, a 10 millicurie dosage of iodine-131 was administered to a patient instead of the intended 400 microcurie dosage of iodine-123. The nuclear medicine physician had not reviewed the patient's previous history and had not approved the nuclear medicine procedure and related dosage.

In the fourth case, a patient, who was scheduled for a thyroid uptake and scan, received a dose of 1000 microcuries of iodine-131 instead of the intended 100 microcuries of iodine-131. The hospital staff reported that this misadministration occurred because the involved personnel were unfamiliar with this clinical procedure, which was not frequently performed.

Discussion:

Checking the patient's identification and previous history before approving nuclear medicine procedures is very important, especially where a high dose to the patient will result from the procedure. It also is important for licensees to establish written procedures for dosage preparation and administration and to check the referring physician's written request before administering the dosage.

No specific action or written response is required by this information notice. If you have any questions regarding this matter, please contact the Regional Administrator of the appropriate NRC regional office or this office.



James G. Partlow, Director  
Division of Inspection Programs  
Office of Inspection and Enforcement

Contact: Harriet Karagiannis, IE  
(301) 492-9655

Attachment:  
List of Recently Issued IE Information Notices

LIST OF RECENTLY ISSUED  
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
85-60	Defective Negative Pressure Air-Purifying, Fuel Facepiece Respirators	7/17/85	All power reactor facilities holding an OL or CP
85-59	Valve Stem Corrosion Failures	7/17/85	All power reactor facilities holding an OL or CP
85-58	Failure Of A General Electric Type AK-2-25 Reactor Trip Breaker	7/17/85	All power reactor facilities designed by B&W and CE holding an OL or CP
85-57	Lost Iridium-192 Source Resulting In The Death Of Eight Persons In Morocco	7/16/85	All power reactor facilities holding an OL or CP; fuel facilities; and material licensees
85-56	Inadequate Environment Control For Components And Systems In Extended Storage Or Layup	7/15/85	All power reactor facilities holding an OL or CP
85-55	Revised Emergency Exercise Frequency Rule	7/15/85	All power reactor facilities holding an OL or CP
85-54	Teletherapy Unit Malfunction	7/15/85	All NRC licensees authorized to use teletherapy units
85-53	Performance Of NRC-Licensed Individuals While On Duty	7/12/85	All power reactor facilities holding an OL or CP
85-52	Errors In Dose Assessment Computer Codes And Reporting Requirements Under 10 CFR Part 21	7/10/85	All power reactor facilities holding an OL or CP

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OL = Operating License  
CP = Construction Permit