

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

August 15, 1985

IE INFORMATION NOTICE NO. 85-70: TELETHERAPY UNIT FULL CALIBRATION
AND QUALIFIED EXPERT REQUIREMENTS
(10 CFR 35.23 and 10 CFR 35.24)

Addressees:

All NRC licensees authorized to possess and use sealed sources in medical teletherapy units.

Purpose:

This information notice is provided to alert medical licensees of a potential safety problem in reference to 10 CFR 35.23 (requirement to calibrate instruments used for full calibration and spot-check measurements) and 10 CFR 35.24 (criteria to determine qualified expert).

It is expected that medical licensees using teletherapy units will review this notice for applicability to their activities, if appropriate, to preclude incorrect measurement of teletherapy output that could result in excessive radiation exposures to patients during therapeutic administrations. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

It was determined during recent routine NRC inspections that full calibration measurements of Co-60 teletherapy units, performed by a qualified expert, were conducted using a dosimetry system that was not calibrated by the National Bureau of Standards or by a Regional Calibration Laboratory accredited by the American Association of Physicists in Medicine. The institutions where the events were discovered were requested by the NRC to have their units checked with a dosimetry system that had been calibrated by an accredited laboratory. The output check at one facility showed the dosimetry system to be underestimating machine output by 4.8 percent, which is greater than the 3 percent limit specified in 10 CFR 35.21. The institution had to adjust patient treatments accordingly. It also was determined that this dosimetry system had been used at one other institution and a similar request for corrections was made of that institution.

Discussion:

Licenses authorized to possess and use sealed sources in medical teletherapy units should be aware of their responsibilities with respect to 10 CFR 35.23, 35.24, and 35.27. It is required by 10 CFR 35.23 that full calibration measurements of the teletherapy unit be performed using a dosimetry system which has been calibrated by the National Bureau of Standards or by a Regional Calibration Laboratory accredited by the American Association of Physicists in Medicine. In addition, 10 CFR 35.21 requires that the full calibration measurements set forth in 10 CFR 35.23 be performed by a qualified expert who meets the criteria outlined in 10 CFR 35.24. Records of the full calibration measurements and the licensee's evaluation of the qualified expert's training must be preserved for a minimum of 5 years and maintained for NRC inspection pursuant to 10 CFR 35.27. It is important that licensees are aware that compliance with these regulations is their responsibility, regardless of who performs the measurements.

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.


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Attachment: List of Recently Issued IE Information Notices

LIST OF RECENTLY ISSUED
 IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
85-69	Recent Felony Conviction For Cheating On Reactor Operator Requalification Tests	8/15/85	All power reactor facilities holding an OL or CP
85-68	Diesel Generator Failure At Calvert Cliffs Nuclear Station Unit 1	8/14/85	All power reactor facilities holding an OL or CP
85-42 Rev. 1	Loose Phosphor In Panasonic 800 Series Badge Thermo-luminescent Dosimeter (TLD) Elements	8/12/85	Materials and fuel cycle licensees
85-67	Valve-Shaft-To-Actuator Key May Fall Out Of Place When Mounted Below Horizontal Axis	8/8/85	All power reactor facilities holding an OL or CP
85-66	Discrepancies Between As-Built Construction Drawings And Equipment Installations	8/7/85	All power reactor facilities holding an OL or CP
85-65	Crack Growth In Steam Generator Girth Welds	7/31/85	All PWR facilities holding an OL or CP
85-64	BBC Brown Boveri Low-Voltage K-Line Circuit Breakers, With Deficient Overcurrent Trip Devices Models OD-4 and 5	7/26/85	All power reactor facilities holding an OL or CP
85-63	Potential for Common-Mode Failure of Standby Gas Treatment System on Loss of Off-Site Power	7/25/85	All power reactor facilities holding an OL or CP

OL = Operating License
 CP = Construction Permit