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NUCLEAR REGULATORY COMMISSION

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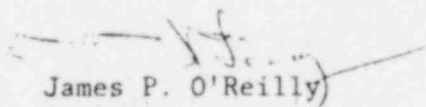
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AIR FORCE, DEPARTMENT OF THE  
USAF MEDICAL CENTER, KEESLER  
KEESLER AFB MS 39534  
NRC LIC. #1 23-01002-03

Gentlemen:

The enclosed Circular 80-24 is sent for your information. If you need additional information regarding this subject, please contact this office.

Sincerely

  
James P. O'Reilly  
Director

Enclosures:

- 1. IE Circular 80-24
- 2. List of Recently Issued  
IE Circulars

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

December 2, 1980

IE CIRCULAR NO. 80-24: AECL TELETHERAPY UNIT MALFUNCTIONS

Description of Circumstances:

During the past several months NRC has continued to receive reports of malfunctions of AECL teletherapy units, Models Theratron 60 and 80 and Eldorado 6 and 8. According to these reports, malfunctions are occurring with the power cord takeup reel of the beam defining projection lamp.

The malfunctions may have two possible consequences. First, the power cord from the malfunctioning takeup reel may jam the source drawer mechanism and prevent its return to the source "off" position. This condition can cause unnecessary exposure to both technicians and patients. Second, the loose cord may prevent the source drawer mechanism from going to the full "on" position. This condition may not be readily detected by the machine operator and thus may result in an incorrect dose being administered to the patient.

Under a medical device recall action, AECL has notified all known users of beam teletherapy units, Models Theratron 60 and 80 and Eldorado 6 and 8 concerning potential malfunction problems. If you are a user of one of these Teletherapy Units you should have received "Warning Notices" WN-80-1, WN-80-2, WN-80-1A and WN-80-1B.

Additionally, NRC investigators have noted that improper actions of operating personnel at the time of equipment malfunction may further aggravate the situation and contribute to the unnecessary exposure. However, these exposures can be minimized by licensees if their operating personnel are trained to promptly detect and react to equipment malfunctions in accordance with approved written operating and emergency procedures.

Notice to Teletherapy Licensees:

Current NRC regulations and licensing procedures require teletherapy licensees to develop, maintain, and use the following procedures and radiation monitoring equipment:

- . Written operating, emergency and maintenance procedures.
- . A program for inspection, testing and servicing of equipment components that are critical to safe operation.

A radiation monitoring device that continuously monitors the teletherapy beam condition.

These procedures and monitoring system are intended to improve safe operation of the equipment under both normal and abnormal conditions.

In addition to the above requirements, this circular identifies certain other actions which persons licensed by NRC pursuant to 10 CFR Part 35 should take. These are noted below.

NOTE: Items 1, 2 and 3 are directed to those licensees authorized to use AECL, teletherapy units Models Theratron 60 and 80 and Eldorado 6 and 8. Items 4 through 10 are directed to all teletherapy licensees.

1. If you have not received "Warning Notices" WN-80-1, WN-80-2, WN-80-1A and WN-80-1B you should immediately contact an AECL Service Centre or the Regulatory Affairs Branch, Quality Assurance Division, AECL-CP, P.O. Box 6300, Ottawa Canada (tel. 613-592-2790).
2. If you have received the "Warning Notices" identified in Item 1 above, you should implement the requested actions in those "Warning Notices". Please give attention to "Warning Notice" WN 80-1B.
3. Cooperate with AECL in scheduling time for machine modification in accordance with remedial action as described in their final notice.
4. Verify that emergency procedures are posted in accordance with license conditions and that operating personnel are familiar with them.
5. Establish a schedule and conduct periodic drills in response to simulated emergency situations.
6. Follow manufacturers' recommendations for inspection and maintenance and, in particular, those concerning replacement of "critical components". Guidelines for maintaining and procedures for inspection of teletherapy equipment are also contained in ANSI N 449-1974 and ANSI N 449.1-1978.
7. Instruct operating personnel to be alert and report to responsible management any changes from normal operating characteristics. An example would be slower-than-normal source travel.
8. Initiate emergency response in the event that both "source on" and "source off" signals are energized simultaneously. This is an indication of less than full travel on the source drawer.
9. Following any malfunction or problem identification, take the equipment out of service until it is investigated and repaired as necessary.
10. Cooperate with manufacturers in engineering assessments, equipment modification and recall actions.

The information contained in this circular should be brought to the attention of all persons involved in the administration and operational aspects of teletherapy.

No written response to this circular is required. If you need additional information regarding this subject, please contact this office.

RECENTLY ISSUED  
IE CIRCULARS

Circular No.	Subject	Date of Issue	Issued to
80-24	AECL Teletherapy Unit Malfunction	12/02/80	All Teletherapy Licensees
80-23	Potential defects in Beloit Power Systems Emergency Generators	10/31/80	All Nuclear power facility having an OL or a CP
80-22	Confirmation of Employee Qualifications	10/2/80	All holders of a power reactor OL or CP architect-engineering companies and nuclear steam system suppliers
80-21	Regulation of refueling crews	9/10/80	All holders of a power reactor OL or CP
80-20	Changes in Safe-Slab Tank Dimensions	8/21/80	All Part 50 and Part 70 fuel facility licensees
80-19	Noncompliance with License Requirements for Medical Licensees	8/26/80	All medical licensees
80-18	10 CFR 50.59 Safety Evaluations for Changes to Radioactive Waste Treatment Systems	8/22/80	All power reactor facilities with an OL or CP
80-17	Fuel Pin Damage Due to Water Jet from Baffle Plate Corner	7/23/80	All holders of PWR OLs and PWR CPs
80-16	Operational Deficiencies In Rosemount Model 510DU Trip Units And Model 1152 Pressure Transmitters	6/27/80	All power reactor facilities with an OL or a CP
80-15	Loss of Reactor Coolant Pump Cooling and Natural Circulation Cooldown	6/20/80	All power reactor facilities with an OL or CP
80-14	Radioactive Contamination of Plant Demineralized Water System and Resultant Internal Contamination of Personnel	6/24/80	All holders of power and research reactor licenses (operating and construction permits), and fuel cycle licensees