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

July 15, 1985

IE INFORMATION NOTICE NO. 85-54: TELETHERAPY UNIT MALFUNCTION

Addressees:

All NRC licensees authorized to use teletherapy units.

Purpose:

This information notice is intended to alert users of teletherapy units of a recent incident involving an Atomic Energy of Canada Limited (AECL) Theratron 60 unit. It is expected that licensees will review the information for applicability to their facilities and consider actions, if appropriate, to preclude a similar problem 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:

A pressure regulator switch (S15) on the pneumatic system to an AECL Theratron 60 teletherapy unit failed. As a result, the compressor in the unit continued to run causing an overpressure condition in the holding tank. This condition prevented the source drawer from immediately closing on command.

After treating a patient, the operator noticed that the compressor kept running and that there was an unusual odor at the back of the machine. The machine was then turned off. The operator notified management, but no maintenance was ordered at the time. When more patients arrived, the machine was turned back on and the treatments continued. After several patients had been treated, the teletherapy unit failed to automatically return its cobalt-60 sealed source to the shielded position. The operator observed that the indicator light on the radiation monitor in the treatment room remained on after the unit timer reached its zero setting. Attempts to turn off the unit by using the console controls failed. The operator immediately removed the patient from the treatment room. The pneumatically operated source drawer independently returned to the closed position approximately an hour later.

Discussion:

An AECL representative has evaluated the incident and has concluded that this is an isolated incident resulting from a failure to follow prescribed maintenance

procedures on the unit. In this case, prompt emergency response by licensee personnel to remove the patient from the treatment room after the failure rather than continue efforts to return the source to the "off" position avoided unnecessary radiation exposure.

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

Technical Contact: H. Karagiannis, IE
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Attachment: List of Recently Issued IE Information Notices

Attachment 1
IN 85-54
July 15, 1985

LIST OF RECENTLY ISSUED
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
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
85-51	Inadvertent Loss Or Improper Actuation Of Safety-Related Equipment	7/10/85	All power reactor facilities holding an OL or CP
85-50	Complete Loss Of Main And Auxiliary Feedwater At A PWR Designed By Babcock & Wilcox	7/8/85	All power reactor facilities holding an OL or CP
85-49	Relay Calibration Problem	7/1/85	All power reactor facilities holding an OL or CP
85-48	Respirator Users Notice: Defective Self-Contained Breathing Apparatus Air Cylinders	6/19/85	All power reactor facilities holding an OL or CP, research, and test reactor, fuel cycle and Priority 1 material licensees
85-47	Potential Effect Of Line-Induced Vibration On Certain Target Rock Solenoid-Operated Valves	6/18/85	All power reactor facilities holding an OL or CP
85-46	Clarification Of Several Aspects Of Removable Radioactive Surface Contamination Limits For Transport Packages	6/10/85	All power reactor facilities holding an OL

OL = Operating License
CP = Construction Permit