

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
WASHINGTON, D.C. 20555

December 2, 1988

NRC INFORMATION NOTICE NO. 88-93: TELETHERAPY EVENTS

Addressees:

All NRC medical licensees.

Purpose:

This notice is intended to alert recipients to the circumstances leading to two recent teletherapy events and to emphasize the importance of the correct use of computerized treatment-planning. It is expected that licensees will review this information for applicability to their programs, distribute this notice to those responsible for radiation safety, and consider actions, if appropriate, to preclude a similar situation from occurring at their facilities. However, suggestions contained in this notice do not constitute any new NRC requirements, and no written response is required.

Description of Circumstances:

In March 1987, following a source exchange for a cobalt-60 teletherapy unit at a hospital in an Agreement State, the higher activity of the new source was not properly accounted for in the computerized treatment-planning system. In particular, the computer program related to the use of beam trimmers was not updated because the beam trimmers were not being used by the licensee at the time of source exchange. At a later date, the licensee began using beam trimmers again and based its treatment planning calculations on the incorrect old source output. Because the licensee failed to update the program with the new source output, 33 patients received doses 75 percent in excess of the prescribed doses.

In a second case, in a different Agreement State, teletherapy events occurred at three different hospitals. Each of these hospitals used a different treatment-planning computer system. A consulting physicist who was working at all three of the hospitals made random errors when using the programs. The errors made indicated a misunderstanding of the computer parameter definitions and the limitations of the different treatment-planning systems.

8811290030

ZA

TDR-11C

Discussion:

All medical licensees are reminded of the importance of making accurate therapy-dose calculations, including computer-assisted calculations. This is particularly important on occasions when the operating characteristics of the equipment might have been modified, such as after servicing or a source exchange. Licensees should consider methods to ensure that only updated programs and data files are used in treatment planning. In addition, licensees should consider steps to ensure that individuals using treatment-planning computer systems are properly trained in the use and limitations of those systems.

No written response is required by this information notice. If you have any questions about this matter, please contact the appropriate NRC regional office or this office.


Richard E. Cunningham, Director
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

Technical Contacts: J. R. Metzger, NMSS
(301) 492-3424

J. McGrath, Region I
(215) 377-5216

Attachment: List of Recently Issued NRC Information Notices

LIST OF RECENTLY ISSUED
 NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
88-92	Potential for Spent Fuel Pool Draindown	11/22/88	All holders of OLs or CPs for nuclear power reactors.
88-91	Improper Administration and Control of Psychological Tests	11/22/88	All holders of OLs or CPs for nuclear power reactors and all fuel cycle facility licensees who possess, use, import, export, or transport formula quantities of strategic special nuclear material.
88-90	Unauthorized Removal of Industrial Nuclear Gauges	11/22/88	All NRC licensees authorized to possess, use, manufacture, or distribute industrial nuclear gauges.
88-89	Degradation of Kapton Electrical Insulation	11/21/88	All holders of OLs or CPs for nuclear power reactors.
88-88	Degradation of Westinghouse ARD Relays	11/16/88	All holders of OLs or CPs for nuclear power reactors.
88-87	Pump Wear and Foreign Objects in Plant Piping Systems	11/16/88	All holders of OLs or CPs for nuclear power reactors.
86-106, Supp. 3	Feedwater Line Break	11/10/88	All holders of OLs or CPs for nuclear power reactors.
88-86	Operating with Multiple Grounds in Direct Current Distribution Systems	10/21/88	All holders of OLs or CPs for nuclear power reactors.

OL = Operating License
 CP = Construction Permit

Discussion:

All medical licensees are reminded of the importance of making accurate therapy-dose calculations, including computer-assisted calculations. This is particularly important on occasions when the operating characteristics of the equipment might have been modified, such as after servicing or a source exchange. Licensees should consider methods to ensure that only updated programs and data files are used in treatment planning. In addition, licensees should consider steps to ensure that individuals using treatment-planning computer systems are properly trained in the use and limitations of those systems.

No written response is required by this Information Notice. If you have any questions about this matter, please contact the appropriate NRC regional office or this office.

Richard E. Cunningham, Director
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

Technical Contacts: J. R. Metzger, NMSS
(301) 492-3424

J. McGrath, Region I
(215) 377-5216

Attachment: List of Recently Issued NRC Information Notices

*See previous concurrence

Editor: E. Kraus 11/21/88

*All OGC - no legal objection subject to changes noted
S. Treacy
M. Kofaschik
11/22/88*

OFC	IMOB	IMOB	IMAB	RI	IMOB	GPA/SLITP	MD State	IMNS	IMNS
NAME:	JMetzger	DC	JAustin	JMcGrath	JHickey	VMiller	-----	GS	RCunningham
DATE:	11/ /88	11/21/88	11/ /88	11/ /88	11/23/88	11/ /88	11/ /88	11/23/88	11/23/88

OFFICIAL RECORD COPY

Discussion:

All medical licensees are reminded of the importance of making accurate therapy-dose calculations, including computer-assisted calculations. This is particularly important on occasions when the operating characteristics of the equipment might have been modified, such as after servicing or a source exchange. Licensees should consider methods to ensure that only updated programs and data files are used in treatment planning. In addition, licensees should consider steps to ensure that individuals using treatment-planning computer programs are properly trained in the use and limitations of those systems.

No written response is required by this Information Notice. If you have any questions about this matter, please contact the appropriate NRC regional office or this office.

Richard E. Cunningham, Director
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

Technical Contacts: J. R. Metzger, NMSS
(301) 492-3424

J. McGrath, Region I
(215) 377-5216

Attachment: List of Recently Issued NRC Information Notices

See previous concurrence

Editor: E. Kraus ^{EK} 11/21/88

OFC	IMOB	IMOB	IMAB	RI	IMOB	GA	SL	ITP	MD	State	IMNS	IMNS
JM			AS	JM	JH	JM	JH	JH	JH	JH	GS	RC
NAME:	JMetzger/sr	DCool	JAustin	JMcGrath	JHickey	JMiller					GSjoblom	RCunningham
DATE:	11/22/88	11/ /88	11/22/88	11/21/88	11/ /88	11/21/88	11/21/88	11/21/88	11/ /88	11/ /88	11/ /88	11/ /88