



INDIANA UNIVERSITY
MEDICAL CENTER

RADIATION SAFETY OFFICE
Clinical Building 159
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DCD/DCB
Sumner

13-02752-08

February 17, 1993

Charles E. Norelius, Director
Division of Radiation Safety
and Safeguards
U.S.N.R.C. - Region III Office
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Norelius:

Attached please find a response to your letter and Notice of Violation dated January 27, 1993. Due to the technical nature of your letter and appended information, Chancellor Bepko requested that I formulate the appropriate responses to same and provide him with a copy of them.

Should you have any questions, please do not hesitate to contact this office.

Sincerely,

Mack L. Richard

Mack L. Richard, M.S.
Radiation Safety Officer

Attachments: 1

- cc: G. Bepko
- W. Daly
- B. Batteiger
- N. Hornback

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REPLY TO A NOTICE OF VIOLATION

Indiana University Medical Center
Indianapolis, Indiana
NRC License No. 13-02752-08
Docket No. 030-09792

1. Full calibration of teletherapy unit performed with non-NIST calibrated dosimetry system.

a. Reason for Violation - The Picker C9 teletherapy unit is used exclusively for whole body irradiation of patients in preparation for bone marrow transplantation. These treatments are delivered at a source axial distance (SAD) of 2.75 meters. Up until December of 1991, the annual calibration was performed as though this unit was used for standard teletherapy (e.g. measurements taken at 80 cm for various field sizes). In December of 1991, the chief physicist decided that the annual calibration should be carried out at the standard whole body treatment distance of 2.75 meters and requested the physicist responsible for setting up the usual whole body treatments to configure the calibration in that manner. Unfortunately, when this was done, an NIST calibrated system was not utilized. It should be noted that an NIST calibrated system was utilized for a spot check at 80 cm in both November, 1991 and January, 1992. Application of correction factors for these measurements using the NIST calibrated system produce the same results as those measured in December, 1991 using the non-calibrated system.

b. Corrective Steps Taken - The Picker C9 teletherapy unit has been calibrated with an NIST traceable system.

c. Corrective Steps to Prevent Recurrence - Inasmuch as the cause of this violation was attributed to a change in procedure, it is not anticipated that such a problem will recur; however, all physics staff members have been reminded of the appropriate procedures and calibration systems to be utilized for these annual calibrations.

d. Date When Full Compliance Achieved - The calibration mentioned above in item 1.b. was carried out on December 22, 1992.

2. Failure of battery backup for permanent radiation monitor.

a. Reason for Violation - The battery backup for one of our permanent radiation monitors apparently failed. Up until that time, there was no routine check of the battery backup, thus the failure was not detected.

b. Corrective Steps Taken - The battery backup has been replaced.

c. Corrective Steps to Prevent Recurrence - The battery backup will be checked at least annually to assure proper operation.

d. Date When Full Compliance Achieved - The battery was replaced on January 20, 1993.