Holt

BALL MEMORIAL HOSPITAL

February 17, 1994

Ms. B. J. Holt, Chief
U.S. Nuclear Regulatory Commission, Region III
Nuclear Materials Inspection - Section I
801 Warrenville Road
Lisle, IL 60532-4351

REPLY TO A NOTICE OF VIOLATION

Dear Ms. Holt:

It has been decided by Ball Memorial Hospital to remove the Cobalt-60 Teletherapy unit licensed under NRC Byproduct Material License No. 13-00951-04. The unit will be decommissioned by J. L. Shepard and Associates on or before March 11, 1994. To ensure that the unit is not used prior to this removal, the console key has been removed from the area and is being kept by the supervisor of the Radiation Oncology Department. The room is also kept locked and the key is accessible only to authorized staff.

Please find enclosed a copy of the summary sheets of the 1993 Full Calibration of the Cobalt-60 Teletherapy unit.

If you have questions or need further information, please contact me.

Cordially,

Mitchell C. Carson
Vice President, Operations

/mcm

Enclosure

BALL MEMORIAL HOSPITAL, INC.
2401 University Ave. • Muncie, IN 47303-3499 • (317) 747-3111 • FAX (317) 747-0137
Member of Voluntary Hospitals of America, Inc.®

Ball Memorial Hospital, Inc.

Summary of 1993 Annual Calibration of Cobalt-60 Teletherapy Unit

1.) Object Distance Indicator was checked by first checking the isocenter and laser alignment. This was done by rotating the gantry to 0°, 90°, and 270°. All lasers were checked against the "cross-hairs" and were found to be within 1mm. The back pointer was also within 1mm. Next the laser was set to table top and O.D.I. was read @ 80SSD. The front pointer was checked at this time and was found to be within 2mm. Next a known 14cm block was placed on the table and the O.D.I. read 66SSD. Then the lasers were set at table height plus 10cm with a ruler and the SSD read 90.

2.) The door interlock was tested by turning on the source and checking the lights on the console, over the door and on the primalert. They all indicated the source was "on". Next we deliberately opened the door and checked that all 3 lights turned off and heard the shutter close indicating that the source was "off". The door had to be closed and the key on the console turned to return the source to "on" position.

3.) With the source in "on" position, the emergency button was depressed and again the lights on the console, over the door, and primalert indicated that the source was terminated. The source could then be turned back on by turning the key on the console.
**Note - during these testing procedures it was noted that all bulbs were working.*

4.) The door latch and lock were checked to ensure that when shut and locked, the door cannot be opened.
**Note - door is not motorized.*

5.) The TV camera and monitor were checked to ensure that they were working.

6.) The intercom was checked by having someone stand in the room and ensure good audible communication with someone sitting at the console. It should also be noted that the shutter could be heard turning on and off through the intercom.

7.) The primalert battery back up was checked by unplugging the electrical power supply, turning on the beam, and viewing the light flashing through the window.

8.) All wedge and tray factors were checked and were found to be comparable to the factors being used for time calculations.

9.) Outputs for various field sizes were measured in air @ 70cm SSD, 80cm SSD, and 90cm SSD with an Ion chamber.

10.) Timer linearity was checked with an Ion chamber with 1, 2, 3, 4, 5, and 7- minute runs.

11.) Timer consistency was checked with an Ion chamber with ten two-minute runs.

12.) Timer end-effect was checked with an Ion chamber with one two-minute run and nine interrupts @ 12 - second intervals.

13.) P-Ion measurements were taken with 300 volt and 150 volt bias settings on the electrometer.

14.) The timer error was evaluated to be -0.0055.

15.) Beam vs. light field alignment films were taken with the gantry @ 0°, 90°, 180°, and 270°, using a 15.3cm² field size.

16.) Leakage at the central axis @ 100cm for a 15² field size was 9.8 mr/hr and @ 20² field size was 10.7 mr/hr.

17.) Timer was checked for 1 minute against a stop watch and the results on the stop watch were 1 min., 00.16sec.

18.) Profiles, flatness and symmetry were measured with the gantry @ 0°, 90°, 180°, and 270° with the Thebes scanner.

2/17/94
Rhonda Harmon, R.T.T.