

July 18, 1985

Patricia J. Whiston
Materials Licensing Section
US Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Ms. Whiston:

The following information is provided in response to control number 78981.

In response to item 1. Two individuals performed the teletherapy unit survey:

Joseph Mantel, Ph.D., Chief Physicist
Martin W. Johnson, Assistant Physicist
Radiation Physics Section
Sinai Hospital of Detroit
6767 W. Outer Drive
Detroit, MI 48235

In response to section 2.1. The manufacturer's name and model number for the instrument used in the survey is as follows:

Nuclear Enterprises electrometer, model 2570, serial #295. NEL ion chamber, model 2571, serial #393.

In response to section 2.b. The date which the dosimetry system was calibrated:

Nuclear Enterprises electrometer, model 2570.

Calibration completed on: June 13, 1984.

In response to section 2.c.

The Nuclear Enterprises electrometer, model 2570, was calibrated by the Accredited Dosimetry Calibration Laboratory, Department of Medical Physics, University of Wisconsin, Madison, 1530 Medical Sciences Center, 1300 University Avenue, Madison, WI, 53706.

In response to section 3.a. The electrical interlocks on the teletherapy treatment room doors were tested by keeping the room door open and then finding that teletherapy unit wouldn't operate. With the door closed the teletherapy unit would operate. While the teletherapy unit was operative the room door was opened and the unit stopped operation immediately. When the door was closed again the teletherapy would not operate until the operator reset the unit's control panel.

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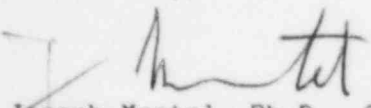
In response to section 3.b. The teletherapy source 'on-off' indicator was checked to see if it verified the actual 'on-off' condition of the source. This was accomplished by cross checking the unit's indicators with a Victoreen Survey Meter model #493 placed in the maze of the room. This survey meter's display could be viewed through the leaded glass in the room door from outside the teletherapy room to verify when the source was 'on' or 'off'. When the source was 'off' the survey meter read background radiation, the room indicator flashed green and the control panel's light was off. When the source was 'on', the survey meter read 3mR/hr and the room indicator flashed red, the control panel's light turned red. This check verified that the teletherapy source 'on-off' indicators were functioning properly.

In response to section 3.c. The electrical and/or mechanical stops were tested to verify whether the primary beam is properly limited in its directional use. The teletherapy unit was found to operate when the gantry angle was zero and the head angle was rotated clockwise or counter-clockwise by less than 15° from the 0° position (pointing straight towards the beam stopper). When the head angle was rotated by more than 15° in either direction the unit is not operational.

In response to section 3.d. As described in section 3.b. the 'on-off' indicators work properly so that when the preset time is completed the 'on' light indicator goes off, showing that the source is in the 'off' position. Using a digital quartz stop watch a preset time of 1.0 minute was set and measured by the watch. The digital watch verified that the preset timer operated for 1.0 minute. Also it was verified that the preset timer must be reset to the time desired for treatment before the source can go to the 'on' position.

If I can be of further assistance please do not hesitate to telephone me at (313) 493-5105.

Yours truly,



Joseph Mantel, Ph.D., Chief,
Radiation Physics Section
Dept. Diagnostic Imaging/Radiology
Sinai Hospital of Detroit
6767 W. Outer Drive
Detroit, MI 48235

JM/sp