

Andrew Kaul Memorial Hospital

St. Marys, Pennsylvania 15857

Area Code 814

781-7500

April 28, 1981

Mr. John D. Kinneman
Chief, Materials Radiological Protection Section
Technical Inspection Branch
United States Nuclear Regulatory Commission
Region 1
631 Park Avenue
King of Prussia, Pa. 19406

Docket Nos. 30-00495 License Nos. 37-13551-01
30-09118 37-13551-02

Dear Mr. Kinneman:

Subject: Inspection No. 81-01

In response to the inspection conducted by Ms. J. Johansen of your office on March 11, 1981, the following measures have been and will be taken to bring us in full compliance with N.R.C. requirements.

- A. Cobalt monthly spot checks have been conducted beginning March 1981 and will continue monthly. The following tests are being performed:
1. Distance measurement marker for accuracy.
 2. Timer accuracy - using stop watch to check radiation therapy verification timer.
 3. Electrical door interlocks.
 4. Films are taken to determine field size.
 5. Radiation level monitor (Primolert TM10) has been installed.
 6. Output monitoring - Model 05-595D Therapy integrator, ratemeter Dosimetry System is used.
- B. Personnel will be instructed not to shield their film badge during exposure. Secondly, should an exposure reading return from our film badge supplier with the reading (un-evenly exposed - no value assigned) a value will be assigned by us (based on previous records, etc.) and the supplier will be notified by us to adjust their values and records.
- C. 1. Linearity tests of the dose calibrator have already been conducted and will be conducted quarterly.
2. The Medical Isotope Committee will be meeting May 6, 1981, and quarterly meetings will follow.

Paula K. McNeekin
PAULA K. McNEEKIN, R.N. (N) PH.D.
Geisinger - 1. Elk Co., Pa.
N.Y. Comm. in Excess Expires 8. 1983

Sincerely,

Jeffrey D. Hegges
Jeffrey D. Hegges
Administrator

JDK/pm

8106160 583

SSINS No.: 6830
Accession No:
8006190078
IN 80-33

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

September 15, 1980

IE Information Notice No. 80-33: DETERMINATION OF TELETHERAPY TIMER ACCURACY

Description of Circumstances:

New requirements for full calibration and spot-check measurements of teletherapy units in §§35.21 - 35.25 of 10 CFR Part 35 became effective on July 9, 1979. One of the determinations required is "timer accuracy" [§§35.21(b)(4) and 35.22(b)(1)]. Recent inspections conducted by the U.S. Nuclear Regulatory Commission (NRC) have determined that many licensees and consultant physicists have misunderstood this requirement. The purpose of this information notice is to clarify the meaning of "determination of timer accuracy (i.e., timer error)" as used in these regulations.

There is a finite error in source output measurements due to the time required for the source shutter mechanism to travel from the full "off" to full "on" condition and return. This error may be positive or negative, depending on when the timer movement starts with respect to source travel. It is the determination of this "timer error" that is required in the regulations as part of full calibrations and monthly spot-check measurements. The timer error, once determined, may be corrected by adding its value (positive or negative) to the treatment time or exposure time during calibrations and spot-check measurements. Omission of this correction may introduce substantial error into short irradiations. Further, a significant change in timer error from month to month may indicate a timer malfunction or source movement mechanism failure or both.

The timer error and acceptable methods for its determination are described in detail in §4.14 of ANSI Standard N449.1-1978*. Comparison of the console timer with a stopwatch is not an acceptable substitute for this determination.

ACTION TO BE TAKEN BY LICENSEES:

Full calibration and spot check measurements performed on your teletherapy unit should include the determination of timer error as described above.

This information notice should be brought to the immediate attention of the qualified expert (10 CFR Part 35.24) performing these calibrations and measurements.

No response to this information notice is required. If you need additional information regarding this matter, contact the Fuel Facility and Material Safety Branch of the appropriate NRC Regional Office.

* Copies of ANSI Standard N449.1-1978 may be obtained from the American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018.