REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

No.: NR-8148-D-804-S DATE: June 8, 2004 PAGE 1 OF 3
(Previously NR-0606-D-104-U)

DEVICE TYPE: Rotational Teletheraphy Unit

MODEL: Gammatron 2

MANUFACTURER/DISTRIBUTOR: Siemens Medical Solutions USA, Inc.
110 MacAlyson Court
Cary, NC 27511

SEALED SOURCE MODEL DESIGNATION: Atomic Energy of Canada
Dwg. C-20A75
ORNL Dwg. No. D-18631

ISOTOPE:	MAXIMUM ACTIVITY:
Cobalt-60	2000 Curies

LEAK TEST FREQUENCY: Not Supplied

PRINCIPAL USE: (C) Medical Teletheraphy

CUSTOM DEVICE: ____ YES ___X___ NO

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DEVICE TYPE: Rotational Teletherapy Unit

DESCRIPTION:

The Gammatron 2 is a rotational teletherapy unit with head and beam barrier on a "C" arm which rotates about the patient. The iron beam stopper subtends a 90E angle and attenuates the beam by about 10^{-3}. The unit can be ordered with a counter weight instead of the radiation shield. The source is mounted 55 cm from the center of rotation (treatment distance). The unit is 6'7" in height with a maximum source-floor distance of 5'. The distance between the source and the back of the unit is 6'8". The device contains no uranium and uses the same source as the Gammatron 1.

The head consists of a cast iron shell filled with lead. A tungsten insert rests above the source capsule. A tungsten source drawer is used to hold the source in a stationary position. The head also contains a tungsten shutter which is electrically operated against spring pressure.

The tungsten collimation assembly defines a field size which can be varied up to a maximum of 16 cm square at 55 cm (about 16.6E maximum subtended angle). The collimation assembly operates independently of the shutter mechanism.

The head will swivel 175E in each direction but doesn't tilt. Beam orientation can be limited by mechanical stops.

Lights on the control panel and in the room (optional) indicate the "on" and "off" conditions. If the power fails the shutter assembly automatically closes due to spring pressure. The unit must then be re-set to continue treatment. In an emergency, the collimation assembly can be manually closed, and the shutter system manually closed after the head cover is removed

EXTERNAL RADIATION LEVELS:

Head leakage complies with NBS Handbook 73.

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DEVICE TYPE: Rotational Teletherapy Unit

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE:

Installation and source transfer is the same as for a Gammatron 1.

SAFETY ANALYSIS SUMMARY:

Siemens Medical Solutions USA, Inc., has not sold or distributed the Gammatron 2 in over ten years and none are still in use as produced. Siemens Medical Solutions USA, Inc., has no plans to commercially distribute the product and has made no changes to the product since its initial registration.

REFERENCES:

- See Registration Certificate NR-8148-D-803-U for Gammatron 1.
- Siemens Medical Solutions USA, Inc. letter received on April 28, 2004, requesting registration certificate inactivation.

ISSUING AGENCY:

U.S. Nuclear Regulatory Commission

Date: June 8, 2004 Reviewer: /RA/
John P. Jankovich

Date: June 8, 2004 Concurrence: /RA/
Xiaosong Yin