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LTR RS92-350

October 21, 1992

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Re: NRC Bulletin 92-02, "Safety concerns relating to "End of Life"
aging Theratron Teletherapy Units."

Plans for maintenance and servicing of Theratron 80 unit subsequent to the manufacturer's withdrawal of support and "end of useful life" provisions.

The University of Illinois at Chicago is currently licensed by the Illinois Department of Nuclear Safety as an agreement state licensee. While we are not licensed by the NRC regarding possession of the Theratron 80 Co-60 Teletherapy unit, we are happy to provide you with the applicable information requested in NRC Bulletin 92-02 regarding the Theratron 80 unit in our possession. The Theratron 80 unit has been visually inspected subsequent to this bulletin to detect the presence of cracks in the cast iron arm. No cracks were observed in either the cast iron arm or the beam stopper.

It should be noted that this unit has not been used for clinical and/or therapeutic treatments since 1982. As a result, the unit has been used very infrequently since 1982, primarily for research and calibrations and, as such, has not been subjected to the levels of stress from movement and rotation associated with frequent use. Furthermore, the University expended a great deal of time and money in 1985 to amend our license in order to install a new Co-60 source in the unit. Since the unit is used so infrequently and therefore has not aged like other frequently used units, we have no intention of dismantling and/or disposing of the Theratron 80 unit at this time. In the event that cracks are discovered or the unit is deemed to be at the "end of useful life", it will be dismantled and disposed of by a vendor licensed to handle such dismantling and disposal.

The following information covers those items specific to the current use of the University of Illinois Theratron 80 unit.

1. Make and Model number: AECL Theratron T-80
2. Date of manufacture: The unit was installed in 1970.

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3. Serial number: T-80 unit: S/N 231
Co-60 source: S/N 3717

The activity of the installed source was 5119 Ci. on 02/85.

4. Present use: The AECL Theratron 80 teletherapy unit is authorized for the irradiation of anything except living human beings, explosives, or quantities of flammable liquids or corrosives exceeding 100 ml. Uses include, but are not limited to research and development as defined in 10 CFR Part 30, education and training, and irradiation of samples including blood components.
5. The curved arm is of one piece cast iron construction. The beam stopper is also cast iron. Based on our visual inspection of the unit as well as the limited and infrequent usage of the unit, we do not feel that the inspections per Theratronics' Procedure I 1024 G091G10 REV C are necessary.
6. The teletherapy unit has not required service since the installation of a new source in 1985. The unit is used on an infrequent basis (less than once per month).
7. The teletherapy unit is not currently covered by a service contract, due to its limited use.
8. This section does not apply due to the fact that the teletherapy unit is not used for clinical therapies or treatment. However, if a crack were discovered, we would discontinue all use of the unit immediately and secure the unit to reduce the risk of catastrophic failure until repairs could be made. If it were determined that the unit could not be repaired, arrangements would be made to dismantle and properly dispose of the unit.

RCB\RJ\af

Sincerely,

Raymond C. Barrall

Raymond C. Barrall, Director
Environmental Health and Safety Office

cc:US NRC Regional Administrator