DL-121594_03

RIVERSIDE

REGIONAL MEDICAL CENTER

December 15, 1994

U.S. Nuclear Regulatory Commission, Region II
Material Radiation Protection Section
101 Marietta Street, N.W., Suite 2900
Atlanta, Georgia, 30323

RE: RENEWAL OF NRC TELETHERAPY LICENSE NO. 45-09001-03

Gentlemen,

We hereby submit this letter request for renewal of the NRC Teletherapy License No. 45-09001-03 issued to Riverside Regional Medical Center. We have enclosed two copies of our renewal letter request along with the information specified in Appendix L of the licensing guide. We have also enclosed a check for $1360.00 to cover the renewal costs for the teletherapy source and the depleted uranium used as shielding. Please address any questions regarding this renewal to me at telephone (804) 594-2757. I will prepare any required responses and submit them to Mr. William Downey for approval before mailing them to you.

Thank you very much for your assistance in the amendment.

Yours very truly,

Leland R. Kirkland, Ph.D.

Leland R. Kirkland, Ph.D., D.A.B.R.
Radiation Safety Officer

December 15, 1994
(date)

Approved by

Mr. William Downey
Senior Vice President

(date)

20b-01

DEPARTMENT OF RADIATION ONCOLOGY

TELETHERAPY LICENSE RENEWAL REQUEST

This application is submitted to obtain a letter renewal of our existing NRC teletherapy license number 45-09001-03. The information below follows the itemization of Appendix L to the Draft Regulatory Guide Task FC 414-4, as published in December, 1985.

a. **NRC License Number** — 45 – 09001 – 03

b. **Name** — Riverside Regional Medical Center

c. **Mailing Address** — Cancer Treatment Center
Riverside Regional Medical Center
500 J. Clyde Morris Boulevard
Newport News, Virginia 23601

d. **Location of Teletherapy Unit** — Same as Mailing Address

e. **Verification of Location of Teletherapy Unit**

The unit and its location is the same as used in previous correspondence with the NRC to include applications dated November 28, 1983; August 27, 1984; and August 30, 1989; as well as the letter dated July 15, 1993. There have been no changes to the facility that affect either radiation levels in the surrounding areas or the patient viewing system.

f. **Verification of Electrical and Mechanical Stops**

The room was designed to house an accelerator having a photon beam energy of 15 MV. The radiation levels in the surrounding areas are so low that there is no need for either electrical or mechanical stops that limit the use of the primary beam. These levels were documented at the last source exchange which was reported to the NRC on November 23, 1992.

g. **Confirmation of Current Authorizations in Items 6 through 9**

The current authorizations for radionuclide, description of sealed source and teletherapy unit, maximum possession limit, and authorized use are correct.

h. **Confirmation of the List of Authorized Users**

The list of authorized users in Condition 12 of the license is correct.

i. **Name of Radiation Safety Officer**

Leland R. Kirkland, Ph.D.

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j. **Information Requested by Items 8, 10.5, and 10.6**

Item 8 – Training of Individuals: The training program is unchanged from the descriptions given in documents submitted on August 30, 1989

Item 10.5 – Operating Procedures: The operating procedures are unchanged from the descriptions given in documents submitted on August 30, 1989

Item 10.6 – Emergency Procedures: The emergency procedures are unchanged from the descriptions given in documents submitted on August 30, 1989

k. **Information Requested by Items 10.1, 10.2, and 10.3**

Item 10.1 – Personnel Monitoring: Environmental radiation levels are so low that personnel monitoring is not required according to 10 CFR 20. However, if badges issued for the purpose of assuring that monitoring is not required indicate significant changes, then monitoring will be accomplished as described in the application dated August 30, 1989

Item 10.2 – Instrumentation: The facility will have available for use the instrumentation specified in Item 10.2.2 of the draft regulatory guide and as described in the application dated August 30, 1989

Item 10.3 – Calibration of Portable Survey Instruments: We will follow the procedures described in the application dated August 30, 1989. We request that our calibration procedures be changed as described below

> A single point on a survey meter scale may be considered satisfactorily calibrated if the indicated exposure rate differs from the calculated exposure rate by less than 20 percent as per 10 CFR 35.51
>
> If the scale to be measured ranges to 0.5 mR/hr or less, then a point may be considered satisfactorily calibrated if the indicated exposure rate differs from the calculated exposure rate by less than either 0.1 mR/hr or 20%, whichever is greater. For those scales approaching background levels, this calibration method will reduce the time and costs associated with spending large efforts to get the 0.5 mR/hr scale accurate to within 20% while permitting 20% error on the 1000 mR/hr scale as published in NRC regulations. The error in dose assessment for the latter case, which is acceptable under current regulations, could be as high 200 mrem OVER ONE HOUR while the error by accepting 0.1 mR/hr will be 100 mrem OVER ONE FULL WORKING YEAR. We believe that we should be permitted to put more effort in reducing the error in the higher ranges while accepting the small increase in error in the lower ranges without having to replace a survey meter because of such small non-linearities between scales
>
> Survey meters are calibrated in any space of appropriate size and not just in a therapy room. Of course we observe NRC regulations with regards to exposure to the public and staff as

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well as the radiation released to unrestricted areas

The list of calibration sources should include the shielded survey meter calibrator containing 141 millicuries of ^{137}Cs (Amersham Model 773, S.N. 403, calibrated on September 17, 1990).

Pocket chambers in the R range and higher are calibrated by using the teletherapy unit.

l. Verification of No Change in Previously Submitted Information

There have been no changes in the information previously submitted to the NRC regarding other aspects of the radiation protection program or the teletherapy program other than ministerial changes and the changes described below.

a The responsible administrator has changed from Mr. Gerald Brink, President, to Mr. William Downey, Senior Vice President.

b The telephone exchange has changed from 599-xxxx to 594-xxxx.

c The term "radiation therapist" for physicians has been replaced with "radiation oncologist". The personnel operating the equipment under the supervision of an authorized user are now called "radiation therapists".

d Leak test swipes are counted using good statistics but we do not necessarily collect 10,000 counts from the reference source when measuring detector efficiency. A one-minute count of the reference now yields approximately 5,000 to 6,000 counts.

m. Confirmation of Information for a Medical Facility

The current membership of the Radiation Safety Committee is

James A. Wassum, M.D., Chairman and Teletherapy Authorized User
John Maddox, M.D., Pathology
Don L. Grantham, M.D., Radiology and Nuclear Medicine Authorized User
Joseph F. Layser, M.D., Teletherapy Authorized User
Ron Kersh, M.D., Teletherapy Authorized User
Leland R. Kirkland, Ph.D., RSO and Teletherapy Physicist
Nancy Grant, R.N. Nursing
John Clements, R.T.-R. Radiology Administrative Technologist
William Downey, M.H.A. and Senior Vice President
Lloyd Smith, B.S., Ad-Hoc Member and Teletherapy Physicist
Harold Prussia, B.S., Ad-Hoc Member and Assistant RSO
Shari Neligan, B.S., Ad-Hoc Member and Supervisor, Nuclear Medicine

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The above list clearly demonstrates that the teletherapy unit is under the direct supervision of the Radiation Safety Committee. Records of membership will be maintained until the teletherapy license is terminated.

n. ALARA Program

We have previously established and implemented an ALARA program effective August 15, 1980. We request that the investigational limits for the lens of the eyes listed in the Regulatory Guide 10.8, published in August, 1987, be increased by a factor of three to correspond to the factor of three increase in the new NRC exposure limits that became effective on January 1, 1994.

o. Source Exchange Report

The most recent source exchange was reported on November 23, 1992

p. Changes to Supporting Documentation

There are no additional changes to the supporting documentation to this license.

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