NRC Form 374
(5-84)

U.S. NUCLEAR REGULATORY COMMISSION

Amendment No. 12

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	In accordance with application dated August 30, 1985
1. Medical X-Ray Center, P.C.	3. License number 40-01493-02 is amended in its entirety to read as follows:
2. 1417 South Minnesota Avenue Sioux Falls, South Dakota 57105	4. Expiration date February 28, 1989
	5. Docket or Reference No. 030-03233

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Any byproduct material listed in Group IV of Schedule A, Section 35.100 of 10 CFR 35	A. Any radiopharmaceutical listed in Group IV of Schedule A, Section 35.100 of 10 CFR 35	A. As necessary for uses authorized in Subitem 9.A.
B. Uranium (Depleted in Uranium-235)	B. Cadmium-plated metal	B. 149 kilograms

9. Authorized use

A. Any therapeutic procedure listed in Group IV of Schedule A, Section 35.100 of Title 10, Code of Federal Regulations.

B. As shielding in a Varian Associates Radiotherapy Linear Accelerator Model Cliniac 6X.

CONDITIONS

10. Licensed material shall be used only at Medical X-Ray Center, P.C., 1417 South Minnesota Avenue, Sioux Falls, South Dakota.

11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number
40-01493-02

Docket or Reference number
030-03233

Amendment No. 12

12. Licensed material listed in Item 6 above is authorized for use by, or under the supervision of, the following individual(s) for the materials and uses indicated:

Donald H. Breit, M.D.	Iodine-131 as iodide for treatment of hyperthyroidism and cardiac dysfunction Phosphorus-32 as soluble phosphate for treatment of polycythemia vera, leukemia and bone metastases Depleted uranium for shielding in a Varian Associates Radiotherapy Linear Accelerator Model Cliniac 6X
Robert P. DeClark, M.D.	Iodine-131 as iodide for treatment of hyperthyroidism and cardiac dysfunction Phosphorus-32 as soluble phosphate for treatment of polycythemia vera, leukemia and bone metastases Depleted uranium for shielding in a Varian Associates Radiotherapy Linear Accelerator Model Cliniac 6X
Leland J. Larson, M.D.	Iodine-131 as iodide for treatment of hyperthyroidism and cardiac dysfunction Phosphorus-32 as soluble phosphate for treatment of polycythemia vera, leukemia and bone metastases Depleted uranium for shielding in a Varian Associates Radiotherapy Linear Accelerator Model Cliniac 6X
Donald J. Peik, M.D.	Iodine-131 as iodide for treatment of hyperthyroidism and cardiac dysfunction Phosphorus-32 as soluble phosphate for treatment of polycythemia vera, leukemia and bone metastases Depleted uranium for shielding in a Varian Associates Radiotherapy Linear Accelerator Model Cliniac 6X

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License number
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12. (continued)

Bryson R. McHardy, M.D.	Iodine-131 as iodide for treatment of hyperthyroidism and cardiac dysfunction Phosphorus-32 as soluble phosphate for treatment of polycythemia vera, leukemia and bone metastases Depleted uranium for shielding in a Varian Associates Radiotherapy Linear Accelerator Model Cliniac 6X
M. Frank Petereit, M.D.	Iodine-131 as iodide for treatment of hyperthyroidism and cardiac dysfunction Phosphorus-32 as soluble phosphate for treatment of polycythemia vera, leukemia and bone metastases Depleted uranium for shielding in a Varian Associates Radiotherapy Linear Accelerator Model Cliniac 6X
Lynn A. Hendrickson, M.D.	Iodine-131 for diagnosis of thyroid function
Donald G. Nordstrom, M.D.	Phosphorus-32 as colloidal chromic phosphate for intracavitary treatment of of malignant effusions Depleted uranium for shielding in a Varian Associates Radiotherapy Linear Accelerator Model Cliniac 6X
Andrew I. Soye, M.D.	Iodine-131 as iodide for treatment of hyperthyroidism and cardiac dysfunction Phosphorus-32 as soluble phosphate for treatment of polycythemia vera, leukemia and bone metastases Depleted uranium for shielding in a Varian Associates Radiotherapy Linear Accelerator Model Cliniac 6X

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number 40-01493-02

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Amendment No. 12

12. (continued)

Thomas M. Cink, M.D.	Iodine-131 as iodide for treatment of hyperthyroidism and cardiac dysfunction Phosphorus-32 as soluble phosphate for treatment of polycythemia vera, leukemia, and bone metastases Depleted uranium for shielding in a Varian Associates Radiotherapy Linear Accelerator Model Cliniac 6X

13. Licensed material shall be used in accordance with the provisions of Section 35.14(b)(c)(e) and (f) of Title 10, Code of Federal Regulations.

14. The licensee is authorized to hold radioactive material with a physical half-life of less than 65 days for decay-in-storage before disposal in ordinary trash provided:

    A. Radioactive waste to be disposed of in this manner shall be held for decay a minimum of 10 half-lives.

    B. Prior to disposal as normal waste, radioactive waste shall be monitored to determine that its radioactivity cannot be distinguished from background with typical low-level laboratory survey instruments. All radiation labels will be removed or obliterated.

15. The dose calibrator shall be tested on each day before use to determine constancy of operation. This test shall utilize a reference source containing cobalt-57 or cesium-137.

16. Survey instruments shall be calibrated to read within plus or minus 10% of true value. (Readings within plus or minus 20% shall be considered acceptable if a calibration chart or graph is prepared and included with the instrument.)

17. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated December 7, 1977; letters dated June 19, 1978, August 29, 1978, August 12, 1980, and July 31, 1981; Model ALARA Program contained in Appendix O of Regulatory Guide 10.8 (Rev. 1) "Guide for the Preparation of Applications for Medical Programs," October 1980; and letters dated August 24, 1982, August 26, 1983, and August 30, 1985. The Nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Original Signed By
C. L. Cain

Date NOV 22 1985

By _____
Nuclear Materials Safety Section
Region IV
Arlington, Texas 76011

Official Record Copy

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