NRC FORM 374 (7-94)

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Amendment No. 70

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, 36, 39, 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	
1. St. Francis Hospital & Medical Center 2. 114 Woodland Street Hartford, Connecticut 06105	In accordance with the letter dated July 2, 1996, 3. License Number 06-00854-03 is amended in its entirety to read as follows: 4. Expiration Date April 30, 2004 5. Docket or Reference No. 030-01246

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 identified in 10 CFR 35.100	A. Any radiopharmaceutical identified in 10 CFR 35.100	A. As needed
B. Any byproduct material identified in 10 CFR 35.200	B. Any radiopharmaceutical identified in 10 CFR 35.200	B. As needed
C. Any byproduct material identified in 10 CFR 35.300	C. Any radiopharmaceutical identified in 10 CFR 35.300	C. 500 millicuries
D. Any byproduct material identified in 10 CFR 35.400	D. Any brachytherapy source identified in 10 CFR 35.400	D. 1150 millicuries
E. Uranium depleted in the isotope Uranium 235	E. Metal	E. 160 kilograms
F. Cesium 137	F. Sealed sources (Amersham Corp. Model CDC-SP1)	F. 1000 millicuries
G. Iridium 192	G. Sealed sources (BYK Mallinckrodt Model CI L BV)	G. 2 sources not to exceed 10 curies each
H. Hydrogen 3	H. Any	H. 150 millicuries
I. Carbon 14	I. Any	I. 30 millicuries
J. Phosphorus 32	J. Any	J. 25 millicuries
K. Sulfur 35	K. Any	K. 20 millicuries
L. Calcium 45	L. Any	L. 20 millicuries
M. Iodine 125	M. Any	M. 40 millicuries
N. Strontium 90	N. Sealed source	N. 1 millicurie
O. Cesium 137	O. Sealed sources (Technical Operations Model No. 77302)	O. 200 millicuries

9. Authorized use

A. Any uptake, dilution and excretion procedure approved in 10 CFR 35.100.

B. Any imaging and localization procedure approved in 10 CFR 35.200.

NRC 10

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MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number: 06-00854-03

Docket or Reference Number: 030-J1246

Amendment No. 70

C. Any radiopharmaceutical therapy procedure approved in 10 CFR 35.300.
D. Any brachytherapy procedure approved in 10 CFR 35.400.
E. Shielding in a linear accelerator.
F. For use in a Nucletron Corporation Model SEL 103 and SEL 106 remote afterloading device for interstitial, intracavitary, or bronchial therapy.
G. One source to be used in a Nucletron Corporation Model Microselectron High Dose Rate Remote Afterloading Brachytherapy Device for interstitial, intracavitary, or bronchial therapy. One source in its shipping container to be in possession of the licensee as necessary for replacement of the source in the irradiation device.
H. through M. Research and development as defined in 10 CFR 30.4.
N. Non-human use. For calibrations and checking of the licensee's instruments.
O. For use in a Nuclear Associates or Technical Operations Model 773 calibrator for calibrations and checking of the licensee's survey instruments.

CONDITIONS

10. Licensed material may be used only at the licensee's facilities located at 114 Woodland Street, Hartford, Connecticut.

11. A. The Radiation Safety Officer for this license is Neal F. Epstein, M.D.

B. The Medical Physicists for this license are Michael L. Caprio, Jr., M.S., J. Robin Rice, Ph.D., and Dayee Jacob, M.S.

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

Authorized Users	Material and Use
James D. Slavin, Jr., M.D.	35.100; 35.200; 35.300
Neal F. Epstein, M.D.	35.100; 35.200 Iodine 131 for treatment of hyperthyroidism and cardiac dysfunction
Harold Hawkins, M.D.	35.200
Richard Shumway, M.D.	35.300: 35.400 Depleted uranium; Strontium 90; Cesium 137; Iridium 192
Bruce Kaplan, M.D.	35.300; 35.400 Depleted uranium; Strontium 90; Cesium 137; Iridium 192
Eric Van Rooy, M.D.	35.300; 35.400

Ernesto M. Canalis, M.D.	Hydrogen 3; Carbon 14; Phosphorus 32; Sulfur 35; Calcium 45; and Iodine 125
Samuel Varghese, Ph.D.	Hydrogen 3; Carbon 14; Sulfur 35; Calcium 45; and Iodine 125
Robert D. Bona, M.D.	Calcium 45
George H. Barrows, M.D.	Phosphorus 32

13. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d), 40.36(b), and 70.25(d) for establishing financial assurance for decommissioning.

14. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material at a single location to quantities below the limits specified in 10 CFR 30.72 which require consideration of the need for an emergency plan for responding to a release of licensed material.

15. Prior to initiation of a treatment program, and subsequent to each source exchange for each high dose rate remote afterloading brachytherapy unit, a radiation survey shall be made of:

    A. The source housing, with the source in the shielded position. The maximum radiation levels at 10 centimeters from the surface of the main source safe shall not exceed 1 millirem per hour.

    B. All areas adjacent to the treatment room with the source in the exposed position. The survey shall clearly establish:

        (1) That radiation doses to occupationally exposed individuals do not exceed the limits specified in 10 CFR 20.1201(a), 20.1207 and 20.1208.

        (2) That radiation doses to individual members of the public do not exceed the limits specified in 10 CFR 20.1301(a).

16. A high dose rate afterloading brachytherapy unit shall be used in accordance with the following conditions:

    A. The unit may only be used in a permanently shielded treatment room.

    B. During all patient treatments, both the authorized user and either the medical physicist or radiation safety officer must be physically present. Physical presence, for this purpose, is defined as within audible range of normal human speech.

    C. The licensee shall have and post in the vicinity of the treatment console, written emergency procedures describing the actions to be taken, including surgical intervention, should the source not return to the shielded container at the conclusion of treatment. The licensee shall not begin any treatment procedure for which a decoupled or jammed source cannot be removed expeditiously

from the patient and placed in a shielded condition.

D. The licensee shall ensure that personnel are trained in both the routine use of the unit and emergency procedures necessary to return the source to a safe position.

E. The licensee shall immediately, after implanting the source, visually check the permanently installed room radiation monitor to verify that it indicates an exposed radiation source.

F. The licensee shall visually monitor the patient during treatment through a continuous observation system.

G. The licensee shall permit no visitors in the treatment room.

17. In lieu of 10 CFR 35.404(a), immediately after retracting the source from the patient into its shielded position in the remote afterloading device, radiation survey shall be made of the patient and the remote afterloading device with a portable radiation detection survey instrument to confirm that the source has been removed from the patient. Records of the survey shall be maintained in lieu of the record required in 10 CFR 35.404(b).

18. In lieu of the source inventory described in 10 CFR 35.406, the licensee shall:

A. Promptly determine that all sources have returned to the safe, shielded position at the conclusion of each high dose remote brachytherapy procedure.

B. Promptly make a survey of the area of use to confirm that no sources have been misplaced.

C. Make a record of the survey including survey instrument used, dose rate, time, date and name of the individual making the survey.

D. Retain the record of the survey in lieu of the record required in 10 CFR 35.406(d).

19. The following shall be performed only by persons specifically authorized by the Commission or an Agreement State to perform such service:

A. Installation, and replacement of the sealed sources contained in each high dose rate remote afterloading brachytherapy unit.

B. Maintenance or repair operations on any high dose rate remote afterloading brachytherapy unit and associated equipment involving work on the source safe, the source driving unit, or other mechanism that could expose the source, reduce the shielding around the source, or compromise the safety of the unit and result in increased radiation levels.

20. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

21. Notwithstanding the requirements of 10 CFR 35.92(a), the licensee may hold any

radioactive material authorized by this license with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal in ordinary trash, provided the licensee stores the material for decay in accordance with all other requirements of 10 CFR 35.92.

22. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below, except for minor changes in the medical use radiation safety procedures as provided in 10 CFR 35.31. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Application dated October 26, 1993
B. Letter dated January 10, 1994
C. Letter dated April 14, 1994
D. Letter dated November 17, 1994
E. Letter dated December 23, 1994
F. Letter dated January 31, 1995
G. Letter dated March 1, 1995
H. Letter dated June 20, 1995
I. Letter dated July 2, 1996

For the U.S. Nuclear Regulatory Commission

Date JUL 30 1996

By Original Signed By:
Michelle Beardsley
Nuclear Materials Safety Branch
Region I
King of Prussia, Pennsylvania 19406

JUL 30 1996

Mary Ellen Doyle
Vice President
St. Francis Hospital and Medical Center
114 Woodland Street
Hartford, CT 06105

Dear Ms. Doyle:

This refers to your license amendment request. Enclosed with this letter is the amended license. Please note that as part of this amendment, in accordance with 10 CFR 30.36, effective February 15, 1996, the expiration date of your license has been extended by a period of five years. Your new expiration date is stated in Item 4 of the license.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Thank you for your cooperation.

Sincerely,

Original Signed By:
Michelle Beardsley

Michelle R. Beardsley
Division of Nuclear Materials Safety

License No. 06-00854-03
Docket No. 030-01246
Control No. 123406

Enclosure:
Amendment No. 70

DOCUMENT NAME: R:\WPS\MLTR\L0600854.03
To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI					
NAME	Beardsley MB							
DATE	07/20/96		07/ /96		07/ /96		07/ /96	

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SAINT FRANCIS
Hospital and Medical Center

Mary Ellen Doyle
Vice President

114 Woodland Street
Hartford, Connecticut
06105-1299

203-548-4176
Fax 203-548-5575

030-01246

July 2, 1996

USNRC Region I
475 Allendale Road
King of Prussia, PA 19406

Dear Sirs:

Please amend our Byproduct Materials License 06-00854-03 as follows:

1. In our letter dated January 10, 1994, we committed to calibrating our Ir-192 HDR source using the procedure given in part 22.b., page 6 of said letter. As an alternative to this procedure of calibration, we wish to use a Standard Imaging HDR 1000 Plus Ionization Chamber in conjunction with either a Victoreen model 530 or Capintec model 192 electrometer. The HDR 1000 Plus is a well-type ionization chamber. The HDR source will be situated 48 mm from the bottom of the well chamber insert (the axial point of maximum response). With the source in this position, a reading I (in Amperes), corrected to STP, will be taken from the electrometer operating in current mode. The activity, A (in Curies) will then be given by

   $$A = (C.F.) \times I$$

   where C.F. is the ADCL determined chamber calibration factor in units of Ci/A.

   We don't want to *replace* the above method of calibration with the method committed to in our January 10, 1994. We want to be able to use both methods to calibrate, in case one instrument isn't working.

2. Our license currently allows us to hold radioactive waste for decay in storage. We are requesting permission to dispose of trash by this method for isotopes with half-lives of 90 days or less. This will allow us to handle S-35 waste in the same manner that we now use for P-32.

123406

JUL - 5 1996

3. Please rescind our request dated June 20, 1995 to use a new area of use for storage of Cs-137 Brachytherapy sources. This area was never used for this purpose, and we have transferred the sources to another licensee, so this area will not be needed for storage of radioactive materials. Since no materials were ever moved to this location, no decommissioning survey is required.

4. Please remove the following authorized users from our license:

   Konstantinos Roussis, M.D.
   Harold Moskowitz, M.D.
   Xi Zhan, Ph.D.

The amendment fee of $440.00 is enclosed.

Sincerely,

Mary Ellen Doyle

Mary Ellen Doyle

c: K. Schwartz
   S. Korchin
   R. Rice

Enclosure
0611usn2.let

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 02230
STATUS CODE: 0
FEE CATEGORY: 7C 2B
EXP. DATE: 20040430
FEE COMMENTS: _____
DECOM FIN ASSUR REQD: N

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: ST. FRANCIS HOSPITAL & MEDICAL CTR.
RECEIVED DATE: 960705
DOCKET NO: 3001246
CONTROL NO.: 123406
LICENSE NO.: 06-0^854-03
ACTION TYPE: AMENDMENT

2. FEE ATTACHED
AMOUNT: $440.00
CHECK NO.: 328022

3. COMMENTS

SIGNED M. A. Perkins
DATE 7/16/96

1996 JUL 15 AM 11:15

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED /✓/)

1. FEE CATEGORY AND AMOUNT: 7C 2B $440

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:
AMENDMENT
RENEWAL
LICENSE

3. OTHER _____

SIGNED B Bruno
DATE 7/16/96

T (96)

Log July 6
Remitter
Check No. 328022
Amount $440
Fee Category 7C
Type of Fee AMD
Date Check Rec'd 7/16/96
Date Deposited
By B Bruno