NRC FORM 374
(7-94)

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Amendment No. 65

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. Veterans Affairs Medical Center	**In accordance with the letter dated October 2, 1996** 3. License Number 41-00119-08
	is amended in its entirety to read as follows:
2. 1030 Jefferson Avenue Memphis, Tennessee 38104	4. Expiration Date **September 30, 2001 (extended)**
	5. Docket or Reference No. 030-03253

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.	As needed (Not to exceed 10 curies of I-131)
D.	Any byproduct material identified in 10 CFR 35.400	D.	Any brachytherapy sources identified in 10 CFR 35.400	D.	As needed
E.	Any byproduct material identified in 10 CFR 31.11	E.	Any prepackaged kits	E.	As needed
F.	Cesium 137	F.	Sealed source registered pursuant to 10 CFR 32.210 contained in a compatible registered device specified in Item 9.F	F.	4000 curies total
G.	Uranium (depleted in uranium 235)	G.	Cadmium plated metal shielding components	G.	182 kilograms
H.	Cesium 137	H.	Sealed source registered pursuant to 10 CFR 32.210 contained in a compatible registered device specified in Item 9.H	H.	100 millicuries

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ML20

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
41-00119-08

Docket or Reference Number
030-03253

Amendment No. 65

6.	Byproduct, Source, and/or Special Nuclear Material	7.	Chemical and/or Physical Form	8.	Maximum amount that licensee may possess at one time under this license
I.	Strontium 90	I.	Sealed source (Nuclear Enterprises Model No. 2503)	I.	10 millicuries
J.	Any byproduct material with atomic numbers 1 through 83, inclusive	J.	Any form except sealed sources	J.	3 millicuries per radionuclide and 100 millicuries total, except as follows: (1) carbon 14: 800 millicuries (2) phosphorus 32 and/or phosphorus 33: 1000 millicuries total (3) sulfur 35: 200 millicuries (4) hydrogen 3: 1500 millicuries (5) iodine 125: 800 millicuries (6) Chromium 51: 100 millicuries

9. Authorized Use:

A. Medical use described in 10 CFR 35.100.
B. Medical use described in 10 CFR 35.200.
C. Medical use described in 10 CFR 35.300.
D. Medical use described in 10 CFR 35.400.
E. *In vitro* studies.
F. For possession and use in J.L. Shepherd Model 25-1 irradiator for irradiation of laboratory animals, plant cells, and chemical compounds.
G. For possession and use as shielding in a linear accelerator.
H. For possession and use in an instrument calibrator registered pursuant to 10 CFR 32.210 for calibration of radiation detection equipment.
I. For possession and use in a Nuclear Enterprises dosimeter calibrator for calibration of dosimetry systems.
J. For possession and use in laboratory research including *in vitro* studies and tracer studies in laboratory animals.

CONDITIONS

10. Location for use: the licensee's facilities described in application dated May 17, 1990 (Revised and resubmitted October 30, 1991) and located at 1030 Jefferson Avenue, Memphis, Tennessee.

11. The Radiation Safety Officer for the activities authorized by this license is Charlie E. Brannon, Jr.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
41-00119-08

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030-03253

Amendment No. 65

(continued) CONDITIONS

12. Authorized users for:

A. Medical uses identified in 10 CFR 35.100 and 35.200:

(1) Ted R. Alber, M.D.
(2) James D. Massie, M.D.
(3) Donna Swain, M.D.
(4) John R. Ware, M.D.

B. Medical uses identified in 10 CFR 35.300:

(1) Ted R. Alber, M.D.
(2) James D. Massie, M.D.
(3) John R. Ware, M.D.

C. Medical uses identified in 10 CFR 35.400:

(1) Camilio U. Paig, M.D.
(2) Larry E. Kun, M.D.
(3) Parvesh Kumar, M.D.
(4) William F. Hartsell, M.D.

D. Clinical *in vitro* studies identified in 10 CFR 31.11:

(1) Solomon S. Solomon, M.D.
(2) A. Martinez-Hernandez, M.D.
(3) Jay P. Brooks, M.D.

E. Irradiation of samples for research with J.L. Shepherd Irradiator identified in Subitem 6.F:
(1) By or under the supervision of, John M. Stuart, M.D.

F. Depleted uranium shielding:
(1) Radiation Safety Officer/alternates

G. Calibration of instruments with instrument calibrator identified in Subitem 6.H:
(1) Radiation Safety Officer/alternates

H. Calibration of dosimeters with dosimeter calibrator identified in Subitem 6.I:
(1) Radiation Safety Officer/alternates

I. Any byproduct material with atomic Nos. 1 through 83 identified in Subitem 6.J:
(1) By or under the supervision of individuals designated by the licensee's Radiation Safety Committee. The licensee shall maintain records of individuals designated as users and their qualifications to use licensed material.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

(continued) CONDITIONS

13. In addition to the possession limits in item 8, the licensee shall further restrict the possession of licensed material as follows:

    A. For unsealed sources to quantities less than 10^5 times the applicable limits in Appendix C, 10 CFR 20 as specified in 10 CFR 30.35(d) and

    B. For sealed sources, to quantities less than 10^{10} times the applicable limits in Appendix C, 10 CFR 20 as specified in 10 CFR 30.35(d).

14. The licensee shall maintain records of information important to safe and effective decommissioning at the licensee's facilities listed in Condition 10 pursuant to the provision of 10 CFR 30.35(g) until this license is terminated by the Commission.

15. The provisions of this condition are applicable to the licensee's possession and use of the J.L. Shepherd Mark I Series Model 25-1 irradiator.

    A. The licensee shall follow the device manufacturer's instruction manual and shall make copies available to each person using or having responsibility for use of the irradiator.

    B. The licensee shall not perform repairs or alterations of the irradiator involving removal of shielding or access to the licensed material. Removal, replacement, and disposal of sealed sources in the irradiator shall be performed by a person specifically licensed by the Commission or an Agreement State to perform such services.

    C. The licensee shall assure that the irradiator is tested for proper operation of the "on-off" mechanism and indicator, if any, at intervals not to exceed six months.

    D. The licensee shall install a room (area) radiation monitor in proximity to the irradiator for the purposes of alerting the operator of unexpected radiation levels. The device shall as a minimum meet the specifications recommended by the irradiator manufacturer.

    E. The irradiator shall be used by, or under the supervision of John M. Stuart, M.D. or individuals designated by the Radiation Safety Committee.

    F. The licensee shall not irradiate explosive, flammable, or corrosive materials, or any other material which might impair the containment integrity of the sealed sources and/or the irradiator shielding and safety mechanisms.

    G. The licensee is not authorized to irradiate food or food products for human consumption.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
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(continued) CONDITIONS

16. The licensee is authorized to hold radioactive material with a physical half-life of less than 90 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. Before disposal as normal waste, radioactive waste shall be surveyed to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.

17. Pursuant to 10 CFR 20.106(b) and 20.302, the licensee is authorized to dispose of carbon 14 and hydrogen 3 by incineration provided the gaseous effluent from incineration does not exceed the limits specified for air in Appendix B, Table II, 10 CFR Part 20. Ash residues may be disposed of as ordinary waste provided appropriate surveys pursuant to 10 CFR 20.201 are made to determine that concentrations of licensed material appearing in the ash residues do not exceed the concentrations (in terms of microcuries per gram) specified for water in Appendix B, Table II, 10 CFR Part 20.

18 Sealed sources containing licensed material shall not be opened, and when installed in an exposure device (irradiator, calibrator, etc.) shall not be removed from said device by the licensee.

19. A. (1) The sealed source(s) specified in Item 7, shall be tested for leakage and/or contamination at intervals not to exceed 6 months. Any source received from another person which is not accompanied by a certificate indicating that a test was performed within 6 months before the transfer shall not be put into use until tested.

(2) Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.

B. Any source in storage and not being used need not be tested. When the source is removed from storage for use or transfer to another person, it shall be tested before use or transfer.

C. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the source shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the date the leak test result is known with the U. S. Nuclear Regulatory Commission, Region II, Division of Nuclear Materials Safety, Materials Licensing/Inspection Branch, 101 Marietta Street NW, Suite 2900, Atlanta, Georgia 30323-0199. The report shall specify the source involved, the test results, and corrective action taken. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. Records may be disposed of following Commission inspection.

(continued) CONDITIONS

19. Continued -

D. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically licensed by the Commission or an Agreement State to perform such services.

20. A. Individuals involved in operations which utilize, at any one time, more than 100 millicuries of hydrogen 3 in a non-contained form, other than metallic foil, shall have bioassays performed within one week following a single operation and at weekly intervals for continuing operations.

B. When implementing the bioassay program at the level indicated in paragraph A, these actions shall also be taken:

(1) Hydrogen 3 shall not be used in such a manner as to cause any individual to receive a radiation exposure such that urinary excretion rates exceed 28 microcuries per liter when averaged over a calendar quarter.

(2) Urinalysis shall be performed at weekly intervals on all individuals who work in the restricted areas of facilities in which hydrogen 3 is used. If the average concentration of hydrogen 3 in urine for any single individual during a calendar quarter is less than 10 microcuries per liter, urinalysis may be performed on that individual at monthly intervals for the following quarter and may continue at monthly intervals so long as the average concentration in the calendar quarter remains below 10 microcuries per liter. The urine specimen shall be collected on the same day of the week insofar as possible.

(3) A report of an average concentration in excess of the limit specified in B.(1) above for any individual shall be filed, in writing, within thirty days of the end of the quarter with the U. S. Nuclear Regulatory Commission, Region II, Division of Nuclear Materials Safety, 101 Marietta Street NW, Suite 2900, Atlanta, GA 30323-0199. The report shall contain the results of all urinalyses for the individual during the quarter, the causes of excessive concentration, and corrective steps taken or planned to prevent a recurrence.

(4) Any single urinalysis which discloses a concentration of greater than 50 microcuries per liter shall be reported, in writing, within seven days of the licensee's receipt of the report, to the address stated in paragraph B.(3) above.

C. **Personnel working in Research and Nuclear Medicine with iodine 125 and iodine 131 in liquid form in an amount of 1 millicurie and 10 millicuries or greater respectively, and with iodine 131 in encapsulated form in an amount of 30 millicuries or greater, shall be required to undergo a thyroid count in Nuclear Medicine within approximately 24 hours after cessation of work.**

21. Experimental animals administered licensed material or their products shall not be used for human consumption.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number: 41-00119-08

Docket or Reference Number: 030-03253

Amendment No. 65

(continued) CONDITIONS

22. Except as specifically provided otherwise in the license and as provided in 10 CFR 35.51, the licensee shall conduct its program in accordance with statements, representations, and procedures contained in the documents including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive that the regulations.

A. Application dated May 17, 1990 and revised application submitted with letter dated October 30, 1991.

B. Letters dated:
- April 11, 1991
- June 10, 1992
- July 2, 1993
- September 29, 1993
- June 6, 1994 [Change of RSO and alternative RSO, deletion of authorized users, change in irradiator dosimetry procedures]
- July 25, 1995 [Change RSO, add & change Authorized Users]
- Received April 26, 1996 [Temporary move of Hot Lab for renovation]
- **October 2, 1996 [delete and add authorized users for diagnostic, therapy, and calibration purposes]**

C. Reference NRC letter dated March 1, 1996 extending expiration date per 10 CFR 30.36(a).

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

DAVID J. COLLINS

DATE OCT 15 1996 BY David J. Collins

Region II, Division of Nuclear Materials Safety
101 Marietta Street, N.W., Suite 2900
Atlanta, Georgia 30323-0199

N:\MLICENSE\41-00119.A65

DC 10/15/96

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: 02120
Status Code: 0
Fee Category: EX 7C 3E 2B
Exp. Date: 20010930
Fee Comments: _____
Decom Fin Assur Reqd: Y

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED
   Applicant/Licensee: V. A. MEDICAL CENTER
   Received Date: 960927
   Docket No: 3003253
   Control No.: 257214
   License No.: 41-00119-08
   Action Type: Amendment

2. FEE ATTACHED
   Amount: _____
   Check No.: _____

3. COMMENTS

Signed _____
Date _____

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /__/)

1. Fee Category and Amount: _____

2. Correct Fee Paid. Application may be processed for:
   Amendment _____
   Renewal _____
   License _____

3. OTHER _____
   _____

Signed _____
Date _____

OFFICIAL RECORD COPY

October 10, 1996

Department of Veterans Affairs
Medical Center
ATTN: K.L. Mulholland, Jr.
Director
1030 Jefferson Avenue
Memphis, Tennessee 38104

SUBJECT: TRANSMITTAL AND EXPLANATION OF LICENSE AMENDMENT
(REFERENCE: MAIL CONTROL NO. 257214; DOCKET NO. 030-03253)

Dear Mr. Mulholland:

Enclosed is Amendment 65 to License No. 41-00119-08, issued in response to your request received September 27, 1996. The request addressed the addition of authorized users, deletion of authorized users, and addition of a bioassay requirement for iodine 125 and 131 users at the Medical Center. Please read the license carefully and contact us if there are any questions or errors.

We have emphasized changes by printing them in **BOLD**. We have added Dr. Swain for uses in 10 CFR 35.100 and §35.200. Her certification in Diagnostic Radiology does not provide the information we need to make authorization for pharmaceutical therapy in §35.300. Should you wish to pursue authorizing Dr. Swain, please provide the information described in §35.930, §35.932 or §35.934. If you believe that we have mistakenly characterized the information for Dr. Swain, you may seek exemption as allowed and described in §35.19. We shall seek the counsel of the Advisory Committee on the Medical Use of Isotopes.

We did not include the sealed sources of barium 133 amd cesium 137 in the list of materials as dose calibrator sources. This use is authorized under the authorization in §35.57(a), since the sources are smaller than the upper limit of 15 millicurie strength.

Should you have questions, please call me at (404) 331-5624. My fax numbers are (404) 3331-7437/5559. We have also enclosed other materials appropriate to the license.

Sincerely,

/S/

David J. Collins, Health Physicist
Materials Licensing/Inspection Branch 2
Division of Nuclear Materials Safety

Enclosures: (See next page)

Enclosures:
1. Amendment 65 to License No. 41-00119-08
2. Supplements A and B for NRC Form 313

Public

OFFICE	RII:DNMS	RII:DNMS				
SIGNATURE						
NAME	DJCollins	JPPotter				
DATE	10 / 15 / 96	10 / 15 / 96	10 / / 96	10 / / 96	10 / / 96	10 / / 96
COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: G:\DNMS\MLIB2\LICLTR\257214.DJC

DEPARTMENT OF VETERANS AFFAIRS
Medical Center
St Louis MO 63125

October 2, 1996

In Reply Refer To:

U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 2900
Atlanta, GA 30323

SUBJECT: NRC License No. 41-00119-08

The enclosed correspondence from the Memphis, Tennesse VA Medical Center has been received and is forwarded to your office for processing. If there are questions, please contact the facility.

Please provide a copy of any correspondence relative to licensing actions for this Medical Center to:

Department of Veterans Affairs
Health Physics Programs (115HP)
915 North Grand Blvd.
St. Louis, MO 63106

Sincerely,

Cindy Futrowsky

for Francis K. Herbig
Health Physics Programs

DEPARTMENT OF VETERANS AFFAIRS
Medical Center
1030 Jefferson Avenue
Memphis TN 38104

In Reply Refer To: 614/138

Department of Veterans Affairs
Health Physics Program (115HP)
915 North Grand Boulevard
St. Louis, MO 63106

Dear Mr. Fran Herbig;

Enclosed is the orginal and three copies of our request for License amendment #65 to our NRC License #41-00119-08. Please review as appropriate and forward this request to:

NRC, Region II, Nuclear Materials Licensing Section
101 Marietta Street, Suite 2900
Atlanta, Georgia 30323-0199

Sincerely yours,

K. L. Mulholland, Jr.
Medical Center Director

Enclosures:

DEPARTMENT OF VETERANS AFFAIRS
Medical Center
1030 Jefferson Avenue
Memphis TN 38104

In Reply Refer To: 614/138

Mr. David J. Collins
Nuclear Regulatory Commission
Region II, Nuclear Materials Licensing Section
101 Marietta Street Northwest, Suite 2900
Atlanta, Georgia 30323-0199

Dear Mr. Collins:

This is a request for Amendment Number 65 to NRC License # 41-0019-08.

1. Under Items 6, 7 and 8, add the following:

(a) Item # 6. Byproduct, Source, and/or Special Nuclear Material.

(1) K. Cesium 137

(2) L. Barium 133

(b) Item #7; Chemical and/or Physical Form.

(1) K. Sealed Source (DAMRI) Model No. EGAG50, No. 567) Specified in item 9K.

(2) L. Sealed Source (DAMRI) Model No. EGAG50, No. 286) Specified in item 9K.

(c) Item 8; Maximum Amount that Licensee May Possess at Any One Time Under This License.

(1) K. 238 micro-Curies

(2) L. 229 micro-Curies

2. Add Item 9K (Authorized Use:) For possession and use in dose calibrator accuracy calibration.

Mr. David Collins, Nuclear Regulatory Commission

3. Under Item 11, Radiation Safety Officer, remove Zhaowei Lai, Ph. D.

4. Add Item 12 K (Authorized user for:) Calibration of dose calibrators for accuracy identified in Subitems 6 K & L:

(a) (1) Radiation Safety Officer/alternates

5. (a) Under Item 12A, as authorized users for medical uses identified in 10 CFR 35.100 and 35.200, we wish to add the following:

Donna Swain, M.D.

(b) Under Item 12A, as authorized users for medical uses identified in 10 CFR 35.100 and 35.200, we wish to delete the following:

Martin Pinstein, M.D.	Thomas J. Dempsey, M.D.	Jeno Sebes, M.D.
Morris L. Gavant, M.D.	Pamela A. Flick, M.D.	John D. King, M.D.
W. Chapman Smith, M.D.	Karin Charnoff-Katz M.D.	Randall L. Scott, M.D.

6. (a) Under Item 12B, as authorized users for medical uses identified in 10 CFR 35.300, we wish to add the following:

Donna Swain, M.D.

(b) Under Item 12B, as authorized users for medical uses identified in 10 CFR 35.300, we wish to delete the following:

Jeno Sebes, M.D. Morris L. Gavant, M.D. John David King, M.D.

7. Under Item 20, add a new paragraph 20C to read: Personnel working in Research and Nuclear Medicine with Iodine-125 and 131 in liquid form in an amount of 1 millicurie and 10 millicuries or greater respectively and with Iodine-131 in encapsulated form in an amount of 30 millicuries or greater shall be required to undergo a thyroid count in Nuclear Medicine within approximately 24 hours after cessation of work.

Thank you for your consideration of this request. If you have any questions please direct them to Charlie Brannon, Radiation Safety Officer, VAMC, Memphis, Tennessee at 901-523-8990, ext. 5392.

Sincerely yours,

K. L. Mulholland, Jr.
Medical Center Director

The American Board of Radiology

Organized through the cooperation of the
American College of Radiology, the American Roentgen Ray Society,
the American Radium Society, the Radiological Society of North America,
the Section on Radiology of the American Medical Association,
the American Society for Therapeutic Radiology and Oncology, the Association of
University Radiologists, and American Association of Physicists in Medicine
Hereby certifies that

Donna Elaine Swain, M.D.

Has pursued an accepted course of graduate study
and clinical work, has met certain standards and qualifications and
has passed the examinations conducted under the authority of
The American Board of Radiology
On this seventh day of November, 1995
Thereby demonstrating to the satisfaction of the Board
that she is qualified to practice the specialty of

Diagnostic Radiology

Douglas Maynard MD — President
William Jennelle MD — Secretary-Treasurer
Paul Capp, M.D. — Executive Director