

MATERIALS LICENSE

Amendment No. 22

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

1. MacNeal Memorial Hospital
2. 3249 South Oak Park Avenue
Berwyn, IL 60402

In accordance with letter dated
December 18, 1984

3. License number 12-09155-01 is amended in
its entirety to read as follows:

4. Expiration date June 30, 1990

5. Docket or
Reference No. 030-01496

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 Groups I
and II of Schedule A,
Section 35.100 of
10 CFR 35

A. Any radiopharmaceutical
listed in Groups I
and II of Schedule A,
Section 35.100 of
10 CFR 35

A. As necessary for
uses authorized
in Subitem 9.A

B. Any byproduct material
listed in Group III of
Schedule A, Section
35.100 of 10 CFR 35

B. Any form listed in
Group III of Schedule A,
Section 35.100 of
10 CFR 35

B. 4.0 curies
of each byproduct
material authorized
in Subitem 6.B

C. Any byproduct material
listed in Group IV of
Schedule A, Section
35.100 of 10 CFR 35

C. Any radiopharmaceutical
listed in Group IV of
Schedule A, Section
35.100 of 10 CFR 35

C. As necessary for
uses authorized
in Subitem 9.C

D. Any byproduct material
listed in Group V of
Schedule A, Section
35.100 of 10 CFR 35

D. Any radiopharmaceutical
listed in Group V of
Schedule A, Section
35.100 of 10 CFR 35

D. As necessary for
uses authorized
in Subitem 9.D

E. Xenon-133

E. Gas or gas in solution
that is the subject
of an active (i.e., not
withdrawn or terminated)
"New Drug Application"
(NDA) approved by FDA or
an active (i.e., not
withdrawn, terminated
or on "clinical hold")
"Notice of Claimed
Investigational Exemption
for a New Drug" (IND)
that has been accepted
by FDA

E. 750 millicuries

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MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number

12-09155-01

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030-01496

Amendment No. 22

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

F. Iodine-125

F. Sealed source/seeds
(Manufactured, labeled,
packaged and distributed
in accordance with a
specific license issued
pursuant to Section 32.74
of 10 CFR 32 or an
Agreement State)

F. 1.0 curie total

G. Any byproduct material
listed in Section
31.11(a) of 10 CFR 31

G. Prepackaged kits

G. 3.0 millicuries
of each byproduct
material authorized
in Subitem 6.G

9. Authorized Use

A. Any diagnostic procedure listed in Groups I and II of Schedule A, Section 35.100 of Title 10, Code of Federal Regulations.

B. Preparation and use of radiopharmaceuticals for any diagnostic procedure listed in Group III of Schedule A, Section 35.100 of Title 10, Code of Federal Regulations.

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

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

E. Blood flow studies. Pulmonary function studies.

F. To be used for the interstitial treatment of cancer.

G. To be used for in vitro studies.

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at 3249 South Oak Park Avenue, Berwyn, Illinois.

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."

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12-09155-01

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Amendment No. 22

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:

Mark Schiffer, M.D.

Groups I, II and III

Xenon-133

In vitro studies

Hebe Forgione, M.D.

Groups IV and V

Iodine-125 for the interstitial
treatment of cancer

James T. Barron, M.D.

Groups I, II and III

Xenon-133

In vitro studies

David Gibson, M.D.

Groups I, II and III

Xenon-133

Iodine-131 for therapy

In vitro studies

Craig B. Thayer, M.D.

Groups I, II and III

Xenon-133

Richard S. Provus, M.D.

Groups I, II and III

Iodine-131 for treatment of thyroid
carcinoma, hyperthyroidism or
cardiac dysfunction

Soluble phosphorus-32 for treatment
of polycythemia vera, leukemia
and bone metastases

13. For a period not to exceed sixty (60) days in any calendar year, a visiting physician is authorized to use licensed material for human use under the terms of this license, provided the visiting physician:

- (a) Has the prior written permission of the hospital's Administrator and its Medical Isotopes Committee, and
- (b) Is specifically named as a user on a Nuclear Regulatory Commission license authorizing human use, and
- (c) Performs only those procedures for which he is specifically authorized by a Nuclear Regulatory Commission license.

The licensee shall maintain for inspection by the Commission, copies of the written permission specified in Subitem (a) above and of the license(s) specified in Subitems (b) and (c) above. These records shall be maintained for five (5) years from the time the licensee grants its permission under Subitem (a) above.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number

12-09155-01

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Amendment No. 22

14. 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.
15. A. (1) Each sealed source containing licensed material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, a sealed source received from another person 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. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
- C. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within five (5) days of the test with the U. S. Nuclear Regulatory Commission, Region III, 799 Roosevelt Road, Glen Ellyn, Illinois 60137, describing the equipment involved, the test results, and the corrective action taken.
- D. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an Agreement State to perform such services.
16. 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 ten (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.
- C. Generator columns shall be segregated so that they may be monitored separately to ensure decay to background levels prior to disposal.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number

12-09155-01

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Amendment No. 22

17. The licensee shall conduct a physical inventory every three (3) months to account for all sealed sources received and possessed under the license. The records of the inventories shall be maintained for two (2) years from the date of the inventory for inspection by the Commission, and shall include the quantities and kinds of licensed material, location of sealed sources and the date of the inventory.
18. The licensee shall establish a bioassay program for individuals handling millicurie amounts of iodine-131 in accordance with frequencies and procedures contained in Regulatory Guide 8.20, "Applications of Bioassay for I-125 and I-131."
19. 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 March 26, 1979; letters dated December 14, 1978, April 11, 1979, July 1, 1981, November 25, 1981, August 22, 1983, September 9, 1983, and December 18, 1984; and Model ALARA Program as contained in Appendix O of Regulatory Guide 10.8, October 1980. 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 Patricia J. Whiston

Materials Licensing Section, Region III

Date June 14, 1985

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