

## MATERIALS LICENSE

Amendment No. 14

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 1, Parts 30, 31, 32, 33, 34, 35, 36, 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); and to import such byproduct and source material. 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

Washington Hospital Center

110 Irving Street, N. W.  
Washington, D. C. 20010

In accordance with application enclosed with  
letter dated July 16, 1980

3. License number 00-03604-03 is amended in its  
entirety to read as follows:

4. Expiration date March 31, 1987

5. Docket or  
Reference No.

6. Byproduct, source, and/or  
special nuclear material7. Chemical and/or physical  
form8. Maximum amount that licensee  
may possess at any one time  
under this license

A. Any byproduct material  
between Atomic Nos. 3  
and 83, inclusive

A. Any

A. 100 millicuries of each  
byproduct material  
between Atomic Nos. 3  
and 83, inclusive

B. Iodine 125

B. Any

B. 500 millicuries

C. Iodine 131

C. Any

C. 1 curie

D. Phosphorus 32

D. Any

D. 500 millicuries

E. Xenon 133

E. Any

E. 1.5 curies

F. Molybdenum 99

F. Molybdenum 99/  
Technetium 99m  
Generators

F. 5 curies

G. Technetium 99m

G. Any

G. 5 curies

H. Cesium 137

H. Sealed Sources

H. 2 curies

I. Hydrogen 3

I. Any

I. 200 millicuries

J. Iridium 192

J. Any

J. 400 millicuries

K. Uranium (depleted in  
Uranium 235)

K. Cadmium plated metal

K. 210 kilograms

Total possession limit for A. through J. 18 curies

8507150589 850417  
PDR FOIA  
BOWMAN85-238 PDR

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number:

09-03604-03

Docket or Reference number

Amendment No. 14

D. Authorized use

- A. through J. Medical Research, diagnosis and therapy. Teaching and training. Tracer studies in laboratory animals.  
K. As shielding in a linear accelerator.

CONDITIONS

10. Licensed material shall be used only at Washington Hospital Center, 110 Irving Street, N. W., Washington, D. C.
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."
12. Licensed material shall be used by, or under the supervision of, individuals designated by the Radiation Safety Committee.
13. A. (1) Each sealed source acquired from another person and 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 contamination and/or leakage prior to use. 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.
- (3) Except for alpha sources, the periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six months prior to the date of use or transfer.
- B. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to use or transfer as a sealed source. If the inspection or test reveals any construction defects or 0.005 microcurie or greater of contamination, the source shall not be used or transferred as a sealed source until it has been repaired, decontaminated and retested.

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number

NR-03604-03

Docket or Reference number

Amendment No. 14

13. continued

- C. 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 except that each source designed for the purpose of emitting alpha particles shall be tested at intervals not to exceed three months.
- D. 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 or semipermanently 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.
- E. If the test required by Subsection A. or C. of this condition 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 5 days of the test with the U. S. Nuclear Regulatory Commission, Region I, Office of Inspection and Enforcement, 631 Park Avenue, King of Prussia, Pennsylvania 19406, describing the equipment involved, the test results, and the corrective action taken.
14. In lieu of using the conventional radiation caution colors (magenta or purple on yellow background) as provided in Section 20.203(a)(1), Title 10, Code of Federal Regulations, Part 20, the licensee is hereby authorized to label detector cells and cell baths, containing licensed material and used in gas chromatography devices, with conspicuously etched or stamped radiation caution symbols without a color requirement.
15. Patients containing Iodine 131 for the treatment of thyroid carcinoma or patients containing therapeutic quantities of Gold 198 shall remain hospitalized until the residual activity is 30 millicuries or less.
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.

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number

02-03604-03

Docket or Reference number

Amendment No. 14

16. continued

- 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.
17. Pursuant to Sections 20.106(b) and 20.302 of 10 CFR Part 20, the licensee is authorized to dispose of iodine 125 contained in liquid scintillation counting media by incineration in accordance with the procedures and limitations stated in its letter dated June 30, 1980.
18. For Iodine 131 used therapeutically under this license, the licensee's letter dated March 5, 1982, takes precedence over paragraph 6 of Appendix I of Regulatory Guide 10.8.
19. The licensee may transport licensed material or deliver licensed material to a carrier for transport in accordance with the provisions of Title 10, Code of Federal Regulations, Part 71, "Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions."
20. 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 the application enclosed with letter dated July 16, 1980; letter dated July 21, 1981, and March 5, 1982; and 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. 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

WILLIAM J. WALKER, JR.

Date MAR 23 1982By 3-22-82 Material Licensing BranchDivision of Fuel Cycle and  
Material Safety  
Washington, D.C. 20555

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2