

U. S. ATOMIC ENERGY COMMISSION

BYPRODUCT MATERIAL LICENSE

Amendment No. 27

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 2, 33, 34, and 35, and in reliance on statements and representations heretofore made by the licensee, a license hereby issued authorizing the licensee to receive, acquire, own, possess, transfer and import byproduct material listed below; and to use such byproduct material for the purpose(s) and at the place(s) designated below. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

<p style="text-align: center;">Licensee</p> <p>Department of the Army Walter Reed Army Medical Center Washington, D. C. 20012</p>	<p>In accordance with application dated July 31, 1969,</p> <p>3. License number 08-01738-02 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date August 31, 1974</p> <hr/> <p>5. Reference No.</p>
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Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time														
A. Any byproduct material with Atomic Nos. 3-83, inclusive	A. Any	A. 400 millicuries of each except: <table style="margin-left: 40px;"> <tr><td>Iodine 131</td><td>2000 millicuries</td></tr> <tr><td>Xenon 133</td><td>1500 millicuries</td></tr> <tr><td>Krypton 85</td><td>1500 millicuries</td></tr> <tr><td>Gold 198</td><td>1000 millicuries</td></tr> <tr><td>Phosphorus 32</td><td>1000 millicuries</td></tr> <tr><td>Sulfur 35</td><td>1000 millicuries</td></tr> <tr><td>Carbon 14</td><td>1000 millicuries</td></tr> </table> <p style="margin-left: 40px;">Total not to exceed 15 curies. Ex 2</p>	Iodine 131	2000 millicuries	Xenon 133	1500 millicuries	Krypton 85	1500 millicuries	Gold 198	1000 millicuries	Phosphorus 32	1000 millicuries	Sulfur 35	1000 millicuries	Carbon 14	1000 millicuries
Iodine 131	2000 millicuries															
Xenon 133	1500 millicuries															
Krypton 85	1500 millicuries															
Gold 198	1000 millicuries															
Phosphorus 32	1000 millicuries															
Sulfur 35	1000 millicuries															
Carbon 14	1000 millicuries															
B. Hydrogen 3	B. Any	B. 5000 millicuries														
C. Cesium 137	C. Sealed Sources	C. total														
D. Molybdenum 99	D. E. R. Squibb and Sons Model No. 08871; NEN Picker Model No. 602; Abbott Laboratories Model No. 7721; Mallinckrodt Chemical Works Model Nos. 006 through 009 Generators	D. 1500 millicuries														
E. Technetium 99m	E. Pertechnetate	E. 750 millicuries														
F. Neptunium 237	F. Any	F. 10 millicuries														
G. Americium 241	G. Any	G. 100 microcuries														

Portions Ex ~~1~~ 2

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Information in this record was deleted in accordance with the Freedom of Information Act, exemptions 2
FOIA-2006-0238

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE

Supplementary Sheet

Continued From Page 1

License Number 08-01738-02

Amendment No. 27

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radio activity which licensee may possess at any one time
H. Polonium 210	H. Any	H. 15 millicuries
I. Cesium 137	I. Sealed Sources	I. total
J. Cobalt 60	J. Sealed Sources	J. total
K. Strontium 90	K. Sealed Sources in Gas Chromatography Devices	K. total
L. Cesium 137	L. Sealed Source	L. 1 source of

Ex 2

9. Authorized use

- A. through E. Medical research, diagnosis and therapy. Research and development as defined in Section 30.4(q), 10 CFR 30, "Rules of General Applicability to Licensing of Byproduct Material."
- F. through K. Research and Development as defined in Section 30.4(q), 10 CFR Part 30, "Rules of General Applicability to Licensing of Byproduct Material."
- L. For use in Calibrator for calibration of instruments at the Health Physics Calibration Range, Building 101, Forest Glen Section, Walter Reed Army Medical Center.

Ex 2

CONDITIONS

- 10. Byproduct material shall be used at Walter Reed Army Medical Center, Washington, D. C. and Forest Glen Annex, Walter Reed Medical Center, Montgomery County, Maryland.

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE
Supplementary Sheet

License Number 08-01738-02
Amendment No. 27

(continued)

CONDITIONS

11. Byproduct material designated below may be used at the U.S. Army Medical Research Institute for Infectious Diseases and Ward 200, Walter Reed General Hospital, Fort Detrick, Maryland: 5 millicuries of Carbon 14 and Iron 59; 10 millicuries each of Sulfur 35, Calcium 45, and Chromium 51; 25 millicuries each of Hydrogen 3, Potassium 42, Iodine 131 and Iodine 125; 50 millicuries of Phosphorus 32.
12. One (1) millicurie of Iodine 131 may be used at the Andrew Rader U. S. Army Clinic, Fort Myer, Virginia.
13. Twelve (12) millicuries each of Carbon 14 and Hydrogen 3 may be used at the U.S. Army Human Engineering Laboratories, Aberdeen Proving Ground, Maryland.
14. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 20, "Standards for Protection Against Radiation."
15. A. Byproduct material shall be used by, or under the supervision of, individuals designated by the Walter Reed Army Medical Center Radioisotope Committee.
B. The use of byproduct material in or on humans shall be by a physician.
16. A. Each sealed source acquired from another person and containing byproduct 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, the sealed source shall not be put into use until tested.

BYPRODUCT MATERIAL LICENSE

Supplementary Sheet

License Number 08-01738-02

Amendment No. 27

16. continued

CONDITIONS

- 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 and decontaminated.
- C. Each sealed source containing byproduct 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 Director, Division of Materials Licensing, U. S. Atomic Energy Commission, Washington, D. C., 20545, describing the equipment involved, the test results, and the corrective action taken. A copy of such report shall also be sent to the Director, Region I, Division of Compliance, USAEC, 970 Broad Street, Newark, New Jersey, 07102.

BYPRODUCT MATERIAL LICENSE

Supplementary Sheet

License Number 08-01738-02

Amendment No. 27

(continued)

CONDITIONS

17. Byproduct material to be administered to humans shall be procured in separated, prepackaged, precalibrated form from a supplier who manufactures or repackages the product under appropriate pharmaceutical controls related to assay, identity, quality, purity, sterility, and pyrogenicity.
18. 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.
19. Patients containing radioactive implants, except gold 198 seeds, shall remain hospitalized until the implants are removed.
20. Iodine 131 labeled Macroaggregated Iodinated Human Serum Albumin shall be procured from a supplier who holds an unsuspended or unrevoked license issued by the Secretary, Department of Health, Education, and Welfare, to propagate or manufacture and prepare, label, or distribute this material pursuant to Title 42, Chapter 1, Code of Federal Regulations, Part 73, "Biological Products."
21. Chromium 51 labeled Human Serum Albumin shall be procured from a supplier who holds an unsuspended or unrevoked license issued by the Secretary, Department of Health, Education, and Welfare, to propagate or manufacture and prepare, label, or distribute this material pursuant to Title 42, Chapter 1, Code of Federal Regulations, Part 73, "Biological Products."
22. Technetium 99m Pertechnetate may be eluted and prepared from a Molybdenum 99/Technetium 99m generator in accordance with statements, representations, and procedures contained in applications dated August 15, 1967, and February 14, 1969.

(continued)

CONDITIONS

- 23. Iodine 131 labeled Colloidal (Microaggregated) Human Serum Albumin shall be procured from a supplier who holds an unsuspended or unrevoked license issued by the Secretary, Department of Health, Education, and Welfare, to propagate or manufacture and prepare, label, or distribute this material pursuant to Title 42, Chapter 1, Code of Federal Regulations, Part 73, "Biological Products."
- 24. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in applications dated March 30, 1967; August 15, 1967; April 30, 1968; November 1, 1968; February 14, 1969; and July 31, 1969.

For the U. S. Atomic Energy Commission

Original Signed by

Nathan Bassin

by Isotopes Branch

Division of Materials Licensing
Washington, D. C. 20545

Date AUG 21 1969

NB 8/21/69

NB/Isotopes