

DOCUMENT D-24

USNRC Materials License, No. 19-02891-05,  
Amendment 29 (December 1982)

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MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34, 35, 36, 40 and 70, and in reliance on statements and representations he. More 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.

SIGNED 8 DEC 82

Licensee		In accordance with application dated July 22, 1982	
1. Department of the Navy National Naval Medical Center		3. License number 19-02891-05 is amended in its entirety to read as follows:	
2. Bethesda Maryland 20014		4. Expiration date December 31, 1987	
		5. Docket or Reference No.	
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 with Atomic No. 3-83, inclusive	A. Any	A. 1 curie of each radio-nuclide, total not to exceed 35 curies	
B. Hydrogen 3	B. Any	B. 5 curies	
C. Strontium 90	C. Sealed sources as eye applicator	C. 100 millicuries total	
D. Cobalt 60	D. Sealed sources	D. 20 curies total - no single source to exceed 5 curies	
E. Cesium 137	E. Sealed sources	E. 30 curies total - no single source to exceed 5 curies	
F. Molybdenum 99	F. Any	F. 10 curies	
G. Technetium 99m	G. Any	G. 10 curies	
H. Xenon 133	H. Free gas or solution	H. 4 curies	
I. Americium 241	I. Sealed sources for an EG&G ORTEC Model 4820 thyroid scanner. (Sources Model MRC 2704 doubly encapsulated in SS-304 with 0.005 SS-302 window)	I. 22 curies - consisting of of 20 nominal 1 curie source,	

9. Authorized use  
A. through I. Purpose of use: Medical research, diagnosis and therapy, and research and development.

for Transport and Transportation of Radioactive Material Under Certain Conditions."

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number

19-02891-05

Docket or Reference number

Amendment No. 29

## CONDITIONS

10. A. Except as provided in paragraph B, licensed material shall be used only at the National Naval Medical Center, Bethesda, Maryland.
- B. Carbon 14 in BACTEC vials may also be used at the Naval Regional Medical Clinics at Annapolis, Maryland and Quantico, Virginia and at the Naval Hospital, Patuxent River, Maryland.
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. A. Detector cells containing titanium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents foil temperatures from exceeding 225 degrees Centigrade.
- B. Detector cells containing scandium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents foil temperatures from exceeding 325 degrees Centigrade.
13. 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.
14. Patients containing Cobalt 60, Cesium 137 or Iridium 192 implants shall remain hospitalized until a source count and surveys made with an appropriate radiation detection instrument indicate that all implants have been removed. The results of these surveys shall be recorded and maintained for inspection by the Commission for five (5) years from the time the implants are removed.
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 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."

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number

19-02891-05

Docket or Reference number

Amendment No. 29

## CONDITIONS

17. Licensed material shall be used by, or under the supervision of, individuals designated by Medical Isotope Committee or the Radiation Safety Committee.
18. 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 of 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.
- 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.

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number

19-02991-05

Docket or Reference number

Amendment No. 29

CONDITIONS

18. continued

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 five (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.

19. 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.

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 application dated July 22, 1982; and letter dated September 25, 1981. 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.

DEC 08 1982

Date \_\_\_\_\_

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

By William J. [Signature]  
Material Licensing Branch  
Division of Fuel Cycle and  
Material Safety

Washington, D. C. 20555

DOCUMENT D-25

U.S. Atomic Energy Commission Byproduct  
Material License, No. 19-2891-3; Superceded  
Authorization Number 25285 issued April 16,  
1954 (October 1962)

**U. S. ATOMIC ENERGY COMMISSION**  
**BYPRODUCT MATERIAL LICENSE**      *This copy is for your files*

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, Licensing of Byproduct Material, and in reliance on statements and representations heretofore made by the licensee, a license is 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.

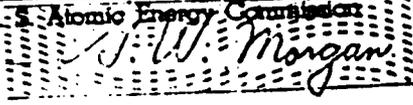
<p><b>Licensee</b></p> <p>1. Name    Department of the Navy             Naval Medical Research Institute</p> <p>2. Address    Radiation Technology Division                 National Naval Medical Center                 Bethesda 14, Maryland</p>		<p>3. License number                   19-2891-3</p> <hr/> <p>4. Expiration date                   October 31, 1962</p> <hr/> <p>5. Reference No.                   <i>Extended to 31 March 63</i></p>
<p>6. Byproduct material    (element and mass number)</p> <p align="center">Cobalt 60</p>	<p>7. Chemical and/or physical form</p> <p align="center">Custom sealed sources (Diagram 3, Research Report Project NM 006 012.04.64)</p>	<p>8. Maximum amount of radioactivity    which licensee may possess at    any one time</p> <p align="center">2,500 curies</p>

9. Authorized use  
For use in radiobiological research with lower animals as described in Research Report Project NM 006 012.04.64.

**CONDITIONS**

- 10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.
- 11. Byproduct material to be used by, or under the supervision of, F. W. Chambers, Jr.
- 12. This license supersedes Authorization Number 25285 issued April 16, 1954.
- 13. Written administrative instructions covering appropriate radiological protection phases of operational procedures and establishing responsibility for radiological protection, control, and security of the byproduct material shall be supplied individuals using or having responsibility for use of such material.
- 14. During presence of Cobalt 60 in Radiation Room No. 2, a guard shall be posted to preclude personnel from entering the high radiation area outside Building 150.

Date October 2, 1957

For the U. S. Atomic Energy Commission  
  
 by \_\_\_\_\_

Director, Isotopes Extension  
Division of Civilian Application  
Oak Ridge, Tennessee

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

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License Number 19-2891-3  
(J62)

AMENDMENT NO. 1

Department of the Navy  
Naval Medical Research Institute  
Radiation Technology Division  
National Naval Medical Center  
Bethesda 14, Maryland

In accordance with letter dated April 29, 1959 from Naval Medical Research Institute,  
License No. 19-2891-3 is amended as follows:

Item 9 shall read:

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9. Authorized use

For use in radiobiological research with lower animals as described in Research Report  
Project NM 006 012.04.64.

Total body radiation of humans for therapeutic purposes.

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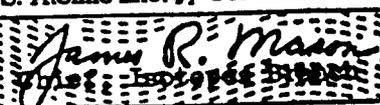
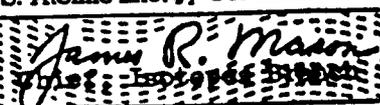
Condition 11 shall read:

11. Byproduct material for non-human use shall be used by, or under the direct supervision  
of, F. W. Chambers, Jr.

Byproduct material for human use shall be used by, or under the direct supervision of,  
Captain ~~E. R. King~~

*L. T. Brown.*

Date May 6, 1959

For the U. S. Atomic Energy Commission  
  
by   
Division of Licensing and Regulation  
Washington 25, D. C.

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License Number 19-2891-3  
(C63)

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AMENDMENT NO. 3

Department of the Navy  
Naval Medical Research Institute  
Radiation Technology Division  
National Naval Medical Center  
Bethesda 14, Maryland

In accordance with application dated October 2, 1962, License No. 19-2891-3 is amended as follows:

Item 4. The expiration date is extended from October 31, 1962 to March 31, 1963.

Item 9 is amended to read:

9. Storage only.

Condition 11 is amended to read:

11. Byproduct material shall be stored under the supervision of individuals designated by the Commanding Officer.

Date OCT 15 1962

For the U. S. Atomic Energy Commission  
/s/ Nathan Bassin  
By Isotopes Branch

Div. of Lic. & Reg'n  
Wash., 25, D. C.