

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, 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.

<p>Licensee</p> <p>1. Department of the Army Commander, Tripler Army Medical Center</p> <p>2. ATTN: HSHK-PVR Tripler AMC, Hawaii 96859-5000</p>	<p>In accordance with letter dated October 31, 1996,</p> <p>3. License Number 53-00458-04 is amended in its entirety to read as follows:</p> <p>4. Expiration Date September 30, 2001</p> <p>5. Docket or Reference No. 030-03537</p>	
<p>6. Byproduct, Source, and/or Special Nuclear Material</p> <p>A. Any byproduct material with atomic numbers 1 to 83 and a half-life of less than 120 days except as specified in Subitems 6.B. through 6.F below</p> <p>B. Technetium 99m</p> <p>C. Molybdenum 99</p> <p>D. Iodine 131</p> <p>E. Iodine 125</p> <p>F. Xenon 133</p> <p>G. Hydrogen 3</p> <p>H. Carbon 14</p> <p>I. Calcium 45</p> <p>J. Any byproduct material listed in 10 CFR 35.400</p> <p>K. Cesium 137</p>	<p>7. Chemical and/or Physical Form</p> <p>A. Any</p> <p>B. Any</p> <p>C. Any</p> <p>D. Any</p> <p>E. Any</p> <p>F. Gas or gas in saline</p> <p>G. Any</p> <p>H. Any</p> <p>I. Any</p> <p>J. Any sealed source listed in 10 CFR 35.400</p> <p>K. Sealed Source (J.L. Shepherd Model 6810)</p>	<p>8. Maximum Amount that Licensee May Possess at Any One Time Under This License</p> <p>A. 100 millicuries of each radionuclide with atomic numbers 1 to 83. Total possession limit for Subitem A not to exceed 4 curies.</p> <p>B. 6 curies</p> <p>C. 7 curies</p> <p>D. 2 curies</p> <p>E. 500 millicuries</p> <p>F. 2 curies</p> <p>G. 50 millicuries</p> <p>H. 50 millicuries</p> <p>I. 3 millicuries</p> <p>J. 2.5 curies for all sources authorized in Subitem 6.J.</p> <p>K. 2200 curies per source and 4400 curies total</p>

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**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

53-00458-04

Docket or Reference Number

030-03537

Amendment No. 69

9. Authorized use

- A. through J. Medical diagnosis and therapy as described in 10 CFR 35.100 through 35.500. Research in humans as approved by the Food and Drug Administration or by an RDRC approved by the FDA. Laboratory research. Research in animals. Instrument calibration.
- K. To be used in a J. L. Shepherd and Associates Model 143-45A irradiator for the irradiation of blood, blood products, cells and tissues.

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at Jarrett White Road, Tripler Army Medical Center, Hawaii.
11. A. Licensed material for other than human use, shall be used by, or under the supervision of, individuals designated by the Radioisotope/Radiation Control Committee. The licensee shall maintain records of individuals designated as users.
- B. The use of licensed material in or on humans shall be by a physician as defined in 10 CFR 35.2.
- C. Physicians designated to use licensed material in or on humans shall meet the training criteria established in 10 CFR 35 Subpart J and shall be designated by the Radiation Safety Committee. The licensee shall maintain records of individuals designated as users.
12. A. The Radiation Protection Officer for this license is Captain Jason D. Dunavant.
- B. In the absence of Captain Dunavant, the Acting Radiation Protection Officer is Wayne F. Waffird.
- C. In the absence of both Captain Dunavant and Wayne Waffird, the Acting Radiation Protection Officer is Mahendra Patel.
13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

53-00458-04

Docket or Reference Number

030-03537

Amendment No. 69

13. (Continued)

- B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.
- C. In the absence of a certificate from a transferor indicating that a leak test has been made within 6 months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
- D. Sealed sources need not be leak tested if:
- (i) they contain only hydrogen-3; or
 - (ii) they contain only a radioactive gas; or
 - (iii) the half-life of the isotope is 30 days or less; or
 - (iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or
 - (v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
- E. The leak 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, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30(b)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, ATTN: Director, Division of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

53-00458-04

Docket or Reference Number

030-03537

Amendment No. 69

- F. 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.
14. Pursuant to Title 10, Chapter 1, Code of Federal Regulations, Part 40, "Domestic Licensing of Source Material", the licensee is authorized to possess, use, transfer, and import up to 999 kilograms of uranium contained as shielding material in the molybdenum-99/technetium-99m generators authorized by this license.
15. 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 surveyed to determine that its radioactivity cannot be distinguished from background. All radiation labels shall 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.
 - D. Radioactive wastes containing microcurie amounts of iodine-125 may be disposed to the ordinary trash after being held for decay for a minimum of five (5) half lives. Prior to disposal, these wastes must be monitored in accordance with the procedures described in the licensee's application dated July 16, 1991 and letter dated November 10, 1992. The survey conducted prior to disposal must confirm that the radioactivity of the wastes cannot be distinguished from background.
16. A. Detector cells containing licensed material shall not be opened or the sources removed from the detector cell by the licensee.
- B. Sealed sources containing licensed material shall not be opened.
17. 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.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

53-00458-04

Docket or Reference Number

030-03537

Amendment No. 69

18. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material".
19. The licensee shall conduct a physical inventory every three (3) months to account for all sources and/or devices received and possessed pursuant to 10 CFR 35.57, 35.400, and 35.500 and every six (6) months for all other sources and/or devices.
20. The licensee shall maintain records of information related to decommissioning at their facility on Jarrett White Road, Tripler Army Medical Center, Hawaii per the provisions of 10 CFR 30.35(g) until this license is terminated by the Commission.
21. 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.
22. Any irradiator malfunction which could cause exposure of the whole body of any individual to 5 rems or more of radiation or exposure of the feet, ankles, hands, or forearms to 75 rems or more of radiation shall be reported to the Commission. The report shall be filed within 5 days of the malfunction with the U.S. Nuclear Regulatory Commission, Division of Fuel Cycle, Medical, Academic, and Commercial Use Safety Branch, Washington, DC 20555, describing the equipment involved, the malfunction and the corrective actions taken.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

53-00458-04

Docket or Reference Number

030-03537

Amendment No. 69

23. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below, except for minor changes in the medical use radiation safety procedures as provided in 10 CFR 35.31. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- A. Application dated July 16, 1991
- B. Facsimile dated August 30, 1991
- C. Memorandum dated September 5, 1991
- D. Letter dated September 25, 1991
- E. Letter dated October 8, 1991
- F. Letter dated December 9, 1991
- G. Letter dated April 16, 1992
- H. Letter dated November 10, 1992
- I. Letter dated February 9, 1994
- J. Letter dated May 16, 1996
- K. Letter dated October 31, 1996

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date

JAN 27 1997

By

James L. Montgomery
Materials Branch
Region IV, WCFO
Walnut Creek, California 94596

BETWEEN: *

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: 02110
Status Code: 0
Fee Category: EX 7B 3E 2B
Exp. Date: 20010930
Fee Comments:
Decom Fin Assur Req'd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: ARMY, DEPARTMENT OF THE
Received Date: 961120
Docket No.: 3003537
Control No.: 572432
License No.: 53-00458-04
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 _____