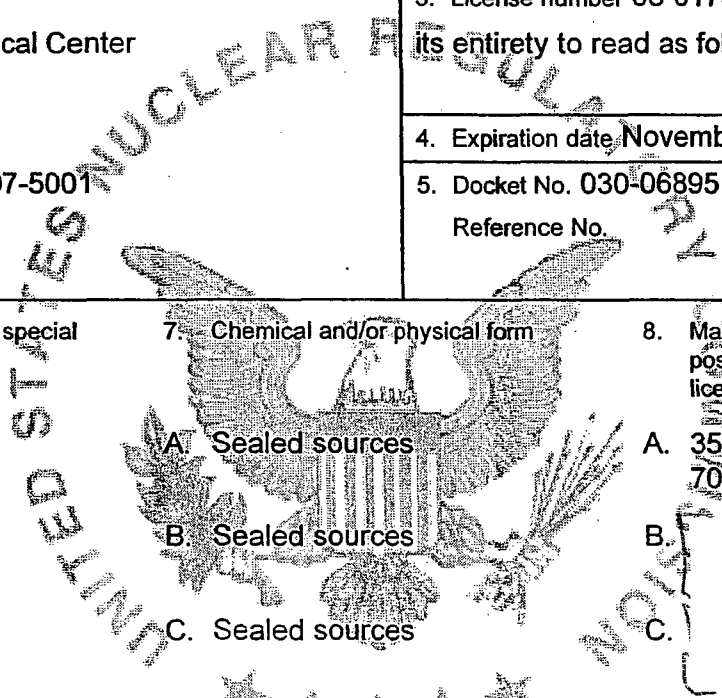


MATERIALS LICENSE

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 Walter Reed Army Medical Center</p> <p>2. Washington, D.C. 20307-5001</p>	<p>In accordance with letter dated January 4, 1999,</p> <p>3. License number 08-01738-03 is amended in its entirety to read as follows:</p> <p>4. Expiration date November 30, 2001</p> <p>5. Docket No. 030-06895 Reference No.</p>
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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. Cobalt 60	A. Sealed sources	A. 3500 curies per source and 70,000 curies total
B. Cobalt 60	B. Sealed sources	B. per source and total
C. Cesium 137	C. Sealed sources	C. per source and total
D. Cesium 137	D. Sealed sources	D. 2,100 curies per source and 8,400 curies total
E. Cesium 137	E. Sealed sources	E. per source and total

9. Authorized use:

A. In AECL Gammacell Model 220 Irradiators for the irradiation of material except explosives, flammables, or corrosives.

B. In Irradiators for the irradiation of material except explosives, flammables or corrosives.

C. In Irradiators for the irradiation of material except explosives, flammables or corrosives.

D. In AECL Gammacell Model 40 Irradiators for the irradiation of material except explosives, flammables, or corrosives.

E. In Irradiators for the irradiation of material except explosives, 8/1

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

JJ 11

EX 2

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
08-01738-03Docket or Reference Number
030-06895

Amendment No. 25

flammables, or corrosives.

CONDITIONS

10. Licensed material may be used only at the licensee's facilities located at Walter Reed Army Medical Center, Washington, D.C. and Walter Reed Army Medical Center, Forest Glen Section and Annex, Silver Spring, Maryland.
11. A. Licensed material shall only be used by, or under the supervision of, individuals who have received the training described in application dated March 18, 1991 and have been designated in writing by the Radiation Safety Officer.
- B. The Radiation Safety Officer for this license is COL William B. Johnson.
12. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
13. A. Sealed sources and detector cells containing licensed material shall be tested for leakage and/or contamination at intervals not to exceed six months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed three years.
- 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 three months.
- C. In the absence of a certificate from a transferor indicating that a leak test has been made within six months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.
- D. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.
- E. Sealed sources and detector cells 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

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
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030-06895

Amendment No. 25

- (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 transfer 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.
- F. The 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 and the source or detector cell shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within five days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source or detector cell involved, the test results, and corrective action taken.
- G. The licensee is authorized to collect leak test samples for analysis by licensee. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.
14. 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 persons specifically licensed by the Commission or an Agreement State to perform such services.
15. The licensee shall conduct a physical inventory every six months to account for all sealed sources and devices containing licensed material received and possessed under the license.
16. The procedures contained in the manufacturer's instruction manual for the irradiator authorized by this license shall be followed and a copy of this manual shall be made available to each person using or having responsibility for the use of the device.
17. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
08-01738-03Docket or Reference Number
030-06895

Amendment No. 25

18. 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. 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 March 18, 1991
- B. Letter dated July 11, 1991
- C. Letter dated October 15, 1998
- D. Letter dated February 16, 1999



For the U.S. Nuclear Regulatory Commission

Date February 23, 1999

By

Original signed by Eric H. Reber

Eric H. Reber
Nuclear Materials Safety Branch 2
Division of Nuclear Materials Safety
Region I
King of Prussia, Pennsylvania 19406

February 23, 1999

Docket No. 030-06895
Control No. 126424

License No. 08-01738-03

William B. Johnson
Radiation Safety Officer
Department of the Army
Walter Reed Army Medical Center
Washington, DC 20307-5001

Dear Col. Johnson:

This refers to your license amendment request. Enclosed with this letter is the amended license. This Amendment adds the new facility as requested to enable you to move your licensed activities. Prior to release of your current facility for unrestricted use, you must receive an Amendment removing your current facility from your license. Include in the request, the results of surveys demonstrating that the levels of residual activity in the facility are acceptable. When you submit the Amendment request please refer to the Control Number at the top of this letter.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Thank you for your cooperation.

Sincerely,

Original signed by Eric H. Reber

Eric H. Reber
Health Physicist
Nuclear Materials Safety Branch 2
Division of Nuclear Materials Safety

Enclosures:

1. Amendment No. 25
2. Guidelines for Decontamination of Facilities and Equipment

cc:Colonel Daxon, MCHO-CL-W

ML10

DOCUMENT NAME: B:\DNMS Documents\Lic Cover Letter\L08-01738-03.a.wpd 80743556

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI				
NAME	EReber <i>[Signature]</i>						
DATE	02/23/99		02/ /99		02/ /99		02/ /99

OFFICIAL RECORD COPY



DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WALTER REED HEALTH CARE SYSTEM
WASHINGTON, DC 20307-5001

REPLY TO
ATTENTION OF

February 16, 1999

MS16

L-3

Health Physics Office

SUBJECT: Additional Information to Support NRC Materials License 0801738-03
Amendment Request to Add Use Location

U.S. Nuclear Regulatory Commission, Region I
Division of Nuclear Materials Safety
Attention: Mr. Eric Reber
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415


Dear Mr. Reber:

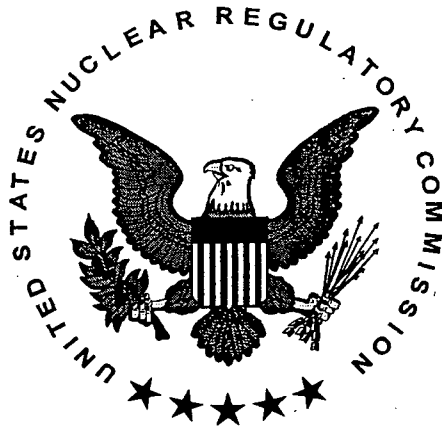
This letter provides the additional information you requested in the review of the above NRC Irradiator License, reference Mail Control Number 126424. We request that paragraph 10 be amended to add WRAMC Forest Glen Section and Annex, Silver Spring, MD, in addition to the WRAMC, Washington, DC location.

Any of the self-shielded irradiators at the new location will meet the following conditions: The location of the self-shielded irradiator will correspond to the 'Conditions of Normal Use' and 'Limitations and/or Other Considerations of Use' on the applicable irradiator's Sealed Source and Device Registration Certificate; the floor beneath the self-shielded irradiator is adequate to support the weight of the irradiator; each self-shielded irradiator is secured to prevent unauthorized access or removal; and each area where a shelf-shielded irradiator is located is equipped with an automatically operated fire detection and control system (sprinkler, chemical, or gas) or the location of the area and other controls ensure a low-level radiation risk attributable to fires.

For additional information regarding this request, please contact Colonel William B. Johnson, Chief, Health Physics Office, Preventive Medicine Services, Walter Reed Army Medical Center, Washington, D.C., at (202) 3546-0058.

Sincerely,


William B. Johnson
Colonel, U.S. Army
Radiation Safety Officer, Walter Reed
Army Medical Center



MS15
L-3

****Facsimile Transmittal****
February 10, 1999

Message For: William B. Johnson
Of: Army - Walter Reed
Fax #: 202-356-0086
Voice #: 202-356-0058

Number of Pages (including this cover sheet): 4

From: Eric Reber
Division of Nuclear Materials Safety
United States Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Voice #: (610) 337-5276
Fax #s: (610) 337-5269 or (610) 337-5393
Internet Address: EHR@NRC.GOV

Message: Please provide the information in Section 8.9, NUREG-1556, Vol. 5 regarding your new facility at WRAMC Forest Glen Section and Annex, Silver Spring, Maryland

OFFICIAL RECORD COPY

ML 10

126424

CONTENTS OF AN APPLICATION

Discussion: Licensees need to perform a prospective evaluation to determine radiation doses likely to be received by different individuals or groups. AUs, individuals performing routine maintenance, and individuals performing installations, relocations, non-routine maintenance, or repairs would be most likely to receive doses in excess of 1 mSv (100 mrem) in a year. See the previous section for a discussion of training and experience for AUs.

Individuals, other than AUs (e.g., biomedical engineers), may perform routine maintenance on irradiators. However, they must be trained in radiation safety and in the irradiator manufacturers' operating procedures, or they must work under the supervision and in the direct physical presence of someone who has this training.

Some licensees may have specific individuals trained to perform installations, relocations, non-routine maintenance, or repairs. Authorizations for these functions are separate from those for an AU or an individual who performs routine maintenance and will be specifically stated in a license condition. Appendix I contains suggested training for individuals who will conduct non-routine maintenance.

While performing prospective evaluations, a licensee may recognize that some individuals (e.g., housekeeping staff), although not likely to receive doses over 1 mSv (100 mrem), should receive training to ensure adequate security and control of licensed material. Licensees may provide these individuals with training commensurate with their involvement with licensed material. For example, housekeeping staff may receive training on the nature and location of the irradiator and the meaning of the radiation symbol, and instructions not to touch the irradiator and to remain out of the room if the irradiator door is open.

Response from Applicant: The applicant's training program will be examined during inspections, but should not be submitted in the license application.

8.9 ITEM 9: FACILITIES AND EQUIPMENT

Regulations: 10 CFR 30.33(a)(2).

Criteria: Facilities and equipment must be adequate to protect health and minimize danger to life or property.

Discussion: Self-shielded irradiators incorporate many engineering features to protect individuals from unnecessary radiation exposure. These devices are usually designed for use in a laboratory environment, i.e., inside a building, protected from the weather, and without wide variations of temperature and humidity. For information to help applicants determine the location of irradiators, see the sections on the SSD Registration Certificate entitled, "Conditions of Normal Use" and "Limitations and/or Other Considerations of Use."

For example, if a proposed location for a self-shielded irradiator is not within the conditions of normal use or the limitations of use, the applicant will need to provide adequate justification. In addition, the applicant will need to take compensatory measures (e.g., increased surveillance and maintenance) to ensure that the irradiator operates as designed and provides the intended level of protection. IN 96-35, "Failure of Safety Systems on Self-Shielded Irradiators Because of Inadequate Maintenance and Training," dated June 11, 1996, discusses an incident resulting from irradiator failure in which the lack of a climate-controlled environment (i.e., loading dock) may have accelerated the degradation of internal components leading to a failed interlock and excessive dose received by an irradiator operator.

Self-shielded irradiators vary in weight from several hundred to several thousand kilograms (pounds). Before installing an irradiator, licensees need to evaluate whether the floor in the proposed location can support the irradiator. Often licensees locate self-shielded irradiators on a ground floor. Some smaller and lighter irradiators require additional security measures to prevent unauthorized removal (e.g., locked in a room, bolted to the floor). For more information see "Radiation Safety Program - Operating and Emergency Procedures" and "Radiation Safety Program - Public Dose."

The fire-resistant properties of most irradiators should provide adequate radioactive material containment and shielding integrity in most situations; however, additional protection is desirable for some situations. For example, the room housing the irradiator should be equipped with an automatically-operated fire detection and control system (sprinkler, chemical, or gas). As an alternative, the self-shielded irradiator should be located under conditions (e.g., ground floor location in fire-resistant building with little combustible material) and other controls (e.g., coordination with and training of firefighting personnel) that ensure a low level of radiation risk attributable to fires.

Response from Applicant: Provide either of the following:

- The statement: "We will ensure that each area where a self-shielded irradiator is located corresponds to the 'Conditions of Normal Use' and 'Limitations and/or Other Considerations of Use' on the applicable irradiator's Sealed Source and Device Registration Certificate; the floor beneath the self-shielded irradiator is adequate to support the weight of the irradiator; each self-shielded irradiator is secured to prevent unauthorized access or removal; and each area where a self-shielded irradiator is located is equipped with an automatically operated fire detection and control system (sprinkler, chemical, or gas) or the location of the area and other controls ensure a low-level radiation risk attributable to fires."

OR

- Submit alternative information; be sure to include justification for placing an irradiator in an area that does not correspond to the "Conditions of Normal Use" and the "Limitations and/or Other Considerations of Use."

CONTENTS OF AN APPLICATION

Note: Alternative information will be reviewed using the criteria listed above.

References: INs are available in the "Reference Library" on NRC's Home Page at <<http://www.nrc.gov>>. For hard copies, see the Notice of Availability (on the inside front cover of this report).

8.10 ITEM 10: RADIATION SAFETY PROGRAM

8.10.1 AUDIT PROGRAM

Regulations: 10 CFR 20.1101, 10 CFR 20.2102.

Criteria: Licensees must review the content and implementation of their radiation protection programs annually to ensure the following:

- Compliance with NRC and DOT regulations (as applicable), and the terms and conditions of the license;
- Occupational doses and doses to members of the public are as low as is reasonably achievable (ALARA) (10 CFR 20.1101); and
- Records of audits and other reviews of program content are maintained for 3 years.

Discussion: Appendix J contains a suggested audit program that is specific to the use of self-shielded irradiators and is acceptable to NRC. All areas indicated in Appendix J may not be applicable to every licensee and may not need to be addressed during each audit. For example, licensees do not need to address areas which do not apply to their activities, and activities which have not occurred since the last audit need not be reviewed at the next audit. Generally, audits are conducted at least once every 12 months.

Currently the NRC's emphasis in inspections is to perform actual observations of work in progress. As a part of their audit programs, applicants should consider performing unannounced audits of irradiator users to determine if, for example, Operating and Emergency Procedures are available and are being followed.

It is essential that once identified, problems be corrected comprehensively and in a timely manner; IN 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," dated May 1, 1996, provides guidance on this subject. The NRC will review the licensee's audit results and determine if corrective actions are thorough, timely, and sufficient to prevent recurrence. If violations are identified by the licensee and these steps are taken, the NRC can exercise discretion and may elect not to cite a violation. The NRC's goal is to encourage prompt identification and prompt, comprehensive correction of violations and

This is to acknowledge the receipt of your letter/application dated

1-4-99, and to inform you that the initial processing which includes an administrative review has been performed. 08-01738-03

^{Amend} There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned Mail Control Number 1 2 6 4 2 4
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)
(6-96)

Sincerely,
Licensing Assistance Team Leader



DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WALTER REED HEALTH CARE SYSTEM
WASHINGTON, DC 20307-5001

030-06895

REPLY TO
ATTENTION OF

January 4, 1999

Preventive Medicine Services

SUBJECT: NRC Materials License 08-01738-03 Amendment Request to Add Use Location

Nuclear Regulatory Commission, Region I
Medical Licensing Division
475 Alendale Road
King of Prussia, Pennsylvania 19406-1415

Medical Licensing Division:

Walter Reed Army Medical Center (WRAMC), Washington, DC, uses byproduct material authorized by U.S. Nuclear Regulatory Commission (NRC) license number 08-01738-03 with an expiration date of November 30, 2001.

The Walter Reed Army Institute of Research will begin relocating many of its research laboratories to a new facility at Forest Glen Annex in February 1999. We request that paragraph 10 be amended to add WRAMC Forest Glen Section and Annex, Silver Spring, Maryland as an authorized use location for the irradiators listed on this license. The irradiators cannot be shipped until this license amendment is approved, we therefore respectfully request that this action be expedited.

For additional information regarding this correspondence, please contact Colonel William B. Johnson, Chief, Health Physics Office, Preventive Medicine Services, at (202) 356-0058.

Sincerely,

William B. Johnson
Colonel, U.S. Army
Radiation Safety Officer, Walter Reed Army
Medical Center

Copy Furnished:

U.S. Army Medical Command, ATTN: MCHO-CL-W/COL Daxon, 2050 Worth Road, Fort Sam
Houston, TX 78234-6000

OFFICIAL RECORD COPY ML 10

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JAN - 7 1999