

## 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 1, 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.

Licensee		
1. Woods Hole Oceanographic Institution	3. License Number	20-00064-03
2. Water Street Woods Hole, Massachusetts 02543-1120	4. Expiration Date	February 28, 2002
	5. Docket or Reference No.	030-34398
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 number 1 through 83	A. Any	A. See Condition 12
B. Nickel 63	B. Plated sources or foils	B. 1 curie
C. Cesium 137	C. Sealed source (Isotope Product Laboratories, Model No. HEG-137)	C. 10 millicuries
9. Authorized use		
A. Research and development as defined in 10 CFR 30.4.		
B. For use in electron capture detector cells which are distributed under a specific license issued by the U.S. Nuclear Regulatory Commission or any Agreement State.		
C. For use in GEOTEK Multi-Sensor Core Logger.		

## CONDITIONS

10. Licensed material may be used only at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.
11. A. Licensed material shall be used by, or under the supervision of, individuals designated in writing by the Radiation Safety Committee, Michael P. Bacon, Ph.D., Chairperson.  
B. The Radiation Safety Officer for this license is Lewis E. Karchner.
12. The licensee shall further restrict the possession of NRC licensed material to 10<sup>1</sup> times the quantity specified in Appendix B to 10 CFR Part 30.
13. Licensed material shall not be used in or on human beings.
14. 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.

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- 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
  - (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 the 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.
15. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.

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16. The licensee shall not acquire licensed material in a sealed source or device unless the source or device has been registered with the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or equivalent regulations of an Agreement State.
17. 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.
18. Maintenance, repair, cleaning, replacement, and disposal of foils contained in detector cells shall be performed only by the device manufacturer or other persons specifically authorized by the Commission or an Agreement State to perform such services.
19.
  - A. Detector cells containing a titanium tritide foil or a scandium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents the foil temperatures from exceeding that specified in the certificate of registration referred to in 10 CFR 32.210.
  - B. When in use, detector cells containing a titanium tritide foil or a scandium tritide foil shall be vented to the outside.
20. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
21. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
22. The licensee shall not use licensed material in ocean waters where activity is released except as provided otherwise by a specific condition of this license.
23. This license does not authorize the disposal or abandonment of licensed material in ocean waters.
24. Notwithstanding the requirements of Conditions 20 and 21, the licensee may use licensed material as sealed sources, including metallic strips and foils, or within sealed containers for research experiments, in national and international ocean waters, including temporary placement at test locations, provided:
  - A. The licensee retrieves the sealed source or sealed container; and,
  - B. The licensee's Radiation Safety Committee gives written approval of the project.

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25. 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 February 25, 1994
- B. Letter dated July 14, 1994
- C. Letter dated August 1, 1994
- D. Letter dated September 15, 1994
- E. Facsimile received September 27, 1994
- F. Letter dated November 14, 1994
- G. Letter dated January 23, 1995



Date MAR - 7 1997

For the U.S. Nuclear Regulatory Commission

ORIGINAL SIGNED BY:

By PENNY A. LANZISERA

Division of Nuclear Materials Safety  
Region I  
King of Prussia, Pennsylvania 19406



MAR - 7 1997

License No. 20-00064-03  
Docket No. 030-34398  
Control No. 124269

Lewis E. Karchner  
Radiation Safety Officer  
Woods Hole Oceanographic Institution  
Water Street  
Woods Hole, MA 02543-1120

Dear Mr. Karchner:

Please review the enclosed document carefully and be sure that you understand all conditions. 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. Also, please note that License Conditions 14 through 19, involving sealed sources, have been added to your license since you have requested sealed source use at temporary job sites.

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Until your license is terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Notify NRC, in writing, within 30 days:
  - a. when the Radiation Safety Officer or Chairman of the Radiation Safety Committee, permanently discontinues performance of duties under the license or has a name change; or
  - b. when the mailing address on the license changes (no fee is required if the location of byproduct material remains the same).
3. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:
  - a. when you decide to terminate all activities involving materials authorized under the license; or

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- b. if you decide not to possess and use authorized material at temporary job sites.
- 4. Request and obtain a license amendment before you:
  - a. change Radiation Safety Officer or the Chairman of the Radiation Safety Committee;
  - b. order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;
  - c. add or change the address or addresses of use identified in the license application or on the license; or
  - d. change ownership of your organization.
- 5. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or a certifying official of the licensee rather than the Radiation Safety Officer or a consultant.

You will be periodically inspected by the NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or imposition of a civil penalty, or an order suspending, modifying or revoking your license as specified in the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG 1600.

Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement actions will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

L. Karchner  
Woods Hole

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Thank you for your cooperation.

Sincerely,

ORIGINAL SIGNED BY:  
PENNY A. LANZISERA  
Penny Lanzisera  
Division of Nuclear Materials Safety

License No. 20-00(1)64-03  
Docket No. 030-34398  
Control No. 124269

Enclosures:

1. License No. 20-00064-03
2. 10 CFR Parts 2, 19, 20, 30, and 170
3. NRC Forms 3 and 313

DOCUMENT NAME: R:\WPS\MLTR\12000064.03

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	<input checked="" type="checkbox"/> N	DNMS/RI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NAME	Lanzisera <i>PL</i>						
DATE	02/20/97		02/ /97		02/ /97		02/ /97

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Woods Hole Oceanographic Institution  
Safety Office MS-15  
Woods Hole, MA 02543-1120  
Phone 508-289-2242

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February 14, 1997

U.S. Nuclear Regulatory Commission  
Region I Nuclear Material Section B  
457 Allendale Road  
King Of Prussia, PA 19406

Reference License No. 20-00064-02

Subject: Maintaining A Modified NRC License

License Reviewer,

Per your request in a letter dated December 26, 1996, the Woods Hole Oceanographic Institution is in the process of preparing, for submission to the Commonwealth of Massachusetts, Department of Health, a modified decommissioning financial assurance instrument in order to facilitate the transfer of our broadscope radioactive materials license to the Commonwealth at such time as they officially attain Agreement status.

In conjunction with this, and based on a phone conversation which I had with Ms Penny Lanzisera of your office, it appears that the Oceanographic will also need to maintain a modified NRC License to allow for the continued use of radioactive materials at temporary research locations which are outside the jurisdiction of the Commonwealth of Massachusetts. Primarily this applies to the use of licensed materials on board research vessels at sea and in US Coastal Waters.

To that end, please find enclosed a request to amend the Woods Hole Oceanographic Institution's Broad Scope Radioactive Material License ( Reference License No. 20-00064-02).

Please feel free to contact me if there are any questions concerning this application.

Sincerely,

Lewis E. Karchner  
Safety Officer / Radiation Safety Officer  
Woods Hole Oceanographic Institution  
Safety Office MS-15  
Phone (508) 289-2242  
FAX (508) 457-2173  
email lkarchner@whoi.edu

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FAX REC'D



Please Amend the Woods Hole Oceanographic Institution Radioactive Materials License (License No. 20-00064-02) as follows:

Line Item 6.A. to read "Any byproduct material with Atomic Nos. 3 through 83"

Line Item 7.A. to read "Any"

Line Item 8.A. to read "Not to exceed  $1 \times 10^3$  times the activities established in 10 CFR 30, Appendix B."

Line Item 6.B. to read "Hydrogen 3"

Line Item 7.B. to read "Any"

Line Item 8.B. to read "Not to exceed  $1 \times 10^3$  times the activity established in 10 CFR 30, Appendix B."

Line Item 6.C. to read "Nickel 63"

Line Item 7.C. to read "Plated sources and foils"

Line Item 8.C. to read "Not to exceed  $1 \times 10^5$  times the activity established in 10 CFR 30, Appendix B."

Line Item 6.D. to read "Cesium 137"

Line Item 7.D. to read "Sealed Source (Isotope Product Laboratories, Model No. HEG-137)"

Line Item 8.D. to read "10 millicuries."

Line Item 9.

Authorized Use to read "A. through B. Research and development as defined in 10 CFR 30.4 and which are used at temporary research locations outside the jurisdiction of the Commonwealth of Massachusetts."

"C. For use in electron capture cells which are distributed under a specific license issued by the U.S. Nuclear Regulatory Commission or any Agreement State, and which are used at temporary research locations outside the jurisdiction of the Commonwealth of Massachusetts."

"D. For use in GEOTEK Multi-Sensor Core Logger at temporary research locations outside the jurisdiction of the Commonwealth of Massachusetts."

Line Item 10. to read "Licensed material may be used in research vessels at sea in national and international waters, and in ponds, lakes, bays, and coastal waters located anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material."

Line Items 11. A. and B. No Change.

Line Items 12 through 18. Delete. These conditions will be covered under our license with the Commonwealth of Massachusetts.

Line Item 19. No Change.

Line Items 20 through 21. Delete. These conditions will be covered under our license with the Commonwealth of Massachusetts.

Line Items 22 through 25. No Change.

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM  
AND  
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)  
INFORMATION FROM LTS

PROGRAM CODE: 03610  
STATUS CODE: 3  
FEE CATEGORY: \_\_\_\_\_  
EXP. DATE: 0  
FEE COMMENTS: \_\_\_\_\_  
DECOM FIN ASSUR REQD: \_\_\_\_\_

LICENSE FEE TRANSMITTAL

4. REGION I

1. APPLICATION ATTACHED

APPLICANT/LICENSEE: WOODS HOLE OCEANOGRAPHIC INSTITUTION  
RECEIVED DATE: 970214  
DOCKET NO: 3034398  
CONTROL NO.: 124269  
LICENSE NO.:  
ACTION TYPE: NEW LICENSE

2. FEE ATTACHED

AMOUNT: \_\_\_\_\_  
CHECK NO.: \_\_\_\_\_

3. COMMENTS

ADMINISTRATIVE ACTION AS A  
RESULT OF MASSACHUSETTS  
RECONSTRUCTION AGREEMENT STATE.

SIGNED M. A. Lortie  
DATE 2/18/97

5. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED 1)

1. FEE CATEGORY AND AMOUNT: \_\_\_\_\_

**FEE EXEMPT**  
MA Agreement State  
ARC - Administrative  
Change

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:

AMENDMENT \_\_\_\_\_  
RENEWAL \_\_\_\_\_  
LICENSE \_\_\_\_\_

3. OTHER \_\_\_\_\_

SIGNED \_\_\_\_\_  
DATE \_\_\_\_\_

RECEIVED BY LFDCB	
Date	2/21/97
Time	Feb 5 1997
By	DL
Date Completed	2/21/97

03 & 07 for 2/4/97