

April 24, 1998

IIT Research Institute  
Virginia Technology Center  
ATTN: Mr. Patrick J. Dussia  
Radiation Safety Officer  
8510 Cinderbed Road, Suite 300  
Newington, VA 22122-0899

SUBJECT: TRANSMITTAL AND EXPLANATION OF AMENDMENT TO LICENSE NO. 45-25057-01 (REFERENCE CONTROL NO. 257792; DOCKET NO. 030-31193)

Dear Mr. Dussia:

Enclosed please find Amendment No. 3 to your NRC materials license. Changes to the license are printed in **BOLD** typeface.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify this office (ATTN: Ms. Diane Heim at (404) 562-4723) so that we can provide appropriate corrections and answers.

Note that as part of this amendment, in accordance with 10 CFR 30.36, effective February 15, 1996, the expiration date of your license has been extended by a period of five years. Your new expiration date is stated in Item 4 of the license. Unless your license has been 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 19, "Notice, Instructions and Reports to Workers; Inspections and Investigations," 10 CFR 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Notify NRC, in writing, within 30 days:
  - a. when an authorized user, or Radiation Safety Officer, permanently discontinues performance of duties under the license or has a name change; or
  - b. when the licensee's mailing address changes (no fee is required if the location of byproduct material remains the same).
3. In accordance with 10 CFR 30.36(d) and/or license condition, notify NRC, promptly, in writing, and request amendment or termination of the license:
  - a. when you decide to terminate all activities involving materials authorized under the license; or

- b. when you decide to terminate licensed activities in a separate building or outdoor area identified on your license.
4. Request and obtain a license amendment before you:
  - a. change Radiation Safety Officer;
  - b. order byproduct material in excess of the amount, or a different radionuclide or form, other than authorized on the license;
  - c. add or change the areas of use or 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. Transfer of licensed materials must be consistent with 10 CFR 30.41, 40.51 or 70.42, as applicable. 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 certifying official rather than a consultant.

You will be periodically inspected by 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 Procedures for NRC Enforcement Actions," NUREG-1600, (7/95). Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken against those who do not achieve the necessary attention to detail and standard of compliance expected of licensees.

IIT Research Institute

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Thank you for your cooperation.

Sincerely,

Jay L. Henson, License Reviewer  
Division of Nuclear Materials Safety

- Enclosures: 1. Amendment No. 3  
License No. 45-25057-01  
2. NRC Form 313

OFFICE	IIT:ONS	IIT:ONS								
SIGNATURE										
NAME	Henson	Closey								
DATE	4/23/98	4/23/98	4/	198	4/	198	4/	198	4/	198
COPY?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES	NO	YES	NO	YES	NO	YES	NO

OFFICIAL RECORD COPY

DOCUMENT NAME: G:\MRS11\DMPS\COMLTR\257792.JLN

(FOR LFMS USE)  
INFORMATION FROM LTS

BETWEEN:

License Fee Management Branch. ARM  
and  
Regional Licensing Sections

Program Code: 03620  
Status Code: 0  
Fee Category: 3M  
Exp. Date: 20041231  
Fee Comments:

Decom Fin Assur Req'd: N

LICENSE FEE TRANSMITTAL

A. REGION II

1. APPLICATION ATTACHED

Applicant/Licensee: IIT RESEARCH INSTITUTE  
Received Date: 980126  
Docket No: 3031193  
Control No.: 257792  
License No.: 45-25057-01  
Action Type: Amendment

2. FEE ATTACHED

Amount: none  
Check No.: \_\_\_\_\_

3. COMMENTS

Signed DIANE HEIM  
Date 1/30/98

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered 1)

1. Fee Category and Amount: 3M 11000

2. Correct Fee Paid. Application may be processed for:  
Amendment \_\_\_\_\_  
Renewal \_\_\_\_\_  
License \_\_\_\_\_

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

Signed Kia M...  
Date 2/20/98

Log	<u>Feb 2 II</u>
Remitter	
Check No.	<u>49062 #640</u>
Amount	
Fee Category	<u>3M</u>
Type of Fee	<u>and</u>
Date Check Rec'd.	<u>2/20/98</u>
Date Completed	<u>2/20/98</u>
By:	<u>[Signature]</u>

**OFFICIAL RECORD COPY**

Amendment No. 3

**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. IIT Research Institute Virginia Technology Center</p> <p>2. 8510 Cinderbed Road, Suite 300 Newington, VA 22122-0899</p>	<p>In accordance with letter dated <b>January 21, 1998</b></p> <p>3. License number 45-25057-01 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date <b>December 31, 2004 (extended)</b></p> <hr/> <p>5. Docket No 030-31193 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. Carbon 14	A. Any	A. 333 GBq (90 millicuries)
B. Hydrogen 3	B. Any	B. 185 MBq (5 millicuries)
C. Phosphorus-32	C. Any	C. 333 MBq (9 millicuries)
D. Sulfur 35	D. Any	D. 370 MBq (10 millicuries)
E. Chlorine 36	E. Any	E. 185 MBq (5 millicuries)
F. Calcium 45	F. Any	F. 185 MBq (5 millicuries)
G. Nickel 63	G. Foil and/or plated source in a detector cell registered pursuant to 10 CFR 32.210 or an equivalent Agreement State regulation	G. No single source to exceed 370 MBq (10 millicuries) per detector cell
H. Barium 133	H. Sealed sources	H. No single source to exceed 740 KBq (20 microcuries)

9. Authorized use

- A. For use as calibration standard in liquid scintillation counters

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**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number

45-25057-01

Docket or Reference Number

030-31193

Amendment No. 3

**CONDITIONS**

10. Licensed material shall be used only at the licensee's facilities located at 8510 Cinderbed Road, Newington, Virginia.
11. The Radiation Protection Officer for this license is Patrick J. Dussia.
12. Licensed material shall be used by, or under the supervision of, Richard C. Doyle or Patrick J. Dussia.
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.
- B. 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.
- C. Sealed sources or detector cells need not be leak tested if, they contain only hydrogen-3 or only a radioactive gas, or not more than 100 microcuries of beta and/or gamma emitting material or 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.
- D. 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 30.50(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 II, 61 Forsyth Street, SW, Suite 23T85, Atlanta, GA 30303. ATTN: Director of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken.
- E. The licensee is authorized to collect leak test samples for analysis by Radiation Service Organization, inc. or tests for leakage and/or contamination shall be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.
14. Detector cells containing licensed material shall not be opened by the licensee.
15. 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.

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16. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license.
17. Experimental plants, or the products from experimental plants, that have been administered licensed materials shall not be used for human consumption.
18. The licensee is authorized to hold radioactive material with a physical half-life of less than 120 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 10 half-lives.
  - B. Before disposal as ordinary trash, byproduct material shall be surveyed at the container surface with the appropriate survey meter set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
  - C. A record of each disposal permitted under this license condition shall be retained for three years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.
19. In addition to the possession limits in condition 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

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20. 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 enclosed with letter dated October 21, 1994
- B. Letter dated December 12, 1994 (RSO's training certificate)
- C. Letter dated January 21, 1998 (deletion of previous guard service and camera surveillance for greenhouse; clarification of quench curve frequency and addition of new president)

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

JAY L. HENSON

DATE APR 24 1998

BY Jay L. Henson

Region II, Division of Nuclear Materials Safety  
61 Forsyth Street, Suite 23T85  
Atlanta, GA 30303

*Dnic  
4/24/98*