



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

October 18, 2006

Docket No. 03000886  
Control No. 139526

License No. 29-09831-01

Frederick Travis, Ph.D.  
Provost  
Seton Hall University  
400 South Orange Avenue  
South Orange, NJ 139526

SUBJECT: SETON HALL UNIVERSITY, LICENSE AMENDMENT, CONTROL NO. 139526

Dear Dr. Travis:

This refers to your license amendment request. Enclosed with this letter is the amended license.

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) 337-5239, so that we can provide appropriate corrections and answers.

An environmental assessment for this action is not required, since this action is categorically excluded under 10 CFR 51.22(c)(14).

Current NRC regulations and guidance are included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **Nuclear Materials; Medical, Academic, and Industrial Uses of Nuclear Material**; then **Toolkit Index Page**. Or you may obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-888-293-6498. The GPO is open from 7:00 a.m. to 8:00 p.m. EST, Monday through Friday (except Federal holidays).

Thank you for your cooperation.

Sincerely,

***Original signed by Thomas K. Thompson***

Thomas K. Thompson  
Senior Health Physicist  
Commercial and R&D Branch  
Division of Nuclear Materials Safety

Enclosure:  
Amendment No. 26

cc:  
David R. Edwards, Radiation Safety Officer



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**SUNSI Review Complete: TThompson**

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NAME	TThompson /TKT/							
DATE	10/18/06							

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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, 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.

Licensee	In accordance with the letter dated October 9, 2006,
1. Seton Hall University	3. License number 29-09831-01 is amended in its entirety to read as follows:
2. 400 South Orange Avenue South Orange, New Jersey 07079	4. Expiration date July 31, 2016
	5. Docket No. 030-00886 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. Hydrogen 3   | A. Any                           | A. 100 millicuries   |
| B. Carbon 14  | B. Any                           | B. 50 millicuries  |
| C. Phosphorus 32                                      | C. Any                           | C. 40 millicuries  |
| D. Phosphorus 33                                      | D. Any                           | D. 10 millicuries  |
| E. Sulfur 35  | E. Any                           | E. 60 millicurie   |
| F. Iodine 125   | F. Any                           | F. 60 millicuries  |

9. Authorized use:  
A. through F. Research and development as defined in 10 CFR 30.4; teaching and training of students.

**CONDITIONS**

10. Licensed material may be used or stored only at the licensee's facilities located at 400 South Orange Avenue, South Orange, New Jersey.
11. A. Licensed material shall be used by, or under the supervision of:

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

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<u>Authorized Users</u>	<u>Material</u>
Carolyn S. Bentivegna, Ph.D.	Hydrogen-3, Carbon-14, Phosphorus-32, Phosphorous-33, Sulfur-35, Iodine-125
Sulie Chang, Ph.D.	Hydrogen-3, Carbon-14, Phosphorus-32, Phosphorous-33, Sulfur-35, and Iodine-125
David Edwards, M.S., CHMM	Hydrogen-3, Carbon-14, Phosphorus-32, Phosphorous-33, Sulfur-35, and Iodine-125
Jane L. Ko, Ph.D.	Hydrogen-3, Carbon-14, Phosphorus-32, Phosphorous-33, Sulfur-35, and Iodine-125
Roberta Moldow, Ph.D.	Hydrogen-3, Carbon-14, Phosphorus-32, Phosphorous-33, Sulfur-35, and Iodine-125
Anne Pumfery, Ph.D.	Carbon-14, Phosphorus-32, and Sulfur-35

B. The Radiation Safety Officer for this license is David Edwards, M.S., CHMM.

12. Licensed material shall not be used in or on human beings.
13. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
14. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
15.
  - A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State.
  - B. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.
  - C. Sealed sources need not be tested if they contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain not more than 100 microcuries of beta- and/or gamma-emitting material or not more than 10 microcuries of alpha-emitting material.

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- D. Sealed sources need not be tested if they 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 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 (185 becquerels) of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie (185 becquerels) or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations.
- F. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall be performed by the licensee or by other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
16. 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.
17. 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.
18. The licensee is authorized to hold byproduct material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal without regard to its radioactivity if the licensee:
- A. Monitors byproduct material at the surface before disposal and determines that its radioactivity cannot be distinguished from the background radiation level with an appropriate radiation detection survey meter set on its most sensitive scale and with no interposed shielding; and
  - B. Removes or obliterates all radiation labels, except for radiation labels on materials that are within containers and that will be managed as biomedical waste after they have been released from the licensee; and
  - C. Maintains records of the disposal of licensed materials for 3 years. The record must include the date of disposal, the survey instrument used, the background radiation level, the radiation level measured at the surface of each waste container, and the name of the individual who performed the disposal.
19. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
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 U. S. Nuclear Regulatory Commission's regulations shall govern unless

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the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- A. Letter dated January 24, 2006 with application (ML060310435)
- B. Letter dated May 12, 2006 (ML061350125)
- C. Letter dated June 22, 2006 (ML061740135)
- D. Letters dated October 9, 2006 (ML062920335)/(ML062920336)



For the U.S. Nuclear Regulatory Commission

Date October 20, 2006

By *Original signed by Thomas K. Thompson*  
Thomas K. Thompson  
Commercial and R&D Branch  
Division of Nuclear Materials Safety  
Region I  
King of Prussia, Pennsylvania 19406