



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

April 5, 2005

Docket No. 03000958
Control No. 136371

License No. 37-01526-06

David J. Surgala
Vice President for Finance and Administration
Bucknell University
Moore Avenue
Lewisburg, PA 17837

SUBJECT: BUCKNELL UNIVERSITY, ISSUANCE OF LICENSE RENEWAL, CONTROL
NO. 136371

Dear Mr. Surgala:

This refers to your request for renewal of your NRC license. Enclosed with this letter is the renewed license. 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) 337-5239, so that we can provide appropriate corrections and answers.

The NRC is required to have your Taxpayer Identification Number in order to make payments (refunds). The self-addressed, stamped NRC Form 531, "Request for Taxpayer Identification Number," is enclosed.

The NRC expects licensees to conduct their programs with meticulous attention to detail and high standards of compliance. Because of the serious consequences to employees and the public that can result from failure to comply with NRC requirements, you must conduct your program according to NRC regulations, the conditions of your NRC license, and the representations made in your application. 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 the NRC in writing of any change in mailing address.
3. In accordance with 10 CFR 30.36(d), notify the 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
 - b) if you decide not to acquire or possess and use authorized material.
4. Request and obtain a license Amendment before you:

- a) change Radiation Safety Officers;
 - b) order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license; or
 - c) add or change the areas of use, or addresses of use identified in the license application or on the license; or
 - d) change the name or ownership of your organization.
5. Submit a complete renewal application 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.

In addition, please note that NRC Form 313 requires the applicant, by 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 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 NUREG 1600, "General Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy).

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

Please note that on October 25, 2004, the NRC suspended public access to ADAMS, and initiated an additional security review of publicly available documents to ensure that potentially sensitive information is removed from the ADAMS database accessible through the NRC's web site. Interested members of the public may obtain copies of the referenced documents for review and/or copying by contacting the NRC Public Document Room pending resumption of public access to ADAMS. The NRC Public Document Room is located at NRC Headquarters in Rockville, MD, and can be contacted at 800-397-4209 or 301-415-4737 or pdr@nrc.gov.

D. Surgala
Bucknell University

3

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. 23

NRC Web site addresses
NRC regulations

<http://www.nrc.gov/reading-rm/doc-collections/cfr/>

Licensing guidance

<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/>

General Policy and Procedure for NRC Enforcement Actions

<http://www.nrc.gov/what-we-do/regulatory/enforcement/enforc-pol.pdf>

206 of the Energy Reorganization Act of 1974

<http://www.nrc.gov/who-we-are/governing-laws.html>

cc:
Mitchell Chernin, Radiation Safety Officer

DOCUMENT NAME: E:\Filenet\ML050960536.wpd

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OFFICE	DNMS/RI	N	DNMS/RI		DNMS/RI			
NAME	TThompson /TKT/							
DATE	4/5/05							

OFFICIAL RECORD COPY

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 style="text-align: center;">Licensee</p> <p>1. Bucknell University</p> <p>2. Moore Avenue Lewisburg, Pennsylvania 17837</p>	<p>In accordance with the letter dated February 27, 2005,</p> <p>3. License number 37-01526-06 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date April 30, 2015</p> <hr/> <p>5. Docket No. 030-00958 Reference No. SNM-1975</p>	
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Hydrogen 3</p> <p>B. Carbon 14</p> <p>C. Phosphorus 32</p> <p>D. Phosphorus 33</p> <p>E. Sulfur 35</p> <p>F. Calcium 45</p> <p>G. Strontium 85</p> <p>H. Iodine 125</p> <p>I. Cesium 137</p> <p>J. Bismuth 207</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. Any</p> <p>G. Sealed Source (Isotope Products Laboratories Model GF-085-M)</p> <p>H. Bound to non-volatile compounds</p> <p>I. Sealed source (Isotope Products Laboratories Model HEG-137-25)</p> <p>J. Sealed Sources (Isotope Products Laboratories Model GF-207 Type M)</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 75 millicuries</p> <p>B. 50 millicuries</p> <p>C. 100 millicuries</p> <p>D. 25 millicuries</p> <p>E. 25 millicuries</p> <p>F. 2 millicuries</p> <p>G. 200 microcuries</p> <p>H. 7 millicuries</p> <p>I. 25 millicuries</p> <p>J. Not to exceed 50 microcuries per source and 100 microcuries total</p>

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

37-01526-06

Docket or Reference Number

030-00958/SNM-1975

Amendment No. 23

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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 |
| K. Nickel 63 | K. Foil in Hewlett-Packard Model 19233 detector cell | K. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State |

9. Authorized use:

- A. through J. Research and development as defined in 10 CFR 30.4.
- K. To be used for sample analysis in compatible gas chromatography devices that have been registered either with the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with a Commission or Agreement State specific license authorizing distribution to persons specifically authorized by a Commission or Agreement State license to receive, possess, and use the devices.

CONDITIONS

10. Licensed material may be used or stored only at the licensee's facilities located at Bucknell University, Lewisburg, Pennsylvania.
11. A. Licensed material shall be used by, or under the supervision of:

Authorized Users

Mitchell Chernin

Charles Clapp

Elaine Keithan

Kathleen Page

Marie Pizzorno

David Schoepf

Material

Hydrogen-3, Carbon-14, Phosphorus-32, Phosphorus-33, Sulfur-35, Calcium-45, Iodine-125, and Nickel-63

Hydrogen-3, Carbon-14, and Nickel-63

Hydrogen-3, Carbon-14, and Nickel-63

Hydrogen-3, Carbon-14, Phosphorus-32, Phosphorus-33, Sulfur-35, Calcium-45, Iodine-125, and Nickel-63

Hydrogen-3, Carbon-14, Phosphorus-32, Phosphorus-33, Sulfur-35, Calcium-45, Iodine-125, Nickel-63

Strontium-85, Cesium-137, and Bismuth-207

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

37-01526-06

Docket or Reference Number

030-00958/SNM-1975

Amendment No. 23

Authorized Users**Material**

James Swan

Hydrogen-3, Carbon-14, Phosphorus-32, Phosphorus-33,
Sulfur-35, Calcium-45, Iodine-125, and Nickel-63

Matthew Heintzelman

Phosphorus-32, Phosphorus-33, Sulfur-35, and Nickel-63

B. The Radiation Safety Officer for this license is Mitchell Chernin.

12. The licensee shall not use licensed material in or on human beings.

13. The licensee shall not use licensed material in field applications where it is released except as provided otherwise by specific condition of this license.

14. 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.

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.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
37-01526-06Docket or Reference Number
030-00958/SNM-1975

Amendment No. 23

- 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.
- G. Records of leak test results shall be kept in units of microcuries and shall be maintained for 5 years.
15. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
16. The licensee shall conduct a physical inventory every six months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.
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 U.S. Nuclear Regulatory 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,

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number

37-01526-06

Docket or Reference Number

030-00958/SNM-1975

Amendment No. 23

including any enclosures, listed below. The U.S. 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 January 25, 2005(ML050330374)
- B. Letter received March 29, 2005 (ML050930010)



For the U.S. Nuclear Regulatory Commission

Date April 5, 2005
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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