

MATERIALS LICENSE

Amendment No. 20

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.

03620

315858

Licensee

In accordance with letter dated

November 20, 2006,

3. License number 13-18384-01 is amended in its entirety to read as follows:

4. Expiration date March 31, 2011

5. Docket No. 030-14970 Reference No.

- 1. Indiana University School of Medicine
Northwest Center for Medical Education
- 2. 3400 Broadway
Gary, IN 46408

6. Byproduct, source, and/or special nuclear material

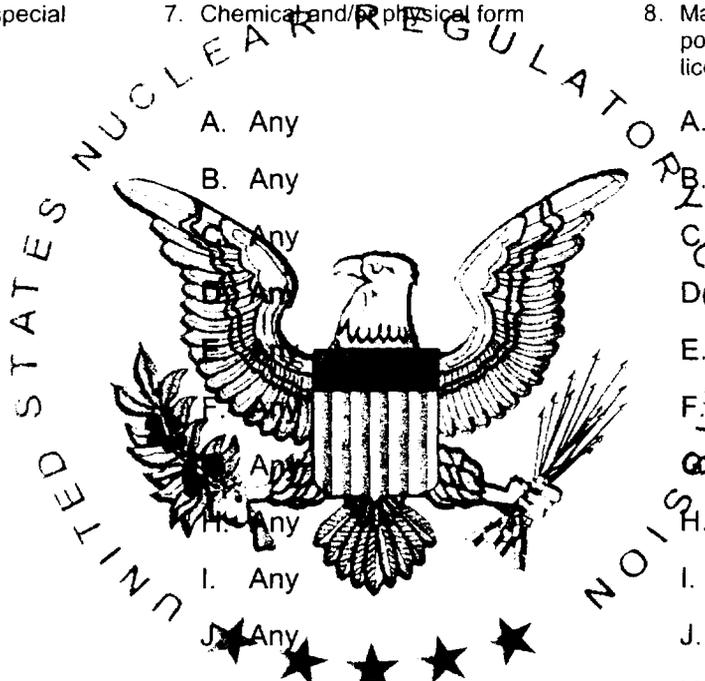
7. Chemical and/or physical form

8. Maximum amount that licensee may possess at any one time under this license

- A. Carbon-14
- B. Hydrogen-3
- C. Phosphorus-32
- D. Phosphorus-33
- E. Sulfur-35
- F. Iodine-125
- G. Iodine-131
- H. Chlorine-36
- I. Sodium-24
- J. Potassium-42
- K. Calcium-45
- L. Chromium-51
- M. Technetium-99m
- N. Rubidium-86

- A. Any
- B. Any
- C. Any
- D. Any
- E. Any
- F. Any
- G. Any
- H. Any
- I. Any
- J. Any
- K. Any
- L. Any
- M. Any
- N. Any

- A. 40 millicuries
- B. 120 millicuries
- C. 80 millicuries
- D. 20 millicuries
- E. 50 millicuries
- F. 100 millicuries
- G. 20 millicuries
- H. 2 millicuries
- I. 15 millicuries
- J. 50 millicuries
- K. 2 millicuries
- L. 50 millicuries
- M. 10 millicuries
- N. 30 millicuries



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9. Authorized Use:

A. through P. For research and development as define in 10 CFR 30.4 including animal studies. and student instruction.

CONDITIONS

- 10. Licensed material shall be used only at the licensee's facilities located at the Northwest Center for Medical Education, 3400 Broadway, Gary, Indiana.
- 11. The Radiation Safety Officer for this licensee is Brian Kennedy, Ph.D.
- 12. Licensed material listed in Item 6 above is only authorized for use by, or under the supervision of, the following individuals for the materials and uses indicated:

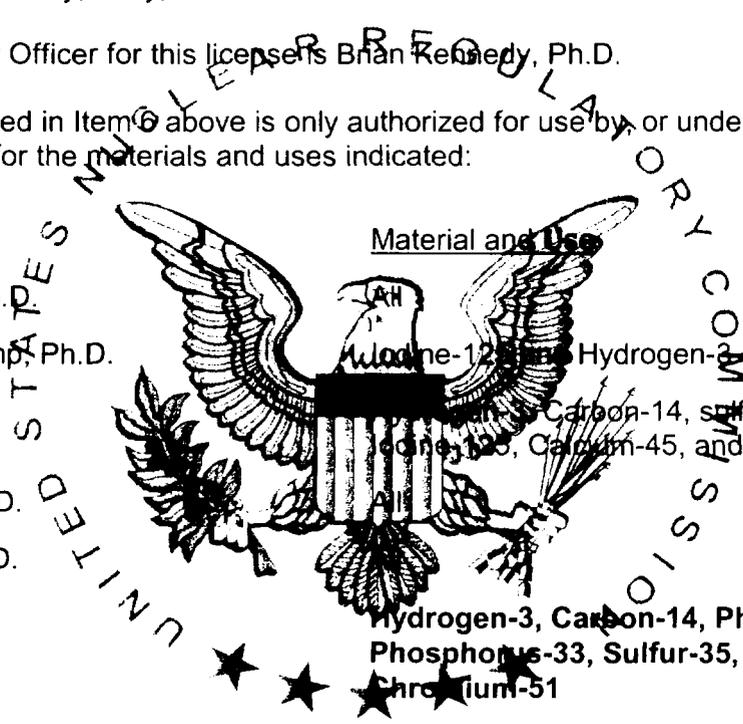
Authorized Users

Roman Dziarski, Ph.D.
 Stephen Echtenkamp, Ph.D.
 Dipika Gupta, Ph.D.
 Brian Kennedy, Ph.D.
 Subbiah Sivan, Ph.D.
 Taeok Bae, Ph.D.

Material and Use

Hydrogen-3, Carbon-14, Phosphorus-32, Sulfur-35, Iodine-125, and Chromium-51
 Hydrogen-3, Carbon-14, Phosphorus-32, Phosphorus-33, Sulfur-35, Iodine-125, and Chromium-51
 Carbon-14, Hydrogen-3, Phosphorus-32, and Sulfur-35

- 13. The licensee shall not use licensed material in or on human beings or in field applications where activity is released.
- 14. The licensee is authorized to hold radioactive material with a physical half-life of 120 days or less for decay-in-storage before disposal in ordinary trash provided:



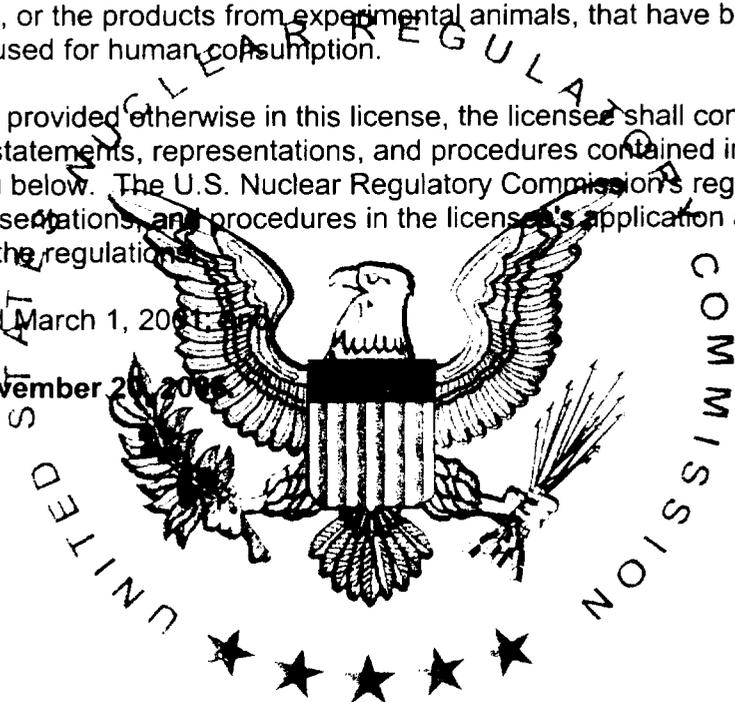
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- A. Before disposal as ordinary trash, byproduct material shall be surveyed at the container surface with the appropriate survey meter set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
 - B. 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.
15. Experimental animals, or the products from experimental animals, that have been administered licensed material shall not be used for human consumption.
16. 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 the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulation.
- A. Application dated March 1, 2001
 - B. Letter dated November 28, 2001



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date JAN 09 2007

By James R. Mullauer
James R. Mullauer, M.H.S.
Materials Licensing Branch
Region III