U.S. NUCLEAR REGULATORY COMMISSION

Amendment No. 11

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.

FCO 31620 575533

Licensee	
1. Donald Danforth Plant Science Center	In accordance with application dated **July 1, 2011,** 3. License number 24-32339-01 is amended in its entirety to read as follows:
2. 975 North Warson Road St. Louis, MO 63132	4. Expiration date October 31, 2011
	5. Docket No. 030-35805 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 Bound (non-volatile)	A. 1500 millicuries
B. Carbon-14	B. Any	B. 500 millicuries
C. Iodine-125	C. Any Bound (non-volatile)	C. 5 millicuries
D. Phosphorus-32	D. Any	D. 250 millicuries
E. Phosphorus-33	E. Any	E. 50 millicuries
F. Sulfur-35	F. Any	F. 60 millicuries

9. Authorized Use:

A. through F. Research and development, as defined in Section 30.4 of 10 CFR Part 30, (excluding animal studies).

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at 975 North Warson Road, St. Louis, Missouri, 63132.

11. The Radiation Safety Officer for this license is Howard F. Beittenmiller, B.S.

12. Licensed material listed above is only authorized for use by, or under the supervision of, the following individuals for the materials and uses indicated:

Authorized User	Materials and Use
Roger N. Beachy, Ph.D.	All
Claude Fauquet, Ph.D.	All

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Thomas J. Smith, Ph.D.	All
Meinhart H. Zenk, Ph.D.	All
Dilip M. Shah, Ph.D.	All
Jan G. Jaworski, Ph.D.	All
Yong-qiang An, Ph.D.	Phosphorus-32 and Sulfur-35
Ivan Baxter, Ph.D.	Phosphorus-32
Eliot Herman, Ph.D.	All
Xuemin Wang, Ph.D.	All
Toni M. Kutchan, Ph.D.	All
Sona Pandey, Ph.D.	All
Richard T. Sayre, Ph.D.	All
James C. Carrington, Ph.D.	**All**
Douglas K. Allen, Ph.D.	**All**
James G. Umen, Ph.D.	**All**

13. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the limits specified in 10 CFR 30.72 which require consideration of the need for an emergency plan for responding to a release of licensed material.

14. The licensee is authorized to hold radioactive material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal in ordinary trash provided:

    A. Before disposal as ordinary trash, byproduct material shall be surveyed at the container surface with the appropriate 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 3 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. This license does not authorize commercial distribution of licensed material.

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16. The licensee shall not use licensed material in or on human beings except as provided otherwise by specific condition of this license.

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

18. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

19. In addition to the possession limits in Condition 8, the licensee shall further restrict the possession of unsealed licensed material or readily dispersible source material to quantities less than 10^4 times the applicable limits in Appendix B of 10 CFR Part 30, as specified in 10 CFR 30.35.

20. 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 NRC under 10 CFR 32.210 or by 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 NRC under 10 CFR 32.210 or by an Agreement State prior to the transfer, a sealed source received from another person shall not be put into use until tested.

    C. Sealed sources need not be leak 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.

    D. 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.

    E. Tests for leakage and/or contamination shall be performed by the licensee or other persons specifically licensed by the Commission or an Agreement State to perform such services. In addition, the licensee is authorized to collect leak test samples for analysis by persons specifically licensed by the Commission or an Agreement State to perform such services.

    F. Records of leak test results shall be kept in units of microcuries and shall be maintained for 3 years.

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21. 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 regulations.

    A. Application dated July 30, 2001 and **July 1, 2011 excluding item 3**;

    B. Facsimile dated October 19, 2001; and,

    C. Letters dated May 7, 2002, June 3, 2005, December 13, 2005, March 28, 2007, August 10, 2009, March 23, 2010, received March 25, 2011, (with attachments), and April 1, 2010.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date SEP 26 2011

By Toye L. Simmons

Toye L. Simmons
Materials Licensing Branch
Region III