

## U.S. NUCLEAR REGULATORY COMMISSION

**MATERIAL 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		
1. Purdue University		3. License Number: SNM-142, Amendment 1
2. West Lafayette, Indiana 47907		4. Expiration Date: September 25, 2023
		5. Docket No. 70-152 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. Uranium enriched in the U-235 isotope	A. SPERT fuel rods, enriched $\leq 4.8$ w/o	A.*
B. Uranium enriched in the U-235 isotope	B. Fuel rods, enriched $\leq 1.3$ w/o	B.*
C. Uranium enriched in the U-235 isotope	C. Solid helices, enriched $\leq 20$ w/o	C.
D. Uranium enriched in the U-235 isotope	D. Solid discs, enriched $\leq 3$ w/o	D.
E. Uranium enriched in the U-235 isotope	E. Samples, enriched $\leq 20$ w/o	E.
F. Plutonium	F. Encapsulated PuBe neutron sources	F.
G. Natural Uranium	G. UO <sub>2</sub> pellets clad in aluminum	G.*
H. Natural Uranium	H. Samples, any form	H.
I. Californium	I. 10 doubly encapsulated sources	I.*

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number  
SNM-142, Amendment 1

Docket or Reference Number  
70-152

J. Uranium 233

J. Calibration sources

J.

\*For storage only

K. Neptunium 237

K. Calibration sources

K.

L. Plutonium 239

L. Calibration sources

L.

M. Curium 244

M. Calibration sources

M.

N. Uranium enriched in the  
isotope U-235

N. Solid, oxide or nitrate  
enriched  $\leq 5$  w/o in  
contaminated equipment

N.

9. Authorized use: For use in accordance with statements, representations, and conditions specified in the license application dated May 4, 1999, and applications dated August 28, 2000, August 6, 2012, June 6, 2016, and September 1, 2016.

10. Authorized place of use: The licensee's existing Purdue University Campus at West LaFayette, Indiana.

11. Notwithstanding Sections 6.0(c) and 9.1(b) of the application dated May 4, 1999, the licensee is required to have NRC approval by license amendment before using (e.g., moving) the SPERT fuel rods, fuel rods, californium sources, or natural uranium pellets.

11.1 The licensee is authorized to use the enriched helices up to 20 percent enrichment at an off campus broad scope license location for testing of novel radiation detectors.

12. Notwithstanding Section 8.5 of the application dated May 4, 1999, refresher training that covers radiation safety procedures shall be conducted on an annual basis (maximum interval 15 months) for all employees and students who use licensed material.

13. Release of equipment, facilities, or packages to the unrestricted area or to uncontrolled areas onsite shall be in accordance with the attached "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, Or Special Nuclear Material" dated April 1993.

14. The licensee is hereby exempted from the requirements of 10 CFR 70.24 insofar as the Section applies to the stored material in the Duncan Annex.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**License Number  
SNM-142, Amendment 1Docket or Reference Number  
70-152

15. As it pertains to License SNM-142, the licensee shall fully implement and maintain in effect all provisions of the approved 10 CFR 73.67 physical security plan, including changes and amendments made pursuant to 10 CFR 70.32(e) and 10 CFR 70.34. The approved physical security plan, which was submitted by letter dated May 15, 1987, consists of a document containing Safeguards Information entitled, "Security Plan for the Purdue University Reactor, the Fast Breeder Blanket Facility and the Nuclear Fuel Storage Areas," Revision 3, dated May 15, 1987."

FOR THE NUCLEAR REGULATORY COMMISSION

Date: October 19, 2016By: /RA/

Robert K. Johnson, Chief  
Fuel Manufacturing Branch  
Division of Fuel Cycle Safety, Safeguards,  
and Environmental Review  
Office of Nuclear Material Safety  
and Safeguards  
Washington, DC 20555

