U.S. NUCLEAR REGULATORY COMMISSION

Amendment No. 03

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, 37, 39, 40, 70 and 71, 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 letter dated March 31, 2016
1. South Dakota Science & Technology Authority	3. License number 40-35101-01 is amended in its entirety to read as follows:
2. 630 E. Summit Street Lead, South Dakota 57754	4. Expiration date November 30, 2023
	5. Docket No. 030-38681 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. Thorium-228	A. Sealed source (Eckert & Ziegler Model GF-228D)	A. 1 microcurie per source and 7 microcuries total
B. Americium-241:Be	B. Sealed neutron source (Eckert & Ziegler Model GF-241D)	B. 25 microcuries per source and 100 microcuries total
C. Cobalt-60	C. Sealed source (Eckert & Ziegler Model GF-060D)	C. 2 microcuries per source and 10 microcuries total
D. Californium-252	D. Sealed source (Isotope Product Laboratories Model AF Series)	D. 0.1 microcuries per source and 1 microcurie total
E. Thorium-228	E. Custom line sealed source (Eckert & Ziegler, Source No. AC Series, product code RLRB17538)	E. 0.14 microcuries per source and 1.68 microcuries total
F. Americium-241:Be	F. Sealed neutron source (Eckert & Ziegler, Source No. UL 849, product code AMNB3423)	F. 100 microcuries total
G. Rubidium-83	G. Custom source (Activated charcoal inside a ¼" stainless steel tubing)	G. 10 microcuries total
H. Iodine-131	H. Custom source (capsule inside a ¼" stainless steel tubing)	H. 100 microcuries per source and 100 microcuries total
I. Lead-210	I. Sealed source (Eckert & Ziegler product code VZ-478-001)	I. 10 microcuries per source and 50 microcuries total

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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
J. Americium-241:Be	J. Sealed neutron source (Eckert & Ziegler product code VZ-478-001)	J. 10 microcuries per source and 50 microcuries total
K. Radium-226	K. Sealed source (Eckert & Ziegler product code VZ-3293-001)	K. 10 microcuries per source and 50 microcuries total
L. Americium-241:Be	L. Sealed neutron source (Eckert & Ziegler Model GF-241-M)	L. 2 microcuries per source and 10 microcuries total
M. Bismuth-207	M. Sealed source (Eckert & Ziegler Model GF-207-M)	M. 2 microcuries per source and 10 microcuries total
N. Thorium-228	N. Sealed source (Isotope Product Laboratories Model AF Series)	N. 1 microcuries per source and 5 microcuries total

9. Authorized Use:

A. through N. For calibration of licensee's instruments and/or for use as reference sources during research and development as defined in 10 CFR 30.4.

CONDITIONS

10. Licensed material shall be stored and/or used only at the licensee's facilities located at 630 E. Summit Street, Lead, South Dakota.

11. A. Licensed material shall be used by or under the supervision of Jaret Heise, Ph.D., Peggy Norris, Ph.D., Noel Schroeder, Markus Horn, Ph.D., Dana Byram Ph.D., and Mark Hanhardt.

B. The Radiation Safety Officer for this license is Jaret Heise, Ph.D.

12. 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.

13. In addition to the possession limits in Condition 8, the licensee shall further restrict the possession of to quantities below the minimum limit specified in 10 CFR 30.35(d), 40.36(b), and 70.25(d) for establishing financial assurance.

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14. The licensee shall conduct a physical inventory every 6 months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all source s 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.

15. A. Sealed sources and detector cells 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 by an Agreement State.

B. Notwithstanding Paragraph A of this Condition, sealed sources and detector cells designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.

C. 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 by an Agreement State, prior to the transfer, a sealed source and/or detector cell received from another person shall not be put into use until tested and the test results received.

D. Sealed sources and detector cells 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.

E. Sealed sources and detector cells 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 and/or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

F. 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. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region IV, 1600 East Lamar Boulevard, Arlington, Texas 76011-4511, ATTN: Director, Division of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. Records may be disposed of following Commission inspection.

G. Tests for leakage and/or contamination shall be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.

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

16. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.

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17. This license does not authorize commercial distribution of licensed material.

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. The licensee shall maintain records of information related to decommissioning as specified in 10 CFR 30.35(g) until this license is terminated by the Commission.

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

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 August 2, 2013 (ML13247A785)
    B. Letter dated March 28, 2014 (ML14090A103)
    C. Letter dated March 31, 2016 (ML16110A072)

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: June 30, 2016

By: /RA/

Michelle M. Hammond, M.Sc., Health Physicist
Nuclear Materials Safety Branch B
Region IV
Arlington, Texas 76011-4511