NRC FORM 374

U.S. NUCLEAR REGULATORY COMMISSION

Amendment No. 46
Corrected 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, 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

1. Department of the Army
   U. S. Army Aberdeen Test Center

2. TEDT-AT-COS
   400 Colleran Road
   Aberdeen Proving Ground, MD 21005-5059

In accordance with letter dated December 07, 2017,

3. License number: 19-00294-19 is amended in its entirety to read as follows:

4. Expiration Date: February 28, 2022

5. Docket No.: 030-04523
   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	9. Authorized use
A. Any byproduct material with Atomic Numbers 1 through 52, 54 through 81, 88, and 95	A. Any	A. 350 millicuries per radionuclide and 2 curies total	A. For research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.
B. Hydrogen-3	B. Foils (distributed by U. S. Army TACOM Life Cycle Command,)	B. 50 curies per source and 5000 curies total	B. For research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.

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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	9. Authorized use
C. Hydrogen-3	C. Sealed Sources (distributed by U. S. Army TACOM Life Cycle Command,)	C. 500 millicuries per source and 20 curies total	C. For research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.
D. Hydrogen-3	D. Foils (USRC, Model Lab 508-3, LAB 508-2 or equivalent)	D. 3 curies per source and 50 curies total	D. For research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.
E. Cobalt-60	E. Sealed Sources (Ohmart, Model A-2100, A-2102, A-2104, or A-60324)	E. 2 curies total and 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	E. For use in SAIC Mobile Vehicle and Cargo Inspection System [VACIS] fixed or fixed-mobile scanning device to detect materials; and for research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.

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F. Nickel-63	F. Foils or plated sources (AEA, Model NBCQ8681; IPL, Model NER-004 or NER-004R; NRD, Inc., Model N-1001)	F. 15 millicuries per source and 1050 millicuries total	F. For research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.
G. Cesium-137	G. Sealed Sources (Troxler, Model Dwg. 102112)	G. 9 millicuries per source and 90 millicuries total	G. For use in Troxler Model 3400 Series portable gauging devices for measuring physical properties of materials; and for research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.
H. Cesium-137	H. Sealed Sources (New England Nuclear Corporation, Model NER-570)	H. 100 millicuries per source and 100 millicuries total	H. For research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.

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I. Cesium-137	I. Sealed Sources (Amersham, Model CDC.700 or CDC.711m; Monsanto, Model 24148; Ohmart, Model A-2100, A-2102, A-2104, A-57878, or A-60324)	I. 4 curies total and 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	I. For use in SAIC Mobile Vehicle and Cargo Inspection System [VACIS] fixed or fixed-mobile scanning device to detect materials; and for research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.
J. Radium-226	J. Sealed Sources (Amersham, Model ran.c1)	J. 4.5 millicuries per source and 45 millicuries total	J. For use in Seaman Nuclear Model Nos. C-200 or C-300 portable gauging devices for measuring physical properties of materials; and for research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.
K. Americium-241	K. Foils or plated sources (Amersham, Model AMM.1001 or AMM.1001H; NRD, Inc., Model A-001)	K. 250 microcuries per source and 20 millicuries total	K. For research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.

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L. Americium-241	L. Sealed Sources (Troxler, Model Dwg. 102451)	L. 44 millicuries per source and 440 millicuries total	L. For use in Troxler Model 3400 Series portable gauging devices for measuring physical properties of materials; and for research and development as defined in 10 CFR 30.4 and 70.4; calibration and checking of the licensee's instruments; components in equipment and instrumentation; as waste from U. S. Army tenants located at Aberdeen Proving Ground.
M. Uranium-235	M. Any	M. 3 grams total	M. Possession and storage only.
N. Plutonium-239	N. Metal (encapsulated fission foils and plated track etch detectors,)	N. 2 grams per source and 6 grams total	N. Possession and storage only in a condensing coil and gas cylinder.

CONDITIONS

10. Licensed material may be used or stored at the licensee's facilities located at the U. S. Army Aberdeen Test Center (ATC), Aberdeen Proving Ground, Maryland 21005-5059. Licensed material may be used at temporary job sites anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material, including areas of exclusive Federal jurisdiction within Agreement States. If the jurisdiction status of a Federal facility within an Agreement State is unknown, the licensee should contact the Federal agency controlling the job site in question to determine whether the proposed job site is an area of exclusive Federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States not under exclusive Federal jurisdiction shall be obtained from the appropriate state regulatory agency.

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11. Licensed material shall only be used by, or under the supervision of, individuals designated, in writing, by the ATC Radiation Protection Committee. The licensee shall maintain records of individuals designated as users for 3 years after the individual's last use of licensed material.

12. The Radiation Safety Officer (RSO) for this license is Stephen Acker.

13. The licensee shall not use the licensed material in or on humans.

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

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. In the absence of a registration certificate, sealed sources shall be tested for leakage and/or contamination at intervals not to exceed 6 months, or at such other intervals as specified.

    B. Notwithstanding Paragraph A of this Condition, sealed sources designed to primarily 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 received from another person shall not be put into use until tested and the test results received.

    D. 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.

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E. 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.

F. The leak test shall be capable of detecting the presence of 185 becquerels (0.005 microcuries) of radioactive material on the test sample. If the test reveals the presence of 185 becquerels (0.005 microcuries) 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.

G. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall be performed by the licensee or other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.

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

16. Sealed sources, source rods, foil sources, or detector cells containing licensed material shall not be opened or sources removed from source holders or detached from source rods, or foil sources removed from detector cells by the licensee, except as specifically authorized.

17. 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 sealed sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 3 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.

18. 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.

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19. A. Detector cells containing a titanium tritide foil or scandium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents the foil temperature from exceeding that specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or equivalent regulations from an Agreement State.

    B. When in use, detector cells containing a titanium tritide foil or scandium tritide foil shall be vented to the outside.

20. Each portable nuclear gauge shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport or storage, or when not under the direct surveillance of an authorized user.

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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. This license condition applies only to those procedures that are required to be submitted in accordance with the regulations. 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 September 8, 2011 (ML112620509)
B. Letter dated October 20, 2011 (ML112940387)
C. Letter dated January 12, 2012 (ML120240180)
D. Facsimile received January 25, 2012 (ML12025A289)
E. Letter dated February 20, 2014 (ML14076A140)

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: March 26, 2018

By: _____
Dennis Lawyer
Region 1