CORRECTED COPY

U.S. NUCLEAR REGULATORY COMMISSION

Amendment No. 36

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.

Licensee	In accordance with the letter dated September 3, 2009,
1. University of Delaware Department of Occupational Health and Safety	3. License number 07-01579-19 is amended in its entirety to read as follows:
2. General Services Building, Room 132 222 South Chapel Street Newark, Delaware 19716	4. Expiration date November 30, 2015
	5. Docket No. 030-10925 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. Any byproduct material with atomic numbers 1 through 83 and half life less than or equal to 120 days	A. Any	A. 250 millicuries per radionuclide and 20 curies total (and see Condition 10.C.)
B. Any byproduct material with atomic numbers 1 through 98 and half-life greater than 120 days	B. Any	B. See Conditions 10.C. and 13.
C. Any byproduct material with atomic numbers 1 through 83	C. Sealed and Plated Sources	C. 50 millicuries per source and 1 curie total
D. Cesium 137	D. Sealed Sources (Amersham Type X.8)	D. 120 millicuries
E. Polonium 210	E. Sealed or Plated Sources	E. 100 microcuries
F. Americium 241	F. Sealed Sources (Troxler Drawing A-102700)	F. 10 millicuries

9. Authorized use:

A. and B. Research and development as defined in 10 CFR 30.4; animal studies; teaching and training of students.

C., and E. Research and development as defined in 10 CFR 30.4; teaching and training of students.

MATERIALS LICENSE SUPPLEMENTARY SHEET

CORRECTED COPY

License Number
07-01579-19

Docket or Reference Number
030-10925

Amendment No. 36

C. Calibration of the licensee's instruments.

D. In J. L. Shepherd and Associates Model 28-5 calibrator for calibrations and checking of licensee's survey instruments.

F. In Troxler Model No. 3321 portable gauging devices for measuring physical properties of materials.

CONDITIONS

10. A. Licensed material may be used or stored only at the licensee's facilities located in Newark, Lewes, Georgetown, and Wilmington, Delaware.

B. Licensed material listed in Items 6.A., 6.B., 6.C. and 6.E. may be used or stored on-board ships at temporary sited in U. S. coastal waters, at sea, and inland waters in the State of Delaware.

C. Hydrogen 3, carbon 14, and licensed material listed in Items 6.A., 6.C., 6.E. and 6.F. may be used or stored at temporary job sites of the licensee 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. (NOTE: Hydrogen 3, carbon 14, and licensed material listed in Item 6.A. may not exceed 20 millicuries per radionuclide at any temporary job site.)

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.

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

12. The Radiation Safety Officer for this license is William Fendt.

13. A. If only one radionuclide is possessed, the possession limit is the quantity specified for that radionuclide in 10 CFR 33.100, Schedule A, Column I. If two or more radionuclides are possessed, the possession limit is determined as follows: For each radionuclide, determine the ratio of the quantity possessed to the applicable quantity specified in 10 CFR 33.100, Schedule A, Column I, for that radionuclide. The sum of the ratios for all radionuclides possessed under the license shall not exceed unity.

B. Notwithstanding Paragraph A of this Condition and 10 CFR 33.100, Schedule A, Column I, the applicable quantities for the following radionuclides are reduced to:

MATERIALS LICENSE SUPPLEMENTARY SHEET

CORRECTED COPY

License Number
07-01579-19

Docket or Reference Number
030-10925

Amendment No. 36

(i)

Carbon 14	10 curies
Krypton 85	10 curies
Iodine 129	10 millicuries
Any byproduct material other than alpha emitting byproduct material not listed in 10 CFR 33.100, Schedule A	10 millicuries

(ii)

Any byproduct material with atomic numbers 84 through 98	1 millicurie

14. The licensee shall not use licensed material in or on human beings.

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

16. Experimental animals, or the products from experimental animals, that have been administered licensed materials shall not be used for human consumption.

17. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed six months or at the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State.

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. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.

D. 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 under equivalent regulations of 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.

E. 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.

MATERIALS LICENSE SUPPLEMENTARY SHEET

CORRECTED COPY

License Number
07-01579-19

Docket or Reference Number
030-10925

Amendment No. 36

F. 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.

G. 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.

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

I. Records of leak test results shall be kept in units of microcuries and shall be maintained for 5 years.

18. The licensee shall conduct a physical inventory every six months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sources 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.

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

20. 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.

21. A. Detector cells containing a titanium tritide foil or a scandium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents the foil temperatures from exceeding that specified in the certificate of registration referred to in 10 CFR 32.210.

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

22. 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.

MATERIALS LICENSE SUPPLEMENTARY SHEET

CORRECTED COPY

License Number
07-01579-19

Docket or Reference Number
030-10925

Amendment No. 36

23. Any cleaning, maintenance, or repair of the gauges that requires detaching the source or source rod from the gauge shall be performed only by the manufacturer or by other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.

24. Sealed sources or source rods containing licensed material shall not be opened or sources removed or detached from source rods or gauges by the licensee, except as specifically authorized.

25. The licensee is authorized to hold byproduct material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal without regard to its radioactivity if the licensee:

    A. Monitors byproduct material at the surface before disposal and determines that its radioactivity cannot be distinguished from the background radiation level with an appropriate radiation detection survey meter set on its most sensitive scale and with no interposed shielding; and

    B. Removes or obliterates all radiation labels, except for radiation labels on materials that are within containers and that will be managed as biomedical waste after they have been released from the licensee; and

    C. Maintains records of the disposal of licensed materials for 3 years. The record must include the date of disposal, the survey instrument used, the background radiation level, the radiation level measured at the surface of each waste container, and the name of the individual who performed the disposal.

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

MATERIALS LICENSE
SUPPLEMENTARY SHEET
CORRECTED COPY

License Number
07-01579-19

Docket or Reference Number
030-10925

Amendment No. 36

27. 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 May 19, 2005 [ML051590464]
B. Letter dated July 25, 2005 [ML052140529]
C. Letter dated May 10, 2007 [ML071380142]
D. Facsimile dated June 7, 2007 [ML071650106]

For the U.S. Nuclear Regulatory Commission

Date October 13, 2009

By ***Original signed by Steve Courtemanche***

Steve Courtemanche
Commercial and R&D Branch
Division of Nuclear Materials Safety
Region I
King of Prussia, Pennsylvania 19406