



Department of State Health Services

RADIOACTIVE MATERIAL LICENSE

Pursuant to the Texas Radiation Control Act and Texas Department of State Health Services (Agency) regulations on radiation, 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 radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the Agency now or hereafter in effect and to any conditions specified below.

LICENSEE

1. Name **THE UNIVERSITY OF TEXAS AT AUSTIN
ENVIRONMENTAL HEALTH AND SAFETY
ATTN W SCOTT PENNINGTON CHP**

2. Address **PO BOX 7729
AUSTIN TX 78713-7729**

This license is issued in response to a letter

Dated: **April 29, 2016**

Signed by: **W. Scott Pennington**

3. License Number L00485	Amendment Number 90
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PREVIOUS AMENDMENTS ARE VOID

4. Expiration Date

June 30, 2020

RADIOACTIVE MATERIAL AUTHORIZED

5. Radioisotope	6. Form of Material	7. Maximum Activity	8. Authorized Use
A. Any radioactive material with an Atomic Number less than 84	A. Any, except sealed source	A. 300 millicuries of any single radionuclide Total: 3 curies	A. Research and education.
B. Any radioactive material with an Atomic Number less than 84	B. Sealed source	B. Any single source not to exceed 15 millicuries Total not to exceed 1 curie	B. Research and education.
C. Cs-137	C. Sealed source (3M Models 4F6H)	C. 606 millicuries	C. Research and education (J. L. Shepherd and Associates 28 Series instrument calibrator).
D. Any radioactive material with an Atomic Number 84 or greater, except special nuclear material	D. Any, except sealed source	D. 25 millicuries of any single radionuclide Total: 250 millicuries	D. Research and education.
E. Any radioactive material with an Atomic Number 84 or greater, except special nuclear material	E. Sealed source	E. Any single source not to exceed 50 millicuries Total: 1 curie	E. Research and education.
F. H-3	F. Any	F. 1000 curies	F. Research and education.



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LICENSE NUMBER	AMENDMENT NUMBER
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5. Radioisotope (Continued)	6. Form of Material (Continued)	7. Maximum Activity (Continued)	8. Authorized Use (Continued)
G. U-235	G. Any solid or liquid	G. 4.322 microcuries (2 grams)	G. Research and education.
H. Pu-238	H. Sealed source	H. 0.005 grams (85 millicuries)	H. Research and education.
I. PuBe-239	I. Sealed source	I. 176 grams (11 curies)	I. Research and education
J. [REDACTED]	J. [REDACTED]	J. [REDACTED]	J. [REDACTED]
K. Cs-137	K. Sealed source (TN Model 570-57157C)	K. 110 millicuries	K. Research and education.
L. Cs-137	L. Sealed source (AEA Technology Model 77302)	L. 90 millicuries	L. Research and education (AEA Technology-QSA Inc., Model 773 calibrator)
M. H-3	M. Sealed source (Metal tritide)	M. No single source to exceed 3.5 curies Total: 10 curies	M. Research and education (Thermo Scientific Model MP 320 neutron generator).
N. Am-241	N. Sealed source	N. 2 curies	N. Research and education.
O. AmBe-241	O. Sealed source	O. 1 curie	O. Research and education
P. U-233	P. Any solid or liquid	P. 0.1 millicuries (10.2 milligrams)	P. Research and education
Q. Pu-238	Q. Any solid or liquid	Q. 0.01 millicuries (0.58 micrograms)	Q. Research and education
R. Pu-239	R. Any solid or liquid	R. 0.1 millicuries (1.61 milligrams)	R. Research and education
S. Pu-240	S. Any solid or liquid	S. 0.01 millicuries (44.0 micrograms)	S. Research and education



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5. Radioisotope (Continued)	6. Form of Material (Continued)	7. Maximum Activity (Continued)	8. Authorized Use (Continued)
T. Pu-241	T. Any solid or liquid	T. 0.01 millicuries (0.1 micrograms)	T. Research and education
U. Pu-242	U. Any solid or liquid	U. 0.01 millicuries (2.54 milligrams)	U. Research and education
V. Cs-137	V. Sealed source (JLS 6810)	V. 3.5 curies	V. Research and education (J. L. Shepherd and Associates 28 Series Instrument Calibrator and Gamma Irradiator, Sub-Model 28-6).

9. A. Radioactive material shall only be stored and used at:

<u>Site Number</u>	<u>Location</u>
000	Austin - 304 East 24th Street, Austin Campus of the University of Texas
002	Port Aransas - 750 Channel View Drive, Marine Science Institute.
003	Austin - 10100 Burnet Road, J.J. Pickle Research Campus, except reactor operations that are authorized by the U.S. Nuclear Regulatory Commission (NRC).
004	Austin - 1400 Barbara Jordan Boulevard, Dell Pediatric Research Institute (DPRI).
005	Port Aransas - 1300 Port Street, Fisheries and Mariculture Laboratory (FAML), Marine Science Institute.

B. Radioactive material in the form of carbon-14 or tritium labeled reagents, with activities of no more than 6 millicuries may be used on board the Research Vessel (R/V) Katy while either in port or sailing in waters where the Radiation Safety Licensing Branch, Texas Department of State Health Services maintains jurisdiction.

10. Each site shall maintain documents and records pertinent to the operations at that site. Copies of all documents and records required by this license shall be maintained for Agency review at Site 000, 304 East 24th Street, SER 221, Austin, except those required by 25 TAC §289.201(d) that are directly related to radioactive materials for human-use and unsealed reference sources for instrument calibration, 25 TAC §289.202(nn), and 25 TAC §289.202(tt).

11. The licensee shall comply with the provisions (as amended) of Title 25, Texas Administrative Code (TAC) §289.201, §289.202, §289.203, §289.204, §289.205, §289.251, §289.252, §289.257.



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12. A. Radioactive material shall be used by, or under the supervision of, those individuals designated by The University of Texas (UT) at Austin Radiation Safety Committee (RSC) Membership, **Kevin N. Dalby, Ph.D.**, Chair. Individuals authorized to serve on the RSC are:
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|---------------------------------------|--|
| Kevin N. Dalby, Ph.D. | Division of Medicinal Chemistry |
| Daniel T. Jaffe, Ph.D. | Vice President for Research |
| W. Scott Pennington, M.S, CHP | Radiation Safety Officer |
| Jack L. Ritchie, Ph.D. | Department of Physics |
| Rick Russell, Ph.D. | Department of Molecular Biosciences |
| John M. Salsman, M.S., CHP | Director, Environmental Health and Safety |
| J. Steven Swinnea, Ph.D. | Texas Materials Institute |
| Christopher S. Sullivan, Ph.D. | Department of Molecular Biosciences |
| Tracy N. Tipping, MS, CHP | Health Physicist and Laboratory Manager, Nuclear Engineering Teaching Laboratory |
| Karen M. Vasquez, Ph.D. | Division of Pharmacology and Toxicology |
- B. Qualifications of new RSC members shall be submitted to the Agency for review and approval prior their participation as a full-voting member in RSC deliberations. Executive management may make interim appointments for replacement of departing members, pending Agency approval, when the interim appointee has equivalent credentials as did the departing member and represents the same department as did the departing member.
13. The individual designated to perform the functions of Radiation Safety Officer (RSO) for activities covered by this license is W. Scott Pennington, CHP.
14. A current copy of the licensee's radiation safety manual shall be readily available to each person who uses radioactive material authorized by this license.
15. Proposed substantive changes in or additions to the licensee's radiation safety manual shall be submitted to the Agency for approval before being incorporated into that document.
16. The licensee shall maintain a current copy of the safety evaluation, from "The Registry of Radioactive Sealed Sources and Devices" for each sealed source received under authority of this license, in excess of 1 millicurie of beta/gamma-emitting material or 10 microcuries of alpha-emitting material.
17. Animals administered radioactive materials or products from such animals shall not be used for human consumption.
18. The licensee shall not open sealed sources containing radioactive material.
19. Sealed sources of radioactive material, Ni-63 foil, and/or plated alpha-emitting sources shall be tested for leakage and/or contamination in accordance with the provisions of 25 TAC §289.201(g). Leak tests may also be performed by Ryan D. Green, R. DeWayne Holcomb, **Greg Kline**, Michael G. Krause, W. Scott Pennington, Tracy N. Tipping or Chris Walters.



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20. Radiation survey instruments shall be calibrated at intervals not to exceed 12 months by persons licensed by the Agency, another Agreement State, or by the United States Nuclear Regulatory Commission (NRC). Survey instruments used under this license may also be calibrated by Ryan D. Green, R. DeWayne Holcomb, **Greg Kline**, Michael G. Krause, D, W. Scott Pennington, Tracy N. Tipping or Chris Walters.
21. The licensee shall conduct a physical inventory every six months to account for all sealed sources received and possessed under the license. The records of the inventories shall be maintained for inspection by the Agency for three years from the date of the inventory and shall include the quantities and the kinds of radioactive material, **unique identifying number or serial number**, location of sealed sources, the name of the individual taking the inventory, and the date of the inventory.
22. The licensee may dispose of certain radioactive materials whose half-lives do not exceed 300 days in accordance with the provisions of 25 TAC §289.202(fff)(4).
23. 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 and dispose of it as non-radioactive provided the licensee:
 - A. Monitors radioactive material at the surface before disposal and determines that the radiation level cannot be distinguished from the background radiation level. All radiation labels will be removed or obliterated.
 - B. Maintains a record of each disposal that includes the date of the disposal, unique identification of the survey instrument used, background radiation level, radiation level measured at the surface of each waste container, and name of the individual who performed the survey.
24. Except as specifically provided otherwise by this license, the licensee shall possess and use the radioactive material authorized by this license in accordance with statements, representations, and procedures contained in the following:

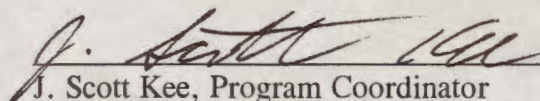
application dated May 29, 2009,
 letters dated July 10, 2009, August 28, 2009, February 15, 2010, May 14, 2010, June 15, 2010,
 July 31, 2013, December 19, 2013, **April 29, 2016** and
 Business Information Form dated May 29, 2009.

Title 25 TAC §289 shall prevail over statements contained in the above documents unless such statements are more restrictive than the regulations.

VJD:vjd

FOR THE DEPARTMENT OF STATE HEALTH SERVICES

Date June 9, 2016


 J. Scott Kee, Program Coordinator
 Medical and Academic Licensing Program