



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

April 17, 2007

Texas A&M University
Environmental Health & Safety Department
ATTN: Daniel I. Menchaca, CHP
Radiological Safety Officer
4472 TAMU
College Station, Texas 77843-4472

SUBJECT: LICENSE AMENDMENT

Please find enclosed Amendment No. 21 to License No. 42-09082-09, **acknowledging receipt of the updated financial assurance documentation**. An environmental assessment for this action is not required, since this action is categorically excluded under 10 CFR 51.22(c)(14)(v). You should review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or if you have any questions, contact me at 817-860-8189.

NRC expects licensees to conduct their programs with meticulous attention to detail and a high standard of compliance. Because of the serious consequences to employees and the public that can result from failure to comply with NRC requirements, you must conduct your radiation safety program according to the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate by NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Notify NRC in writing of any change in mailing address.
3. By 10 CFR 30.36(d) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:
 - a. When you decide to terminate all activities involving materials authorized under the license whether at the entire site or any separate building or outdoor area;
 - b. If you decide not to acquire or possess and use authorized material; or
 - c. When no principal activities under the license have been conducted for a period of 24 months.
4. Request and obtain a license amendment before you:
 - a. Change Radiation Safety Officers;

- b. Order byproduct material in excess of the amount, radionuclide or form authorized on the license;
 - c. Add or change the address(es) of use identified on the license; or
 - d. Change the name or ownership of your organization.
5. Submit a complete renewal application or termination request at least 30 days before the expiration date on your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of radioactive material after your license expires is a violation of NRC regulations.

NRC will periodically inspect your radiation safety program. Failure to conduct your program according to NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC may result in enforcement action against you. This could include issuance of a notice of violation; imposition of a civil penalty; or an order suspending, modifying, or revoking your license as specified in the Enforcement Policy. The NRC Enforcement Policy is available on the following internet address: <http://www.nrc.gov/what-we-do/regulatory/enforcement/enforc-pol.pdf>.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Thank you for your cooperation.

Sincerely,

/RA/

Roberto J. Torres, Senior Health Physicist
Nuclear Materials Licensing Branch

Docket: 030-01066
License: 42-09082-09
Control: 471319

Enclosure: As stated

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.

<p style="text-align: center;">Licensee</p> <p>1. Texas A&M University Environmental Health & Safety Department</p> <p>2. 4472 TAMU College Station, Texas 77843-4472</p>	<p>In accordance with letter dated March 29, 2007</p> <p>3. License number 42-09082-09 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date November 30, 2007</p> <hr/> <p>5. Docket No. 030-01066 Reference No.</p>
---	--

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. Carbon-14	A. Any	A. 50 millicuries
B. Sulfur-35	B. Any	B. 20 millicuries
C. Calcium-45	C. Any	C. 100 millicuries
D. Cesium-134	D. Any	D. 1 millicurie
E. Hydrogen-3	E. Any	E. 100 millicuries
F. Phosphorus-32	F. Any	F. 50 millicuries
G. Phosphorus-33	G. Any	G. 10 millicuries
H. Neptunium-237	H. Any	H. 1 microcurie
I. Thorium-228	I. Any	I. 1 microcurie
J. Thorium-232	J. Any	J. 1 microcurie
K. Thorium-234	K. Any	K. 10 microcuries
L. Plutonium-240	L. Any	L. 1 microcurie
M. Plutonium-242	M. Any	M. 1 microcurie
N. Nickel-63	N. Foils	N. 60 millicuries
O. Cesium-137	O. Sealed sources (Isotope Products Model 225)	O. 40 millicuries total. Not to exceed 10 millicuries per source.
P. Europium-152	P. Sealed sources (Isotope Products Model GF-152)	P. 20 microcuries total. Not to exceed 10 microcuries per source.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
42-09082-09Docket or Reference Number
030-01066

Amendment No. 21

9. Authorized use:

- A. through M. Research and development as defined in 10 CFR 30.4. In vitro studies. Studies in animals are not authorized with the exception of the Northern Fur Seal Study listed in Condition 10.B.
- N. For use in gas chromatographs.
- O. For use in gamma ray attenuators and porosity evaluators to measure by transmission methods the density of ocean cores.
- P. For energy calibrations of NaI(Tl) detectors.

CONDITIONS

10. A. Licensed material may be used at temporary job sites at sea aboard the JOIDES Resolution (Sedco/BP 471), aboard the R/V GYRE (home port is Pelican Island, Texas), aboard any other Texas A&M research ship, or aboard other ships under contract between Texas A&M University and the ship owner for in vitro tracer studies at temporary job sites at sea. Licensed material may also be used 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.
- 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.
- B. Hydrogen-3 (tritium) may be used for Northern Fur Seal in vivo studies in the Pribilof Islands, Alaska in accordance with letters dated June 16 and November 2, 2000.
11. Licensed material shall only be used by, or under the supervision of, individuals designated in writing by the Radiological Safety Committee, Michael Walker, Ph.D., Chairperson.
12. The Radiation Safety Officer for this license is Daniel I. Menchaca.
13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.
- B. Notwithstanding Paragraph A of this Condition, sealed sources 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 6 months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
42-09082-09Docket or Reference Number
030-01066

Amendment No. 21

- D. 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.
- E. Sealed sources need not be leak tested if:
- (i) they contain only hydrogen-3; or
 - (ii) they contain only a radioactive gas; or
 - (iii) the half-life of the isotope is 30 days or less; or
 - (iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or
 - (v) they are not designed to emit alpha particles, 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 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()(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, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, ATTN: Director, Division of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken.
- G. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically licensed by the Commission or an Agreement State to perform such services.
14. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
15. 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 Commission or an Agreement State to perform such services.
16. 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."
17. Licensed material shall not be used in or on human beings.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
42-09082-09Docket or Reference Number
030-01066

Amendment No. 21

18. 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 temperature 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, unless the cells are used in a mobile laboratory situation in the field.
19. Experimental animals, or the products from experimental animals, that have been administered licensed materials shall not be used for human consumption.
20. This license does not authorize disposal of licensed material at sea.
21. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific conditions of this license.
22. The licensee shall not acquire licensed material in a sealed source or device unless the source or device has been registered with the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or equivalent regulations of an Agreement State.
23. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license.
24. 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 February 19, 1997
- B. Procedures received March 5, 1997
- C. Letter dated March 7, 1997
- D. Letter dated May 22, 1997
- E. Letter dated June 16, 2000 (ML003778626)
- F. Letter dated November 2, 2000 (ML003778626)
- G. Letter dated March 29, 2007 (ML071070139)

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

Date: April 17, 2007By: _____
Roberto J. Torres, Senior Health Physicist
Nuclear Materials Licensing Branch
Region IV
Arlington, Texas 76011