



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION IV  
612 EAST LAMAR BOULEVARD, SUITE 400  
ARLINGTON, TEXAS 76011-4125

May 20, 2008

Hawaii Agriculture Research Center  
ATTN: Stephanie A. Whalen  
President and Director  
99-193 Aiea Heights Drive, Suite 300  
Aiea, Hawaii 96701-3911

SUBJECT: LICENSE AMENDMENT

Please find enclosed Amendment No. 66 to NRC License No. 53-00515-01 **acknowledging the modification in your procedure for releasing equipment for unrestricted use under license condition 20.C.** 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 you have any questions you can 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/reading-rm/doc-collections/enforcement/>.

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 Safety, Branch B

Docket: 030-06839  
License: 53-00515-01  
Control: 471676

Enclosure: As stated

U.S. NUCLEAR REGULATORY COMMISSION

**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>Licensee</p> <p>1. Hawaii Agriculture Research Center</p> <p>2. 99-193 Aiea Heights Drive, Suite 300 Aiea, Hawaii 96701-3911</p>	<p>In accordance with letter dated February 15, 2008</p> <p>3. License number 53-00515-01 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date June 30, 2015</p> <hr/> <p>5. Docket No. 030-06839 Reference No.</p>
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<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Phosphorus-32</p> <p>B. Phosphorus-33</p> <p>C. Carbon-14</p> <p>D. Hydrogen-3</p> <p>E. Sulfur-35</p> <p>F. Chromium-51</p> <p>G. Nickel-63</p>	<p>7. Chemical and/or physical form</p> <p>A. Any</p> <p>B. Any</p> <p>C. Any</p> <p>D. Any</p> <p>E. Any</p> <p>F. Any</p> <p>G. Foil in Tracor Model 111019-0001 detector cells</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 50 millicuries</p> <p>B. 30 millicuries</p> <p>C. 60 millicuries</p> <p>D. 100 millicuries</p> <p>E. 29 millicuries</p> <p>F. 10 millicuries</p> <p>G. Not to exceed 15 millicuries per foil</p>
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9. Authorized use:

A. through F. For use in conducting tracer studies in plants and soils. Laboratory analysis of samples.

G. To be used for sample analysis in compatible gas chromatography devices that have been registered either with the NRC under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with an NRC or Agreement State specific license authorizing distribution to persons specifically authorized by an NRC or Agreement State license to receive, possess and use the devices.

**CONDITIONS**

10. Licensed material shall be used only at the licensee's facilities located at 99-193 Aiea Heights Drive, Aiea, Hawaii.
11. Licensed material shall be used by, or under the supervision and in the physical presence of, individuals who have been trained as specified in application dated March 22, 2005, and who have been designated by the Radiation Safety Officer.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**License Number  
53-00515-01Docket or Reference Number  
030-06839

Amendment No. 66

12. The Radiation Safety Officer for this license is Mel C. Jackson, Ph.D.
13. 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 under equivalent regulations of an Agreement State.
- B. 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.
- C. 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.
- D. 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.
- E. 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, 612 East Lamar Boulevard, Suite 400, Arlington, Texas 76011-4125, ATTN: Director, Division of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken.
- F. Tests for leakage and/or contamination, limited to leak test sample collection, 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. The licensee is not authorized to perform the analysis; analysis of leak test samples must be performed by persons specifically licensed by NRC 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. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
16. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license.
17. 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."

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18. 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 the 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.
19. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.
20. 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 March 22, 2005 (ML051190139)
  - B. Letter dated December 1, 2006 (ML063630085)
  - C. Letter dated February 15, 2008 (ML080630096)

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

**/RA/**Date: May 20, 2008

By: \_\_\_\_\_

Roberto J. Torres, Senior Health Physicist  
Nuclear Materials Safety, Branch B  
Region IV  
Arlington, Texas 76011