

**ACCEPTANCE REVIEW MEMO (ARM)**

**Licensee:** University of Hawaii, Ofc of the Pres. **License No.:** 53-00017-23  
**Docket No.:** 030-07517 **Mail Control No.:** 471042  
**Type of Action:** Amend **Date of Requested Action:** 07/19/06  
**Reviewer Assigned:** Jim M. **ARM reviewer(s):** Cook

Response	Deficiencies Noted During Acceptance Review
	[X] Open ended possession limits. Limit possession. Submit inventory. [ ] Submit copies of most recent leak test results. [ ] Add - delete IC license condition. Add IC paragraph in cover letter. [ ] Split license from cover letter. Add SUNSI marking to license. [ ] Ask the licensee if they have any type-amount of EPAct Material.

**Reviewer's Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

- ☐ Yes ☐ No Unrestricted release Group 2 or >: Transfer memo to FCDB within 10 days.  
☐ Yes ☐ No Decommissioning notification should be completed within 30 days.  
☐ Yes ☐ No Termination request < 90 days from date of expiration  
☒ Yes ☐ No Expedite (medical emergency, no RSO, location of use/storage not on license, RAM in possession not on license, other per licensee)  
☐ Yes ☐ No TAR needed to complete action.

**Branch Chief's and/or Sr. HP's Initials:** JOC **Date:** 7/21/06

**SUNSI Screening according to RIS 2005-31**

☐ Yes ☒ No **Non-Publicly Available, Sensitive** if any item below is checked

**General guidance:**

- \_\_\_\_ RAM = or > than Category 3 (Table 1, RIS 2005-31), use Unity Rule  
\_\_\_\_ Exact location of RAM (whether = or > than Category 3 or not)  
\_\_\_\_ Design of structure and/or equipment (site specific)  
\_\_\_\_ Information on nearby facilities  
\_\_\_\_ Detailed design drawings and/or performance information  
\_\_\_\_ Emergency planning and/or fire protection systems

**Specific guidance for medical, industrial and academic (above Category 3):**

- \_\_\_\_ RAM quantities and inventory  
\_\_\_\_ Manufacturer's name and model number of sealed sources & devices  
\_\_\_\_ Site drawings with exact location of RAM, description of facility  
\_\_\_\_ RAM security program information (locks, alarms, etc.)  
\_\_\_\_ Emergency Plan specifics (routes to/from RAM, response to security events)  
\_\_\_\_ Vulnerability/security assessment/accident-safety analysis/risk assess  
\_\_\_\_ Mailing lists related to security response

**Branch Chief's and/or Sr. HP's Initials:** JOC **Date:** 7/21/06

**Official Use Only - Security-Related Information**

**Pre-Licensing Screening**

**Applicant Information:**

**Control No. 471042**

Name: University of Hawaii, Ofc of the Pres.	Type of Request: Amend Program Code(s): <i>1100</i>
Location: HI	License No.: 53-00017-23      Docket No.: 030-07517

**STEP 1--Radioactive Materials and Quantities Requested:**

<b>Instructions for Step 1: Complete Step 1 for all applications.</b> If all your responses in Step 1 are "No" then do not complete Step 2 (Screening Criteria). Sign and date the completed step-sheet and add it as the sensitive and non-publicly available OAR in ADAMS. If a "yes" response is indicated for any item in Step 1, also complete Step 2. If the type of use is subject to a Security Order or the requirements for increased controls, complete Step 3 (Item A or Item B) without delay.		Yes or No
A.	The request is from a new applicant.	<i>No</i>
B.	NUREG-1556, Volume 20, Section 4.9 indicates a licensing site visit is needed for the requested type of use, e.g., (1) Type A broad scope license, (2) panoramic irradiator containing > 10000 curies, (3) manufacturers or distributors using unsealed radioactive material or significant quantities of sealed material, (4) radioactive waste brokers, (5) radioactive waste incinerators, (6) commercial nuclear laundries, and (7) any other application that in the judgement of the reviewer and cognizant supervisor involves complex technical issues, complex safety questions, or unprecedented issues that warrant a site visit.	<i>No</i>
C.	The applicant requested certain radionuclides and quantities that equal or exceed the Risk Significant Quantity (TBq) values in the table, below, that have been "highlighted" by the reviewer	<i>No</i>

**Table of Risk Significant Quantities**

(Category 2 Quantities, IAEA Safety Guide No. RS-G-1.9, Categorization of Radioactive Sources, August 2005)

Radionuclide	Risk Significant Quantity (TBq) <sup>1</sup>	Risk Significant Quantity (Ci) <sup>1</sup>	Radionuclide	Risk Significant Quantity (TBq) <sup>1</sup>	Risk Significant Quantity (Ci) <sup>1</sup>
Am-241	0.6	16	Pm-147	400	11,000
Am-241/Be	0.6	16	Pu-238	0.6	16
Cf-252	0.2	5.4	Pu-239/Be	0.6	16
Cm-244	0.5	14	Ra-226 <sup>2</sup>	0.4	11
Co-60	0.3	8.1	Se-75	2	54
Cs-137	1	27	Sr-90 (Y-90)	10	270
Gd-153	10	270	Tm-170	200	5,400
Ir-192	0.8	22	Yb-169	3	81

<sup>1</sup> The primary values are TBq. The curie (Ci) values are for informational purposes only.

<sup>2</sup> The Atomic Energy Act, as amended by the Energy Policy Act of 2005, authorizes NRC to regulate Ra-226 and NRC is in the process of amending its regulations for discrete sources of Ra-226.

Calculations of the Total Activity or the Unity Rule are attached to document whether or not the screening criteria in Step 2 were also completed to evaluate the application. <b>NOTE--If an amendment of an existing license is being requested, the calculations will include the previously authorized quantities for the radionuclide(s).</b>	Yes, No, or Not Applicable (NA)
Total Activity--multiple activities are requested for a single radionuclide and the sum of the activities equals or exceeds the quantity of concern for the radionuclide	
Unity Rule--multiple radionuclides are requested and the sum of the ratios equals or exceeds unity, e.g., [(total activity for radionuclide A) ÷ (risk significant quantity for radionuclide A)] + [(total activity for radionuclide B) ÷ (risk significant quantity for radionuclide B)] ≥ 1.0.	

**Signature and Date for Step 1:**

*Jim M. [Signature]* 8/14/66  
License Reviewer and Date

**UNIVERSITY OF HAWAII AT MĀNOA**

Environmental Health and Safety Office

July 19, 2006

U.S. Nuclear Regulatory Commission  
Region IV  
Attn: Licensing Section  
611 Ryan Plaza Drive, Suite 400  
Arlington, Texas 76011-4005

License No.: 53-00017-23  
Docket No.: 030-07517

Dear Sir/Madam,

The University of Hawaii would like to amend its current license to include the authorized use of a Troxler moisture gauge Model 3541. Our current use under Condition 9.V. and W states that only Troxler Model 3411B can be used.

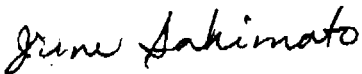
*MC-3-121*

It would be much appreciated if the authorized use could be amended to include Troxler 3400 series because the researcher using this gauge may use other models in the future as part of his research grant.

It would also be much appreciated if this amendment request could be expedited to assist the researcher in meeting his grant deadlines.

Thank you very much for your prompt attention to this matter.

Sincerely,



Irene Sakimoto 808-956-8591  
Radiation Safety Officer

***University of Hawaii at Manoa  
Environmental Health and Safety Office  
Radiation Safety Program  
2040 East-West Road  
Honolulu, HI 96822  
Phone: (808) 956-6475  
Fax: (808) 956-3205***

**FAX TRANSMISSION COVER SHEET**

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***Date:***            ***July 19, 2006***  
***To:***             ***USNRC licensing section***  
***Fax:***            ***817-860-8263***  
***Re:***             ***Amending University of Hawaii license***  
***Sender:***        ***Irene Sakimoto, RSO***

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***YOU SHOULD RECEIVE 2 PAGE(S), INCLUDING THIS COVER SHEET. IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CALL (808) 956-6475.***

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(FOR LEMS USE)  
 INFORMATION FROM LTS  
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Program Code: 01100
Status Code: 0
Fee Category: EX 3L 2C
Exp. Date: 20150831
Fee Comments: 170.11(A) (4)
Decom Fin Assur Regd: Y
.....

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### A. REGION

- HAWAII, UNIVERSITY OF  
20060719  
3007517  
471042  
53-00017-23  
Amendment

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- A line graph with a horizontal axis and a vertical axis. Two vertical lines are drawn at different positions. A single curve starts from the left, passes through the first vertical line, and then passes through the second vertical line, continuing to slope downwards.

- Signed Allen P. Anderson  
Date 7-20-06

- CH (Check when milestone 03 is entered / \_\_/)

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- tion may be processed for:

- $\frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) e^{-x^2} dx = \frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) e^{-x^2} dx$

Signed \_\_\_\_\_  
Date \_\_\_\_\_