UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BOULEVARD
ARLINGTON, TEXAS 76011-4511

March 09, 2023

EA-22-066

Emma Kennedy, Director
University of Hawaii
Radiation Safety Program
Office of the President
2444 Dole Street
Honolulu, HI 96822

SUBJECT: UNIVERSITY OF HAWAII – NOTICE OF VIOLATION, NRC INSPECTION REPORT 030-07517/2022-001

Dear Emma Kennedy:

This letter refers to the announced routine inspection conducted on April 6, 7, and 13, 2022, at your facilities in Honolulu, Hawaii. The purpose of the inspection was to examine activities conducted under your license as they relate to public health and safety and to confirm compliance with the U.S. Nuclear Regulatory Commission (NRC) rules and regulations and with the conditions of your license. A final exit briefing was conducted by videoconference with you and members of your staff on November 21, 2022. Details of the inspection and seven apparent violations were provided to you in the subject inspection report, dated December 7, 2022, Agencywide Documents Access and Management System (ADAMS) Accession No. ML22335A537.

In the letter transmitting the inspection report, we provided you with the opportunity to address the apparent violations by either attending a predecisional enforcement conference, requesting alternative dispute resolution, or providing a written response before we made our final enforcement decision. In letters dated January 5 and 23, 2023 (publicly available versions ML23018A292 and ML23025A106), you provided your written response and a supplemental response to the apparent violations.

Based on the information developed during the inspection and the information you provided in your January 5 and 23, 2023, written responses to the inspection report, the NRC has determined that seven violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding them are described in detail in the subject inspection report. The violations involved the failures to: (A) establish administrative controls and provisions relating to organization and management, procedures, record keeping, material control, and accounting and management review that are necessary to assure safe operations; (B) confine the possession and use of byproduct material to the purposes authorized in the license; (C) notify the NRC of the permanent cessation of licensed activities at several sites; (D) perform tests for leakage or contamination of sealed sources; (E) perform physical inventories of licensed materials; (F) have a lock on the handle or case of a portable nuclear gauge in storage; and (G) properly label containers with byproduct materials.

The NRC considers Violations A and B above to be significant violations because of the programmatic nature of the failures to establish administrative controls and to confine your use of byproduct material to the purposes authorized in your license. Therefore, these violations have been categorized collectively in accordance with the NRC Enforcement Policy as a Severity Level III problem. The NRC Enforcement Policy can be found on the NRC's website at http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html.

In accordance with the NRC Enforcement Policy, a base civil penalty in the amount of $8,750 is considered for a Severity Level III problem.

Because your facility has not been the subject of an escalated enforcement action within the last two routine inspections, the NRC considered whether credit was warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section 2.3.4 of the NRC Enforcement Policy. The NRC has determined that *Corrective Action* credit is warranted based on the prompt and comprehensive corrective actions you implemented. Your corrective actions to address the violation are documented in NRC Inspection Report 030-07517/2022-001 and in your letters dated January 5 and 23, 2023.

Therefore, to encourage prompt and comprehensive correction of violations and in recognition of the absence of previous escalated enforcement action, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty. In addition, issuance of this Severity Level III problem constitutes escalated enforcement action that may subject you to increased inspection effort.

The NRC considers Violations C, D, E, F, and G to be violations that are less serious, but are of more than minor concern, that resulted in no or relatively inappreciable potential safety or security consequences. Therefore, these violations have been categorized in accordance with the NRC Enforcement Policy at Severity Level IV.

The NRC has concluded that information regarding: (1) the reason for the violations; (2) the corrective actions that have been taken and the results achieved; and (3) the date when full compliance was achieved is already adequately addressed on the docket in NRC Inspection Report 030-07517/2022-001 and in your letters dated January 5 and 23, 2023. Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, the enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room and from the NRC's ADAMS, accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy or proprietary information so that it can be made available to the public without redaction. The NRC also includes significant enforcement actions on its website at http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions.

If you have any questions concerning this matter, please contact Dr. Lizette Roldán-Otero of my staff, at 817-200-1455.

Sincerely,

Monninger, John signing on behalf
of Lewis, Robert
on 03/09/23

Robert J. Lewis
Regional Administrator (Acting)

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

Enclosure:
Notice of Violation

cc w/enclosure:
Thomas Lileikis, Chief
State Department of Health
Indoor and Radiological Health Branch
99-945 Halawa Valley Street
Aiea, HI 96701

UNIVERSITY OF HAWAII – NOTICE OF VIOLATION, NRC INSPECTION
REPORT 030-07517/2022-001 - DATED MARCH 09, 2023

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ADAMS: **ML23040A384**

SUNSI Review By: ACR	ADAMS ☒ Yes ☐ No	☒ Publicly Available ☐ Non-Publicly Available	☒ Non-Sensitive ☐ Sensitive	Keyword: EA-22-066

OFFICE	ES:ACES	C:MIB	ATL:ACES	RC
NAME	ARoberts	LRoldánOtero	JKramer	DCylkowski
SIGNATURE	/RA/ E	/RA/ E	/RA/ E	/RA/ E
DATE	02/09/23	02/10/23	02/09/23	02/13/23
OFFICE	OE	D:DRSS	RA	
NAME	PSnyder	MMuessle	RLewis	
SIGNATURE	/RA/ E	/RA/ E	JDM for /RA/ E	
DATE	02/17/23	02/22/23	03/09/23	

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NOTICE OF VIOLATION

University of Hawaii
Honolulu, Hawaii

Docket No. 030-07517
License No. 53-00017-23
EA-22-066

During an NRC inspection conducted on April 6, 7, and 13, 2022, seven violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

A. 10 CFR 33.13(c)(3) requires, in part, that the licensee establish administrative controls and provisions relating to organization and management, procedures, record keeping, material control, and accounting and management review that are necessary to assure safe operations, including the establishment of appropriate administrative procedures to assure: (i) control of procurement and use of byproduct material; (ii) completion of safety evaluations of proposed uses of byproduct material which take into consideration such matters as the adequacy of facilities and equipment, training and experience of the user, and the operating or handling procedures; and (iii) review, approval, and recording by the Radiation Safety Committee (RSC) of safety evaluations of proposed uses prepared in accordance with 10 CFR 33.13(c)(3)(ii) prior to use of the byproduct material.

   Contrary to the above, on April 6, 2022, the licensee failed to establish appropriate administrative procedures to assure: (i) control of procurement and use of byproduct material; (ii) completion of safety evaluations of proposed uses of byproduct material which take into consideration such matters as the adequacy of facilities and equipment, training and experience of the user, and the operating or handling procedures; and (iii) review, approval, and recording by the RSC of safety evaluations of proposed uses prepared in accordance with 10 CFR 33.13(c)(3)(ii) prior to use of the byproduct material as evidenced by the following three examples:

   1. Regarding the licensee's control of the use of byproduct material: although the licensee's listing of permit holders identified the Radiation Safety Program, the licensee's largest possessor and user of licensed materials, as a permit holder, the Radiation Safety Program did not have a permit issued by the RSC for the possession, use, or storage of licensed materials.

   2. Regarding the licensee's control of the procurement of byproduct material: in 2014, an authorized user sent a Troxler Model 3451 portable nuclear gauge to the vendor for refurbishment without informing the Radiation Safety Officer or RSC and seeking approval. The vendor removed the sealed sources from the Troxler Model 3451 portable nuclear gauge and placed them into a Troxler Model 3450 portable nuclear gauge and sent the new portable nuclear gauge to the authorized user. The licensee was unaware that this had occurred and continued to list the device in its inventory as a Troxler Model 3451 portable nuclear gauge.

   3. Regarding the completion of safety evaluations of proposed uses of byproduct material and the review, approval, and recording by the RSC:

      a. During June – August 2019, a portable nuclear gauge was transferred by the Radiation Safety Officer to individuals in the Department of Physics and

Astronomy for temporary use in a research project. The Radiation Safety Officer failed to identify that the University of Hawaii license did not authorize the use of portable nuclear gauges for research purposes and that such authorization would require prior NRC review and approval. The RSC did not review or approve this use of byproduct material and the licensee did not perform a safety evaluation of the proposed use that took into consideration such matters as the adequacy of facilities and equipment, training and experience of the users and the operating or handling procedures.

b. In May 2021, the RSC approved the transfer of a portable nuclear gauge to an authorized user in the Department of Physics & Astronomy for use during a research project. The RSC failed to identify that the University of Hawaii license did not authorize the use of portable nuclear gauges for research purposes and that such authorization would require prior NRC review and approval. Furthermore, the licensee did not perform a safety evaluation of the proposed use that took into consideration such matters as the adequacy of facilities and equipment, training and experience of the users, and the operating or handling procedures.

B. 10 CFR 30.34(c) requires, in part, that each person licensed by the NRC pursuant to the regulations in 10 CFR Part 30 and parts 31 through 36 and 39 shall confine his possession and use of the byproduct material to the purposes authorized in the license.

License Conditions 6.T through Y to 9.T through Y of NRC license No. 53-00017-23, Amendment Nos. 53-59, authorized the possession and use of americium-241/beryllium and cesium-137 sealed sources, to be used in specified portable nuclear gauging devices (CPN Model MC-M series; Troxler Model 3320/3330 series, Model 3411-B, and Model 3451) for moisture and surface density measurements of construction materials or depth and moisture determinations.

Contrary to the above, from 2014 to April 6, 2022, the licensee failed to confine its use of byproduct material to the purposes authorized in the license, as evidenced by the following two examples:

1. In 2014, the licensee received, acquired, owned, and possessed an approximately 40 millicurie americium-241/beryllium sealed source and an approximately 8 millicurie cesium-137 sealed source in a Troxler Model 3450 portable nuclear gauge, which was a model of portable nuclear gauge that was not authorized to be possessed under the license.

2. In 2019-2021, the licensee used portable nuclear gauges (CPN Model MC-M Hydrotector and Troxler Model 3450) as neutron sources for a laboratory benchtop physics research project, a type of use that was not authorized under the NRC license.

This is a Severity Level III Problem (Enforcement Policy Sections 6.3.c.2 and 6.3.c.11.c).

C. 10 CFR 30.36(d)(2) requires, in part, that the licensee provide notification to the NRC within 60 days of the occurrence of the licensee decision to permanently cease principal activities at an entire site or in any separate building or outdoor area that contains residual radioactivity.

License Conditions 10.D, 10.H, and 10.J of NRC license No. 53-00017-23, Amendment Nos. 58 and 59 state, in part, that licensed material may be used or stored at the licensee facilities located at: (10.D) 1236 Lauhala Street, Cancer Research Center of Hawaii, Honolulu, Hawaii, 96813; (10.H) 3675 Kilauea Avenue, University of Hawaii, School of Medicine, Leahi Hospital, Honolulu, Hawaii, 96816; and (10.J) 1 Sand Island Access Road, Core Laboratory Building, Snug Harbor, Honolulu, Hawaii, 96818.

Contrary to the above, on April 6, 2022, the licensee failed to provide notification to the NRC within 60 days of the occurrence of its decision to permanently cease principal activities at an entire site or in any separate building or outdoor area that contains residual radioactivity as evidenced by the following three examples:

1. License Condition 10.D. states that licensed material may be used or stored at the licensee's facilities located at: 1236 Lauhala Street, Cancer Research Center of Hawaii, Honolulu, Hawaii, 96813. The licensee's laboratory research space and other facilities that had been used for licensed activities had been remodeled into conference rooms that were no longer controlled by the licensee. This occurred more than 60 days prior to April 6, 2022.

2. License Condition 10.H. states that licensed material may be used or stored at the licensee's facilities located at: 3675 Kilauea Avenue, University of Hawaii, School of Medicine, Leahi Hospital, Honolulu, Hawaii, 96816. The licensee's laboratory research space and other facilities that had been used for licensed activities had been repurposed and were no longer controlled by the licensee. This occurred more than 60 days prior to April 6, 2022.

3. License Condition 10.J. states that licensed material may be used or stored at the licensee's facilities located at: 1 Sand Island Access Road, Core Laboratory Building, Snug Harbor, Honolulu, Hawaii, 96818. The licensee's laboratory research space and other facilities that had been used for licensed activities had been completely razed to the ground and the property was no longer controlled by the licensee. This occurred more than 60 days prior to April 6, 2022.

This is a Severity Level IV violation (Enforcement Policy Section 6.9.d.1)

D. License Condition 12.E of NRC license No. 53-00017-23, Amendment Nos. 54-59, requires, in part, that 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.

   Contrary to the above, from April 11, 2018, to April 6, 2022, the licensee stored sealed sources for a period of more than 10 years without being tested for leakage and/or contamination, and the licensee failed to test sealed sources when they are removed from storage for use and have not been tested within the required leak test interval before use as evidenced by the following four examples:

1. One approximately 50 millicurie cesium-137 sealed source was placed into storage in 1990, remained in storage on April 6, 2022, and was last tested for leakage or contamination in August 1990, a period of more than 10 years.

2. One approximately 100 millicurie cesium-137 sealed source was placed into storage in 1997, remained in storage on April 6, 2022, and was last tested for leakage or contamination in June 1997, a period of more than 10 years.

3. One Troxler Model 3411-B portable nuclear gauge containing an approximately 8.6 millicurie cesium-137 sealed source and an approximately 40 millicurie americium-241/beryllium sealed source was placed into storage in 2011, remained in storage on April 6, 2022, and was last tested for leakage or contamination in June 2011, a period of more than 10 years.

4. One CPN Model MC-M Hydrotector portable nuclear gauge containing an approximately 50 millicurie americium-241/beryllium sealed source was placed into storage in 2004 and was last tested for leakage or contamination in April 2004. The specified leak test interval in the Sealed Sources and Devices Safety Evaluation is 1 year. The portable nuclear gauge was removed from storage and used during June-August 2019. The source in the portable nuclear gauge was not tested for leakage or contamination within the required leak test interval and before use.

This is a Severity Level IV Violation (Enforcement Policy Sections 6.7.d.4).

E. License Condition 13 of NRC license No. 53-00017-23, Amendment Nos. 54-59, requires, in part, that the licensee conduct a physical inventory every 6 months to account for all sealed sources and/or devices possessed under the license.

   Contrary to the above, from April 11, 2018, to April 6, 2022, the licensee failed to conduct a physical inventory every 6 months to account for all sealed sources and/or devices possessed under the license. Specifically, the licensee failed to perform a physical inventory for many sealed sources that were in storage, including but not limited to: (1) one approximately 50 millicurie cesium-137 sealed source, (2) one approximately 100 millicurie cesium-137 sealed source, (3) one Troxler Model 3411-B portable nuclear gauge, (4) one CPN Model MC-M Hydrotector portable nuclear gauge, (5) one approximately 9.5 millicurie americium-241 sealed source in a variable x-ray device, and (6) one approximately 60 millicurie cesium-137 source in a TechOps Model 773 instrument calibrator.

This is a Severity Level IV violation (Enforcement Policy Section 6.3.d.3)

F. License Condition 28 of NRC license No. 53-00017-23, Amendment No. 59, requires that 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, storage, or when not under the direct surveillance of an authorized user.

   Contrary to the above, on April 6, 2022, for a portable nuclear gauge in storage and not under the direct surveillance of an authorized user, the licensee failed to have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. Specifically, the licensee had a Troxler

Model 3450 portable nuclear gauge in storage, and it was not under the direct surveillance of an authorized user. The portable nuclear gauge did not have a lock or outer locked container.

This is a Severity Level IV violation (Enforcement Policy Section 6.3.d).

G. 10 CFR 20.1904(a) requires, in part, that the licensee shall ensure that each container of licensed material bears a durable, clearly visible label bearing the radiation symbol and the words “CAUTION, RADIOACTIVE MATERIAL,” or “DANGER, RADIOACTIVE MATERIAL.” The label that must provide sufficient information (such as the radionuclide(s) present, an estimate of the quantity of radioactivity, the date for which the activity is estimated, radiation levels, kinds of materials, and mass enrichment) to permit individuals handling or using the containers, or working in the vicinity of the containers, to take precautions to avoid or minimize exposures.

   Contrary to the above, on April 6, 2022, the licensee failed to ensure that each container of licensed material bore a durable, clearly visible label with the radiation symbol and the words “CAUTION, RADIOACTIVE MATERIAL,” or “DANGER, RADIOACTIVE MATERIAL,” that provided sufficient information (such as the radionuclide(s) present, an estimate of the quantity of radioactivity, the date for which the activity is estimated, radiation levels, kinds of materials, and mass enrichment) to permit individuals handling or using the containers, or working in the vicinity of the containers, to take precautions to avoid or minimize exposures. Specifically, 24 55-gallon metal drums that contained dry radioactive waste and 3 65-gallon poly-overpack salvage drums containing liquid radioactive waste did not have durable, clearly visible labels with the radiation symbol and the words “CAUTION, RADIOACTIVE MATERIAL,” or “DANGER, RADIOACTIVE MATERIAL,” or labels that provided sufficient information (such as an estimate of the quantity of radioactivity, the date for which the activity is estimated, and radiation levels) to permit individuals handling or using the containers, or working in the vicinity of the containers, to take precautions to avoid or minimize exposures.

This is a Severity Level IV violation (Enforcement Policy Section 6.3.d).

The NRC has concluded that information regarding: (1) the reason for the violations; (2) the corrective actions that have been taken and the results achieved; and (3) the date when full compliance was achieved is already adequately addressed on the docket in NRC Inspection Report 030-07517/2022-001 and in your letters dated January 5 and 23, 2023.

However, if the description therein does not accurately reflect your position or your corrective actions, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 within 30 days of the date of the letter transmitting this Notice of Violation. In that case, or if you choose to respond, clearly mark your response as a “Reply to a Notice of Violation; EA-22-066,” and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 1600 East Lamar Blvd., Arlington, Texas 76011-4511, and email it to R4Enforcement@nrc.gov.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or in the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html. Therefore, to the extent possible, the response should not include any personal privacy or proprietary information so that it can be made available to the public without redaction.

If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

In accordance with 10 CFR 19.11, you are required to post this Notice within 2 working days of receipt.

Dated this 9th day of March 2023