

PART I – LICENSE, INSPECTION, INCIDENT/EVENT AND ENFORCEMENT HISTORY

1. AMENDMENTS AND PROGRAM CHANGES SINCE LAST INSPECTION:

<u>AMENDMENT #</u>	<u>DATE</u>	<u>SUBJECT</u>
22	07/09/13	New RSO

Since this inspection, the licensee has submitted notification of no principal activities in the last 24 months, and requested the license be placed in standby. Because no principal activities are anticipated, the licensee does intend to begin the process of decommissioning and terminating its NRC Materials License in the near future.

2. INSPECTION AND ENFORCEMENT HISTORY:

<u>REPORT #</u>	<u>DATE</u>	<u>FINDINGS</u>
2013001	08/13/13	Clear
2008001	11/06/08	SLIV – 30.3(c)(2)

3. INCIDENT/EVENT HISTORY:

No open items or events since the last routine inspection.

PART II – INSPECTION DOCUMENTATION

1. ORGANIZATION AND SCOPE OF PROGRAM:

Indiana State University (ISU, “the licensee”) was authorized by NRC Materials License No. 13-09639-05 to use a variety of radionuclides for laboratory research and development and student instruction, as well as one cesium-137 (Cs-137) sealed source (not to exceed 9.5 millicuries (mCi)) for calibration of survey instruments owned by ISU or the Rose-Hulman Institute of Technology. At the time of the inspection, two principal investigators were still approved by the RSO to possess and use licensed material; however, neither had done so in several years. The licensee still maintained its Cs-137 calibration source, as well as a variety of calibration and reference sources and residual radioactive waste from past research activities in a secured storage area. The RSO was the only individual involved in the oversight of the program.

2. SCOPE OF INSPECTION:

Inspection Procedure(s) Used: 87126

Focus Areas Evaluated: All

The inspectors toured the ISU campus to evaluate the licensee’s measures for materials security, hazard communication, and exposure control. The inspectors visited the laboratories occupied by the remaining authorized users, as well as the secured storage area. The inspectors interviewed the RSO and reviewed a selection of records related to past use of licensed material.

3. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:

Using a Ludlum 2403 survey meter with a model 44-38 energy-compensated GM detector calibrated on January 26, 2018, the inspectors conducted independent surveys at each of the locations inspected. The inspectors found no readings that would indicate residual contamination or exposures to members of the public in excess of regulatory limits.

4. VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES:

A. Sealed Source Leak Testing

During discussions of the status of the radiation safety program with the RSO, the inspectors identified that the licensee had used its survey instrument calibrator, containing a 9.5-mCi sealed source of Cs-137, as recently as fall 2014, but had not tested it for leakage and/or contamination since July 2013.

Condition 12.A of NRC Materials License No. 13-09639-05 states in part that sealed source containing licensed material shall be tested for leakage and/or contamination at intervals not to exceed six months.

The licensee's failure to ensure that its Cs-137 sealed source was tested is a Severity Level IV (SLIV) violation of Condition 12.A, in accordance with example 6.3.D.3 of the NRC Enforcement Policy.

The inspectors determined that the root cause of the violation was a lack of attention to implementing the radiation safety program, with the absence of any principal activities a contributing factor. As corrective action, on December 12, 2018, the licensee collected and submitted a leak test of the Cs-137 sealed source for analysis. On December 18, 2018, an authorized service provider analyzed the test and confirmed the absence of leakage and/or contamination.

B. Physical Inventories

During discussions with the RSO, the inspectors identified that the licensee had not conducted a physical inventory to account for all sources and/or devices possessed under the license since at least July 2013, when the current RSO assumed responsibility for the program.

Condition 15 of NRC Materials License No. 13-09639-05 states in part that the licensee shall conduct a physical inventory every six months to account for all sources and/or devices received and possessed under the license.

The licensee's failure to conduct physical inventories every six months is a SLIV violation of Condition 15, in accordance with example 6.3.D.3 of the NRC Enforcement Policy.

The inspectors determined that the root cause of the violation was a lack of attention to implementing the radiation safety program, with the absence of any principal activities a contributing factor. As corrective action, on September 24, 2018 the

licensee performed a physical inventory of all sources, devices, and other material possessed under the license. The licensee set calendar reminders to ensure that inventories would be performed every six months from now on.

C. Program Oversight

During discussions with the RSO, the inspectors identified that the licensee had not performed a periodic audit of its radiation safety program since at least July 2013, when the current RSO assumed responsibility for the program.

Title 10 CFR Part 20.1101(c) requires that each licensee shall periodically (at least annually) review the radiation protection program content and implementation.

The licensee's failure to review the radiation protection program at least annually is a SLIV violation of 10 CFR 20.1101(c), in accordance with example 6.3.D.3 of the NRC Enforcement Policy.

The inspectors determined that the root cause of the violation was a lack of attention to implementing the radiation safety program, with the absence of any principal activities a contributing factor. As corrective action, on October 16, 2018, the licensee completed a review of the content and implementation of its radiation safety program. The licensee also set calendar reminders to ensure that audits would be performed annually from now on.

D. Principal Activities

During discussions with the RSO, the inspectors identified that the licensee had last performed principal activities under its NRC Materials License in the fall of 2014, when it last used its survey instrument calibrator, but had not yet notified the NRC that a period of 24 months of no principal activities had occurred.

Title 10 CFR 30.36(d) requires, in part, that licensees provide notification to the NRC in writing within 60 days of any of the following occurrences:

1. The license has expired,
2. The licensee has decided to permanently cease principal activities at the entire site or in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with NRC requirements,
3. No principal activities under the license have been conducted for a period of 24 months, or
4. No principal activities have been conducted for a period of 24 months in any separate building or outdoor area that contains residual radioactivity such that the building or outdoor area is unsuitable for release in accordance with NRC requirements.

The licensee's failure to notify the NRC within 60 days of occurrence that no principal activities had been conducted for a period of 24 months is a SLIV violation of 10 CFR 30.36(d)(3), in accordance with example 6.9.D.1 of the NRC Enforcement Policy.

The inspectors determined that the root cause of the violation was a lack of understand of NRC requirements. As corrective action, on October 11, 2018, the licensee submitted notification of the lack of principal activities to Region III's Materials Licensing Branch in writing, and requested that ISU's NRC Materials License be placed in standby. At the time of writing, the request was still pending.

5. PERSONNEL CONTACTED:

David Ellis - Director, Office of Environmental Safety (RSO)

Attended exit meeting on December 10, 2018.

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