



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

August 7, 2023

Christopher P. Harvey
Radiation Safety Officer
Indiana University
1001 W Third St.
Bloomington, IN 47405

Dear Mr. Harvey:

We have reviewed the licensee's request dated June 6, 2023, to renew its U.S. Nuclear Regulatory Commission (NRC) Material License No. 13-00108-05 for Indiana University Bloomington.

Based on our review of the information, we have identified that additional information is needed to proceed with the renewal process. Please refer to the following guidance when preparing your response:

- NUREG 1556, Volume 11, Revision 1, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Licenses of Broad Scope," available at <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v11/index.html>.
- NUREG 1556, Volume 5, Revision 1, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Self-Shielded Irradiator Licenses," available at <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v5/index.html>

In a signed and dated letter, please provide the following information by September 7, 2023:

1. In your letter dated June 6, 2023, you requested a new material authorization. Specifically, you requested "transfer and disposal of generally licensed sources originally obtained under Title 10 Code of Federal Regulations (CFR) 31.5." Based on the description of activities involved, Indiana University Bloomington would be a service provider (a new program code will be added with an additional fee). Please provide information specified in NUREG 1556, Volume 18, Revision 1, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Service Provider Licenses," available at <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/v18/index.html>, if you wish to pursue this authorization.
2. Based on the maximum possession of material authorized in the license, Financial Assurance in 10 CFR 30.35 is required. Please address the Financial Assurance requirement or provide a statement, "We will restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d)."

3. Provide the Sealed Source and Device Registry certificate numbers and copies for the sources and devices listed in Items 7.F., 7.H., and 7.I of your NRC license.
4. Confirm that the Radiation Safety Officer (RSO) will review all modifications to the existing laboratories or any new proposed laboratories for material use and will consider criteria in Appendix E of NUREG 1556, Volume 11, Revision 1.
5. Describe the criteria used by the RSO to review and approve radiation monitoring instrumentation to ensure that appropriate radiation monitoring equipment will be used during licensed activities. Clarify that all survey instruments (not only survey meters maintained by the radiation safety staff) will be calibrated annually either by the manufacturer or in accordance with the procedures in Appendix H of NUREG 1556, Volume 11, Revision 1.
6. Provide the statement, "We will implement the model procedures published in Appendix H of NUREG-1556, Volume 11, Revision 1, to calibrate instruments." (Incorrect reference was provided).
7. Provide the statement, "We will develop, implement and maintain procedures for ensuring accountability of licensed materials at all times."
8. Provide the statement, "We will comply with the National Source Tracking System (NSTS) reporting requirement as described in 10 CFR 20.2207."
9. Provide the statement, "Physical inventories will be conducted and documented at intervals not to exceed 6 months to account for all sealed sources and devices received and possessed under the license."
10. Provide the statement, "We will maintain, for inspection by the NRC, documentation demonstrating that unmonitored individuals are not likely to receive a radiation dose in excess of the limits in 10 CFR 20.1502(a)."
11. Address training required for an authorized user to operate the irradiator or provide the statement, "Authorized users will receive training described in Appendix F of NUREG 1556, Volume 5, Revision 1, "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Self-Shielded Irradiator Licenses."
12. Provide the following statements (see section 8.9 of NUREG 1556, Volume, Revision 1):

"We will conduct electrical and mechanical safety interlock checks of the irradiator at least quarterly, in accordance with the irradiator's user's manual.

We will ensure that the area where the self-shielded irradiator is located corresponds to the 'Conditions of Normal Use' and 'Limitations and/or Other Considerations of Use' on the applicable irradiator's Sealed Source and Device registration certificate; the floor beneath the self-shielded irradiator is adequate to support the weight of the irradiator; the self-shielded irradiator is secured to prevent unauthorized access or removal; and the area where a self-shielded irradiator is located is equipped with an automatically operated fire-detection and -control system (sprinkler, chemical, or gas) or the location of the area and other controls ensure a low level of radiation risk attributable to fires."

13. Address radiation monitoring instruments available in the irradiator room (see section 8.10.2 of NUREG 1556, Volume 5, Revision 1) or provide the statement, "We will use instruments that meet the radiation-monitoring instrument specifications published in Appendix I of NUREG-1556, Volume 5, Revision 1, "Consolidated Guidance About Materials License: Program- Specific Guidance About Self-Shielded Irradiator Licenses."
14. Address "Operating, Emergency, and Security Procedures" pertaining to the irradiator operation, described in Section 8.10.6 of NUREG 1556, Volume 5, Revision 1. Please provide applicable statements.
15. Address leak testing for the irradiator described in section 8.10.7, "Leak Tests," of NUREG 1556, Volume 5, Revision 1. Please provide applicable statements.
16. Address routine maintenance of the irradiator described in section 8.10.8 of NUREG 1556, Volume 5, Revision 1. Please provide applicable statements.
17. Address nonroutine maintenance of the irradiator described in section 8.10.8 of NUREG 1556, Volume 5, Revision 1. Please provide applicable statements.

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

Sincerely,

Magdalena R. Gryglak
Health Physicist
Materials Licensing Branch

License No. 13-00108-05
Docket No. 030-00692