



Materials Inspection Report

1. Licensee/Location Inspected: Wayne State University 5425 Woodward Avenue Detroit, MI 48202 Report Number(s) 2024-001	2. NRC/Regional Office Region III U. S. Nuclear Regulatory Commission 2056 Westings Avenue, Suite 400 Naperville, IL 60563-2657	
3. Docket Number(s) 030-01995	4. License Number(s) 21-00741-08	5. Date(s) of Inspection December 16-17, 2024

LICENSEE:
 The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

- 1. Based on the inspection findings, no violations were identified.
- 2. Previous violation(s) closed.
- 3. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements, and were assessed at Severity Level IV, in accordance with the NRC Enforcement Policy.
 - A. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy were satisfied.
 (Non-cited violation(s) was/were discussed involving the following requirement(s))
 - B. The following violation(s) is/are being cited in accordance with NRC Enforcement Policy. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.
 (Violations and Corrective Actions)

Statement of Corrective Actions

I hereby state that, within 30 days, the actions described by me to the Inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

TITLE	PRINTED NAME	SIGNATURE AND DATE
LICENSEE'S REPRESENTATIVE		
NRC INSPECTOR	Ryan Craffey	 <small>Digitally signed by RYAN CRAFFEY Date: 2024.12.30 15:39:23 -06'00'</small>
BRANCH CHIEF	Rhex Edwards	 <small>Digitally signed by RHEX EDWARDS Date: 2025.01.08 11:57:45 -06'00'</small>



Materials Inspection Record

1. Licensee Name: Wayne State University		2. Docket Number(s): 030-01995		3. License Number(s) 21-00741-08	
4. Report Number(s): 2024-001			5. Date(s) of Inspection: December 16-17, 2024		
6. Inspector(s): Ryan Craffey		7. Program Code(s): 01100	8. Priority: 3	9. Inspection Guidance Used: IP 87126	
10. Licensee Contact Name(s): Maha Srinivasan, MS - RSO		11. Licensee E-mail Address: msriniva@wayne.edu		12. Licensee Telephone Number(s): 313-577-0019	
13. Inspection Type: <input checked="" type="checkbox"/> Routine <input checked="" type="checkbox"/> Announced <input type="checkbox"/> Non-Routine <input type="checkbox"/> Unannounced		14. Locations Inspected: <input checked="" type="checkbox"/> Main Office <input checked="" type="checkbox"/> Field Office <input type="checkbox"/> Temporary Job Site <input type="checkbox"/> Remote		15. Next Inspection Date (MM/DD/YYYY): 12/16/2027 <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Extended <input type="checkbox"/> Reduced <input type="checkbox"/> No change	
16. Location(s) Inspected List: Main Campus of Wayne State University Medical Campus of Wayne State University School of Medicine					
17. Scope and Observations: Wayne State University, a public research university with nearly 24,000 students in Detroit, Michigan, maintained a Type A broad-scope academic license to use byproduct and source material for a variety of R&D activities, for teaching and training of students, for instrument calibration, and for possession incident to removal and disposal of reference sources from disused liquid scintillation counters (LSCs). At the time of the inspection, the RSO and two other HPs managed the University's radiation protection program, and the University's RSC met monthly to oversee the program and to approve new uses and users. The University had five active PIs: four used radiolabeled compounds containing H-3, C-14, and/or P-32 for biological research activities, and one used radiolabeled compounds containing F-18, Cu-64, Zr-89, Lu-177, and/or Pb-212 for PET imaging studies. Three PIs had recently been approved to perform additional PET imaging studies; all intended to begin these studies in 2025. One other PI still had DU tailings in storage from recently completed chemistry research activities. The University's HP authorized to remove LSC sources had done so several times a year since the last inspection. The inspector toured several areas of use and storage at the University's main and medical campuses. All areas where licensed material was used and stored were adequately posted, and all licensed material was adequately secured. The inspector performed independent and confirmatory surveys of these areas. No exposures were noted in unrestricted areas above regulatory limits to the public. Some unexpectedly contaminated items were found in the hazardous waste storage building (a lead brick and two fume hood panels, all long unused) and in the PET radiochemical synthesis lab (a syringe in a disused shielded sharps box); however, these items were already adequately secured and presented negligible risk to workers or the public. The University's HPs immediately and appropriately marked, contained, and/or disposed of each item, and discussed the importance of using designated waste containers to account for all radioactive waste with the PI responsible for activities in the synthesis lab, as a student of theirs had apparently disposed of the syringe the week prior, not knowing the sharps box was disused. The inspector interviewed current and new PIs and their staff to review the use of licensed material. All were knowledgeable of radiation protection principles, regulatory requirements, and university policies governing the use					

Materials Inspection Record (Continued)

of this material. All had access to appropriate dosimetry and/or instrumentation, as well as adequate ALARA measures including shielding and contamination control. The licensee continued to store its (pyrophoric) DU tailings under oil in a flammables cabinet, well away from occupied laboratory workstations.

The inspector also interviewed the RSO and HPs to review the implementation of university policies for ordering and receipt of licensed material, LSC source removals, and for waste handling and disposal via decay-in-storage or authorized waste broker. The inspector also discussed the forthcoming increase in PET imaging studies and potential impacts on radiation safety and regulatory compliance given the limited vivarium space currently available for radioactive work. The staff were cognizant of the potential impacts and demonstrated an intent to actively monitor and address them as additional PET imaging studies commenced. To confirm the effectiveness of this monitoring, the next inspector should prioritize an evaluation of the University's control of public exposure, occupational exposure, contamination and radioactive waste from this increased workload in its vivarium.

The inspector also reviewed a selection of records, including RSC minutes, authorized user applications, exposure evaluations from minor contamination incidents, personnel dosimetry reports, and waste disposal documentation, which confirmed that all LSC sources removed since the last inspection had been properly disposed.

The licensee was previously cited in 2017 for removing LSC reference sources without specific authorization, contrary to 10 CFR 30.3 and the conditions of NRC License No. 21-00741-08. The violation was not closed during the 2021 remote inspection. The inspector therefore reviewed the completion and effectiveness of the licensee's corrective actions during the present inspection, confirming that the university still maintained its authorization to remove and store LSC sources and that the staff continued to safely do so as described in the correspondence dated March 11, 2022, which supported the licensee's renewal application dated October 4, 2021. No additional examples of the previous violation were noted; therefore, this violation is closed.

No other violations of NRC requirements were identified as a result of this inspection.

Signature and Date - Branch Chief



Digitally signed by RHEX EDWARDS
Date: 2025.01.08 11:57:26 -06'00'