

**SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION**

1. LICENSEE/LOCATION INSPECTED:

Andrews University  
Department of Physics  
4260 Administration Drive  
Berrien Springs, Michigan 49104

REPORT NO.: 2022-001

2. NRC/REGIONAL OFFICE

Region III  
U.S. Nuclear Regulatory Commission  
2443 Warrenville Road, Suite 210  
Lisle, Illinois 60532

3. DOCKET NUMBER

030-09702

4. LICENSE NUMBER

21-11654-03

5. DATE OF INSPECTION

August 12, 2022



**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 violations closed. [2016-001]
- ☒ 3. The violations, specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy to exercise discretion, were satisfied.
- ☒ Non-Cited Violation was/were discussed involving the following requirement(s) and Corrective Action(s):
- License Condition 13A requires, in part, that sealed sources be tested for leakage at intervals not to exceed 6 months.
- Contrary to the above, from July 2017 to January 2019, a sealed source was not tested for leakage at intervals of 6 months or less. Specifically, a sealed neutron source was not leak tested because the equipment used to test for contamination, a gas proportional counter, had missing components. New equipment was acquired, and leak testing resumed in 2019.
- To prevent recurrence, leak tests will be performed by either repaired equipment or a third party company at intervals not to exceed 6 months.
- ☐ 4. During this inspection certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.

**Licensee's Statement of Corrective Actions for Item 4, above.**

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	Date
LICENSEE'S REPRESENTATIVE	G. Brendan Cross, RSO		8/18/22
NRC INSPECTOR	Jason Dykert, Health Physicist	Jason C. Dykert	Digitally signed by Jason C. Dykert Date: 2022.08.17 14:30:19 -04'00'
BRANCH CHIEF	Michael Kunowski, Chief, MIB		9-6-2022

**NRC FORM 592M**  
(10-2020)

**U.S. NUCLEAR REGULATORY COMMISSION**



## Materials Inspection Record

1. Licensee Name: <b>Andrews University</b>		2. Docket Number(s): <b>030-09702</b>		3. License Number(s) <b>21-11654-03</b>	
4. Report Number(s): <b>2022-001</b>			5. Date(s) of Inspection: <b>August 12, 2022</b>		
6. Inspector(s): <b>Jason Dykert</b>		7. Program Code(s): <b>22120</b>		8. Priority: <b>5</b>	9. Inspection Guidance Used: <b>87141; 87126</b>
10. Licensee Contact Name(s): <b>G. Brendan Cross, RSO</b>		11. Licensee E-mail Address: <b>garnett@andrews.edu</b>		12. Licensee Telephone Number(s): <b>269-471-3430</b> <b>269-815-8422 (cell)</b>	
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 type="checkbox"/> Field Office <input type="checkbox"/> Temporary Job Site <input type="checkbox"/> Remote		15. Next Inspection Date (MM/DD/YYYY): <b>08/12/2027</b> <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Extended <input type="checkbox"/> Reduced <input type="checkbox"/> No change	

**16. Scope and Observations:**

This was an announced inspection of Andrews University Department of Physics academic research and development license. The licensee had not used unsealed materials since at least two previous inspections ago. The licensee possessed and used a neutron howitzer, along with various generally licensed check sources. The RSO supervised the student's instruction with the howitzer. All materials were stored in a locked and appropriately labeled small room.

The inspector observed a demonstration of a physical inventory and discussed how a leak test of the howitzer would be performed. Physical inventory of the howitzer source was conducted at regular six month intervals. The inspector requested a Task 8 package for Andrews University and reviewed the licensee's reporting to NMMSS; the licensee's inventory was as reported.

The previous inspection identified a violation of License Condition (LC) 11A for failing to specifically list the RSO as an Authorized User (AU) on the license. The licensee requested an amendment to list the RSO as an AU and corrected the issue promptly in 2016. The violation is closed.

The licensee performed calibration of a Ludlum proportional gas counter and determined an minimum detectable activity appropriately, prior to each semi-annual leak test of the howitzer. However, the licensee's previous gas proportional counting instrument, an Eberline, was not utilized in 2017 through 2019 because the gas canister for the instrument had been lost and a replacement was not available. The RSO worked on purchasing a new instrument but was unaware that other companies could perform a leak test analysis for Andrews University. Once the new Ludlum counter was purchased, leak testing resumed every 6 months. The RSO had identified this as an issue with respect to License Condition 13.A, and corrected the issue prior to the inspection. All leak tests for removable contamination performed after the 2019 due date were negative, confirming that the source remained sealed.

The inspector documented the failure to perform leak tests as required by License Condition 13.A as a Non-Cited Violation (NCV) because it was self-identified, non-repetitive, and had already been corrected.

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