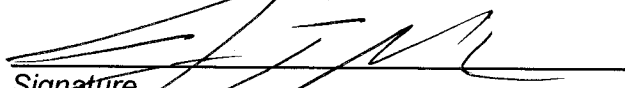


Inspector(s) Luis Nieves Folch, Health Physicist


Signature

Date 1/06/2016

Approved Aaron T. McCraw, Chief, MIB


Signature

Date: 1/11/16

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>
60	11/04/2015	Changed the RSO
59	06/16/2015	Added thorium-228 and thorium-230 for research and development use
58	04/07/2015	Removed an irradiator after transfer
57	11/12/2014	Added plutonium-240 and plutonium-241 for research and development use
56	03/18/2014	Changed neptunium-237, plutonium-242, curium-246, curium-248, plutonium-239, americium-241, americium-243, californium-249, plutonium-238 to any physical form for research and development use
55	12/17/2013	Revised radiation safety training commitments

2. INSPECTION AND ENFORCEMENT HISTORY:

On September 27, 2013, a follow-up inspection concerning escalated enforcement was conducted. No violations were identified and the previous violations were closed.

As a result of a routine inspection conducted on November 29 and 30, 2012, the NRC cited the licensee for two Severity Level III security violations and imposed a civil penalty.

3. INCIDENT/EVENT HISTORY:

On September 8, 2015, the licensee notified the NRC Operations Center that a nickel-63 gas chromatograph source leak test showed 0.012 microcuries of nickel-63 leakage. The event was designated Event Notification Number (EN) 51377. The licensee stated that the source was wrapped and stored in a sealed bag and placed in a waste building. The inspectors noted that the licensee provided the written report of the event on September 22, 2015, as required. During the onsite inspection, the RSO stated that the source is planned to be sent to Bionomics during the week of December 7, 2015. The inspectors reviewed the current copy of Bionomics' license authorizing it to receive the source. EN 51377 is now closed.

PART II - INSPECTION DOCUMENTATION

1. ORGANIZATION AND SCOPE OF PROGRAM:

The licensee used three self-shielded irradiators for research and development. The licensee also used several other radionuclides for research and development, student

instruction, and instrument calibration. The inspectors noted that the licensee had not received plutonium-240 nor plutonium-241 as of the onsite inspection.

2. SCOPE OF INSPECTION:

This inspection was limited to activities conducted at the campus of the University of Notre Dame du Lac, Notre Dame, IN. The inspectors noted that the other authorized locations of use (i.e., 929 North Eddy Street, South Bend, IN; Gogebic County, MI; and 1234 Notre Dame Ave., South Bend, IN) had not been inspected in the recent past. As such, the NRC plans to inspect those facilities before September 1, 2016.

Inspection Procedure(s) Used: 87126

Focus Areas Evaluated: 02.01 through 02.07

3. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:

The inspectors used an NRC owned, calibrated survey instrument affixed to a zinc sulfide probe to conduct independent ambient exposure rate surveys at selected surfaces of the licensee's Actinide Research Facility lab where unsealed alpha-emitting radionuclides were used and stored. The survey results were negative for radiation. That lab is where the licensee plans to use unsealed plutonium-240 and plutonium-241 in a similar manner as those used thus far.

4. VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES:

No safety-related violations or issues were identified.

5. PERSONNEL CONTACTED:

#Peter Burns, Professor and Radiation Control Committee Chairman
Eric Doland, Lab Safety, Occupational Health Specialist
David Gatcheall, Security Technician
Amy Hixon, Assistant Professor

##Eric Kloss, Interim Director of Risk Management and Safety
Jay Laverne, Professor

Aesa Lesicki, Security Technician

*Michael Seamon, Associate Vice President for Campus Safety

#Keri Shibata, Deputy Chief, Notre Dame Police

Irvin Sipkowski, Manager of Technical Services

Jennifer Szymanowski, Laboratory Manager for the Actinide Research Facility

##Andrew Welding, RSO

Attended preliminary exit meeting on 11/20/2015

* Participated in final, telephonic exit meeting on 12/21/15

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