

U.S. NUCLEAR REGULATORY COMMISSION
 NRC FORM 591M
 PART 1
 (10-2003) 10 CFR 2.201
SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/LOCATION INSPECTED: Michigan State University Office of Radiation, Chemical and Biological Safety C-124 Engineering Research Complex East Lansing, MI 48824		2. NRC/REGIONAL OFFICE U.S. Nuclear Regulatory Commission Region III 2443 Warrenville Road Suite 210 Lisle, Illinois 60532-4351	
REPORT NUMBER(S) 2010-001			
3. DOCKET NUMBER(S) 030-00806	4. LICENSEE NUMBER(S) 21-00021-29 (Broadscope)	5. DATE(S) OF INSPECTION September 13-16, 2010	

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. 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, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, NUREG-1600, to exercise discretion, were satisfied.

_____ Non-Cited Violation(s) was/were discussed involving the following requirement(s) and Corrective Action(s):

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.
 (Violations and Corrective Actions)

10 CFR 20.1801 requires that the licensee secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas.

Contrary to the above, on September 14, 2010, the licensee did not secure from unauthorized removal or limit access to a flood source containing approximately 1.5 millicuries of cobalt-57 and approximately 1.0 millicurie (residual quantity) of technetium-99m, located in a controlled area (nuclear medicine hot-lab) of the Veterinary Hospital Building.

This is a Severity Level IV violation (Supplement IV).

As corrective action, the licensee: 1. Issued an internal "Notice of Violation" to the technologist (PI) admonishing the failure to adequately secure the area; and 2. Re-instructed the individual of the requirement to maintain the area access doors secured when the area is not under direct surveillance.

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	KRISTIN F. BRONSON	<i>Kristin F. Bronson</i>	9/28/10
NRC INSPECTOR	S. J. Mulay	<i>S. J. Mulay</i>	09/22/2010

FACSIMILE COVER SHEET

**MICHIGAN STATE
UNIVERSITY**

Office of
Radiation
Chemical &
Biological
Safety

Date: 9/28/10

Total Pages (including this page): 2

To: Sam Murray
Location: USNRC REGION III
Fax Number: 630-515-1259

From: The Office of Radiation, Chemical & Biological Safety
C124 Research Complex - Engineering
Michigan State University
East Lansing, MI 48824-1326



Phone Number: (517) 355-0153
Fax Number: (517) 353-4871
E-Mail Address: orcbs@msu.edu
Web Address: <http://www.orcbs.msu.edu>

Comments: Sam

Here is the 591 form, approved by the
KHS Director, and signed by me.

Thank you

Justin

**SAFETY INSPECTION REPORT
AND COMPLIANCE INSPECTION**

1. LICENSEE Michigan State University (MSU) REPORT NUMBER(S) 2010-01		2. NRC/REGIONAL OFFICE Region III 2443 Warrenville Road, Suite 210 Lisle, IL 60532	
3. DOCKET NUMBER(S) 030-00806	4. LICENSE NUMBER(S) 21-00021-29 (Broadscope)	5. DATE(S) OF INSPECTION September 13-16, 2010	
6. INSPECTION PROCEDURES 87126	7. INSPECTION FOCUS AREAS (See Program Scope Section below)		

SUPPLEMENTAL INSPECTION INFORMATION

1. PROGRAM 1100	2. PRIORITY 2	3. LICENSEE CONTACT Kristin Bronson, RSO	4. TELEPHONE NUMBER 517-355-5008
<input checked="" type="checkbox"/> Main Office Inspection	Next Inspection Date: <u>September 2013</u>		
<input type="checkbox"/> Field Office	_____		
<input type="checkbox"/> Temporary Job Site Inspection	_____		

PROGRAM SCOPE

This large university program has an approximate enrollment of 50,000 students. The licensee's research and development (R/D) activities were reviewed during the last inspection conducted in February 2007. This inspection focused on the licensee's medical program to include: the PET Production Laboratory (Clinical Center), PET-CT imaging area, Veterinary Medical Center, Cyclotron Facility and solid and liquid radwaste storage and handling.

The licensee obtains PET radiopharmaceuticals from an on-site, MSU owned cyclotron staffed and operated by pharmacists from Cardinal Health. The licensee's medical program consists of PET-CT imaging utilizing radiopharmaceuticals in accordance with 10 CFR 35.200 as authorized. Approximately eight patients are imaged daily to evaluate tumor and metastatic carcinoma. Cardiac studies are performed utilizing technetium-99m in a designated location in the Clinical Center as authorized. The Veterinary Center performs a variety of procedures on domestic animals, primarily horses, sheep and cattle some of which involve quantities of authorized licensed material. R/D is also performed at the Van Andel Research Institute (VARI), Grand Rapids, MI, as authorized on this license. This location was reviewed during the previous inspection and was not inspected for R/D at this time.

Performance Observations

Interviews conducted with available staff revealed an adequate level of understanding of emergency and material handling procedures and techniques. Dose calibrator constancy checks, injection technique, daily surveys, and package receipt/return procedures were successfully demonstrated or described. An outside consultant performs quarterly medical program audits which appear to adequately oversee licensed activities.

Licensed material was observed adequately secured during the review (except as specified in NRC Form 591, Part 1) and was not readily accessible to members of the general public. Survey meters were found to be calibrated and operational and compared well in side-by-side comparison with the NRC instrument.

The inspector randomly verified the existing inventory of sources in the licensee's possession against the latest inventory record with no variance noted. Surveys conducted in the cyclotron facility, PET/CT imaging, Veterinary Center and waste storage locations did not indicate readings above expected in restricted or unrestricted areas.

Whole-body and extremity personal dosimetry records reviewed for 2009 and YTD 2010 did not reveal readings in excess of regulatory limits.

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