

(4/2008)
10 CFR 2.201

SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/LOCATION INSPECTED: Michigan Technical Education Center Kalamazoo Valley Community College 7107 Elm Valley Drive Kalamazoo, MI REPORT NUMBER(S) 2009-001		2. NRC/REGIONAL OFFICE Region III 2443 Warrenville Rd. Lisle, IL 60532	
3. DOCKET NUMBER(S) 030-36995	4. LICENSE NUMBER(S) 21-32574-01	5. DATE(S) OF INSPECTION 6/8/09	

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) were discussed involving the following requirement(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)

① Contrary to 10CFR 71.5 and 49CFR 173.421 and 173.422, on several occasions as of 6/8/09, including on 1/5/07, the licensee shipped licensed material as limited quantity shipment and the packages were not marked with the UN identification number. As corrective action, the licensee committed to ensure that the packages will be marked with the UN identification number in the future.

② Contrary to 10CFR 20.1501 and 20.1502, on several occasions as of 6/8/09, including on 11/12/07, the licensee used licensed material and failed to make or cause to be made surveys that were necessary to comply with 10CFR 20.1502. Specifically, the licensee failed to do surveys to determine if adults were likely to receive in 1 year from sources external to the body an dose in excess of 10 percent of the limits in 10CFR 20.1201(a) and thus required to be monitored for occupational exposure in accordance with 10CFR 20.1502. As corrective action, the licensee committed to use extremity dosimeters for the

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	DATE
LICENSEE	ROBERT E. KILKUSKIE	<i>Robert E. Kilkuskie</i>	6/8/09
NRC INSPECTOR	Robert G. Gattone, Jr.	<i>Robert G. Gattone, Jr.</i>	6/8/09

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SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/LOCATION INSPECTED: Michigan Technical Education Center		2. NRC/REGIONAL OFFICE R111	
REPORT NUMBER(S) 2009-001			
3. DOCKET NUMBER(S) 030-36995	4. LICENSE NUMBER(S) 21-32574-01	5. DATE(S) OF INSPECTION 6/8/09	

(Continued)

survey to evaluate if individuals must be monitored per 10CFR 20.1502.

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Docket File Information
SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/LOCATION INSPECTED: Michigan Technical Education Center REPORT NUMBER(S) 2009-01		2. NRC/REGIONAL OFFICE REGION III	
3. DOCKET NUMBER(S) 03036995	4. LICENSE NUMBER(S) 21-32574-01	5. DATE(S) OF INSPECTION 6/8/09	
6. INSPECTION PROCEDURES USED 87126	7. INSPECTION FOCUS AREAS 03.01-03.07		

SUPPLEMENTAL INSPECTION INFORMATION

1. PROGRAM CODE(S) 03620	2. PRIORITY 5	3. LICENSEE CONTACT Darryl Chapman, RSO	4. TELEPHONE NUMBER 269-353-1583
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Main Office Inspection Next Inspection Date: 06/08/2014

Field Office Inspection

Temporary Job Site Inspection

PROGRAM SCOPE

The licensee conducted in-vitro research and development studies with hydrogen-3 and phosphorus-33. The licensee last used phosphorus-33 for kinase assays involving about 2.5 millicuries per experiment. Licensed activities were not conducted during the inspection. The RSO was the only authorized user that had used licensed material. The licensee last conducted principal activities on November 12, 2007. The licensee plans to have Duratec take about 750 microcuries of hydrogen-3 waste from its facility in the summer of 2009. The inspector discussed the requirements of 10 CFR 30.36(d)(3) with the RSO. The licensee's business hours were Monday through Friday from 8:00 a.m. to 5:00 p.m. except during the summer (Memorial Day through Labor Day) when its hours were 8:00 a.m. to 12:00 p.m.

Performance Observations

The inspector observed: (1) that the licensee secured licensed material from unauthorized access; (2) dosimetry badge records indicating that whole body doses were well below regulatory limits; (3) records indicating that the licensee's first receipt of licensed material was after its initial NRC license was issued; (4) that, based on the RSO's demonstration of how he had used phosphorus-33, he properly checked an appropriate, calibrated survey instrument to verify that it was operable prior to use; knew how to interpret ambient exposure rate survey results; knew the survey trigger levels and how to respond if they were exceeded; conducted removable contamination area surveys; wore safety glasses, a lab coat, a whole body dosimeter, and gloves; and used absorbent paper; (5) that, based on the RSO's demonstration of how he would respond to a radioactive spill scenario posed by the inspector, he would conduct personal ambient exposure rate surveys to assess contamination spread, and use adequate techniques to clean the spill while minimizing his radiation dose; and (6) that, based on the inspector's independent ambient exposure rate survey with a calibrated NRC instrument affixed to a pancake probe, selected surfaces of the lab where licensed material had been used measured less than 50 counts per minute (background). The inspector identified a violation of 10 CFR 71.5, 49 CFR 173.421, and 49 CFR 173.422 and the licensee committed to implementing corrective actions to prevent a similar violation (reference Part 1 of this report). The cause of the violation was that the RSO was unaware of the marking requirement. The inspector also identified a violation of 10 CFR 20.1501 and 20.1502 and the licensee committed to implementing corrective actions to prevent a similar violation (reference Part 1 of this report). The cause of the violation was that the RSO thought use of a whole body badge would meet the requirement for extremity exposure monitoring because he was unaware that the exposure rate from phosphorus-33 significantly decreases with distance relative to gamma emitters.