

### SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/LOCATION INSPECTED:  Cardinal Health 414, LLC 7000 Cardinal Place Dublin, Ohio 43017  REPORT NUMBER(S) 2016-001	2. NRC/REGIONAL OFFICE  Region III U. S. Nuclear Regulatory Commission 2443 Warrenville Road, Suite 210 Lisle, IL 60532-4352
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3. DOCKET NUMBER(S) 030-38222	4. LICENSE NUMBER(S) 34-32780-01	5. DATE(S) OF INSPECTION 08/17-18/2016
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**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:

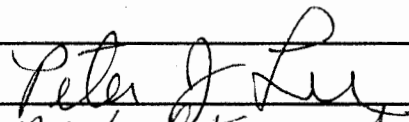

- 1. Based on the inspection findings, no violations were identified.
- 2. Previous violation(s) closed.
- 3. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, 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 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	DATE
LICENSEE'S REPRESENTATIVE			
NRC INSPECTOR	Peter J. Lee, Ph.D., CHP		8-26-2016
BRANCH CHIEF	Michael Kunowski		8-26-2016

*Docket File Information*

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6. INSPECTION PROCEDURES USED  87104	7. INSPECTION FOCUS AREAS
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**SUPPLEMENTAL INSPECTION INFORMATION**

1. PROGRAM CODE(S)  03210	2. PRIORITY	3. LICENSEE CONTACT  Evan Western	4. TELEPHONE NUMBER  (614) 553-4555
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Main Office Inspection                      Next Inspection Date: \_\_\_\_\_

Field Office Inspection    10718 Trenton Ave., St. Louis, Missouri \_\_\_\_\_

Temporary Job Site Inspection \_\_\_\_\_

**PROGRAM SCOPE**

The licensee had contracted with Ameriphysics to perform the characterization and the shipment of the GE PETtrace 8 cyclotron from the St. Louis, MO facility to the East Lansing, MI facility.

**Performance Observations**

The Ameriphysics used In Situ Object Counting Systems (ISOCS) and MicroShield to perform the characterization of the cyclotron and the associated components. The inspector discussed the proper geometry used for the characterization with Ameriphysics to avoid underestimating the activity of neutron activation product.

The ISOCS measurements were in agreement with Microshield activity assessments based on the dose rate measurements. Also, the activities determined by the MicroShield were in agreement with the activities of source term predicted by the manufacturer (GE).

Based on the review of the characterization results, the inspector determined that the activities of cyclotron activation products were properly characterized and the total activities at the East Lansing facility will not exceed the possession limits for NRC license 34-32840-01. Based on the review of the shipping document and dose rate survey of the truck, the inspector determined that shipment of the cyclotron and the associated components meet the DOT requirements.

No violations of NRC requirements were identified.