

SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/LOCATION INSPECTED

Mr. Jack Crawford
The Curators of the University of Missouri
8 Research Park Development Bldg.
Columbia, MO 65211

2. NRC/REGIONAL OFFICE

Region III
U. S. Nuclear Regulatory Commission
2443 Warrenville Road, Suite 210
Lisle, IL 60532-4352

REPORT NUMBER(S) 2012-001

3. DOCKET NUMBER(S)

030-02278

4. LICENSE NUMBER(S)

24-00513-32

5. DATE(S) OF INSPECTION

September 19, 2012

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.

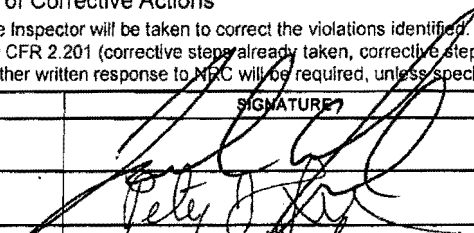
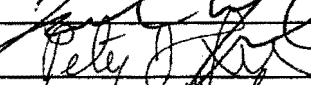
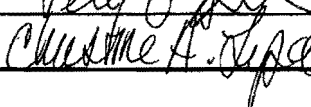
Non-cited violation(s) were discussed involving the following requirement(s):

- 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	Jack Crawford		10-16-12
NRC INSPECTOR	Peter J. Lee, Ph.D., CHP		10-16-12
BRANCH CHIEF	Christine A. Lipa		10-16-12

Docket File Information
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3. DOCKET NUMBER(S) 030-02278	4. LICENSE NUMBER(S) 24-00513-32	5. DATE(S) OF INSPECTION September 19, 2012
6. INSPECTION PROCEDURES USED 87104	7. INSPECTION FOCUS AREAS Decommissioning	

SUPPLEMENTAL INSPECTION INFORMATION

1. PROGRAM CODE(S) 02110Decom	2. PRIORITY	3. LICENSEE CONTACT Mr. Jack Crawford	4. TELEPHONE NUMBER (573) 882-0931
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☒ Main Office Inspection Next Inspection Date:

☐ Field Office Inspection

☐ Temporary Job Site Inspection

PROGRAM SCOPE

The licensee identified residual radioactivity from historical operations in several areas of Pickard Hall located at 1 Pickard Hall, Columbia, MO. The licensee notified the NRC of this issue in a letter dated November 17, 2009. Since then the licensee has performed three characterization surveys only limited to the accessible indoor surface areas and outdoor surface soil. Based on the characterization surveys, most of the contamination is in subsurface soil beneath the basement concrete floor.

Performance Observations

The licensee and inspector conducted a survey at the steam tunnel and found the contamination of the soil only limited to one section of the steam tunnel in front of the Pickard Hall Building (ML12279A068). The contamination may be extended beyond one meter beneath the basement floor and spread to the wall of steam tunnel. The licensee agreed to conduct a future detailed characterization survey of the subsurface contamination. This will be part of the decommissioning licensing review (Mail Control # 574562).

As part of a routine decommissioning inspection at Pickard Hall, the inspector reviewed the Phase III characterization report (ML11353A106) completed by the licensee's contractor in September 2011 and identified a problem in Section 9.2, Air Sampling. Specifically, the derived gross alpha DAC of mixture of Th-232 and Ra-226, $9.5 \text{ E-}10 \text{ } \mu\text{Ci/ml}$, was incorrect. The actual gross alpha DAC should be about $4.0 \text{ E-}12 \text{ } \mu\text{Ci/ml}$. Because of that, the dose was underestimated by a factor of about 237.

Continue to Part 2

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(Continued)

The inspector determined that licensee's consultant used an incorrect methodology to calculate the gross alpha DAC. NRC issued a Severity Level IV violation (Inspection Report No 15000016/12003) against the licensee's Consultant. The licensee's consultant planed to provide corrective action training to the workers and also write addendums to reports affected by the errors.

During the Phase III characterization survey, a small amount of building concrete was removed and the highest air sample result was 4.63 E-13 μ Ci/ml. Using the correct DAC over the two days, the workers received maximum doses of about 2 DAC.hrs, which is equivalent to 50 mrem to the bone surface.

CL 10/16/12