



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
601 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

March 9, 1994

License No. 24-00513-32
Docket No. 030-02278
EA 94-031

The Curators of the University of Missouri
ATTN: Dr. Charles Kiesler, Chancellor
105 Jesse Hall
Columbia, MO 65211

Dear Dr. Kiesler:

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$5,000 (NRC INSPECTION REPORT NO. 030-02278/94001(DRSS))

This refers to the inspection at the University of Missouri, Columbia, conducted from January 24 through 28, 1994. A copy of the report documenting this inspection was mailed to Mr. Kee Groshong, your Vice Chancellor for Administrative Services, on February 23, 1994. Numerous apparent violations of NRC requirements were identified during the inspection. These violations were discussed with your staff during the exit interview on January 28, 1994, and during a management meeting on February 24, 1994. On February 28, 1994, an open enforcement conference was held with Mr. Groshong and Dr. Gerald Brouder, your Provost, and other members of your staff. A copy of the report summarizing the enforcement conference is enclosed with this letter.

The violations are fully described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice). As we discussed during the enforcement conference, we believe the violations can be grouped into the following three categories: (1) insufficient knowledge of license conditions and NRC requirements by your radiation safety staff and radioactive material users; (2) inadequate sense of accountability regarding compliance with safety requirements by the radiation safety staff and radioactive materials users; and (3) ineffective self assessment of your radiation safety program and its implementation.

Your radiation safety staff must have a thorough knowledge of applicable NRC requirements and the conditions of your NRC license since they are responsible for developing, implementing and enforcing the radiation safety program. Further, your material users must be thoroughly trained in your expectations for assuring safety in the laboratories. This training must be effective. During the inspection, several researchers were identified who had not attended your radiation safety training. Others had attended the required radiation safety training and had received whatever on the job training that was available, yet they did not understand the most rudimentary radioactivity measurement and monitoring techniques.

During our inspection, my staff identified several research laboratories as

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contaminated. Your users had not identified those hazards and your radiation safety staff was either unaware of or had not properly responded to the contamination problems. At our request, your radiation safety staff performed expanded surveys of high use laboratories after the completion of our inspection which resulted in the identification of further contamination, including contamination in an unrestricted public hallway. While your surveys indicated that there is no reason to believe radioactive material spread outside University facilities, this appears fortuitous considering your lack of effective control of contamination.

Throughout your research facilities, your faculty and staff disregarded basic radiation safety practices regarding the consumption of food and beverages in radioactive material storage and use areas. It further appears that your radiation safety staff tacitly approved those practices through lax enforcement. Further, on several occasions, your radiation safety staff delivered shipments of radioactive materials to laboratories up to five times in excess of the authorized limit for those areas. Moreover, your radiation safety staff does not have control over the campus inventory of radioactive materials more than two years after this deficiency was first identified to you.

Since the restructuring of the University of Missouri system licenses, there has been no effective mechanism for audit or assessment of the campus radiation safety program and its implementation. One crucial aspect of a successful program is the willingness to look critically at yourself, assess root causes of deficiencies identified and resolve weaknesses. This is not occurring at the Columbia campus. The audits conducted by your radiation safety staff have been superficial and checklist oriented and did not assess the performance of your staff and programs.

As a holder of a broad scope academic and research and development license, you have been granted the authority to name and train your own users of byproduct material. The NRC entrusts the responsibility for radiation safety to the management of the University, the Radiation Safety Committee, and especially the Radiation Safety Officer. Therefore, the NRC expects effective management control and oversight of this licensed program. Incumbent upon each NRC licensee is the responsibility to protect the public health and safety by ensuring that all requirements of the NRC license are met. The violations described in the enclosed Notice indicate that the management of your radiation safety program by your Radiation Safety Committee and the Radiation Safety Office has been ineffective.

These violations, taken collectively, represent a significant breakdown in the control of NRC licensed activities. Therefore, in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy) 10 CFR Part 2, Appendix C, the violations are being classified in the aggregate as a Severity Level III problem. To emphasize the NRC's concern with the lack of adequate oversight of your program, I have been authorized to issue the enclosed Notice in the amount of \$5,000 for the

Severity Level III problem.

The escalation and mitigation factors in the NRC Enforcement Policy were considered in the calculation of this amount. The base value of a civil penalty for a Severity level III problem is \$2,500. This was escalated 50% because the problem was identified by the NRC, and another 50% for your prior poor performance. The escalation for prior poor performance could range up to 100%. While you have not previously had escalated enforcement action regarding these licensed activities, during the previous two routine NRC inspections of your broad scope program eight Severity Level IV violations were identified in August 1991 and four Severity Level IV violations were identified in December 1992. Furthermore, as evidenced by the results of this inspection, your performance has declined. Consequently, 50% escalation was deemed appropriate.

During the conference, members of your staff suggested several root causes that they believed resulted in the violations identified during our inspection. The first was a cavalier attitude by the researchers regarding compliance with University, and, in turn, NRC requirements. A second was the lack of an enforcement program at the University. Finally, your Provost indicated that management oversight and involvement in the program had not been sufficient. In response to these causes, your staff discussed the following broad corrective actions which had not been finalized or implemented at the time of the conference:

- Implementing a comprehensive self assessment program including: (1) routine performance based inspections of the facilities and laboratories; and (2) periodic, thorough external program reviews by qualified professionals under the direction of the Radiation Safety Committee and the Associate Vice Chancellor for Administrative Services with feedback to the Provost, Deans, and Department Chairs;
- Increasing management presence in the laboratories and increasing management involvement in routine radiation safety program activities;
- Developing an internal enforcement policy to respond to deficiencies;
- Formulating a corrective action program that will assure root causes and corrective actions for future identified deficiencies are appropriate to achieve lasting correction;
- Re-evaluating the authorization of the radioactive material users by the Radiation Safety Committee to assure that the persons have the correct authority and involvement in the research activities to fulfill their responsibilities;
- Completing the installation of an effective campus inventory system utilizing the currently contracted software vendor by April 1, 1994, or initiating an alternate software approach;

- Purchasing and issuing standardized survey instruments to assure that the researchers have available the proper instrumentation.

Following the enforcement conference, your staff informed us that you were assigning a new Radiation Safety Officer to administer this license.

We are concerned that, following our identification of contaminated laboratories during the inspection, you did not initiate more extensive surveys of high use and public areas without strong encouragement from Region III staff. In addition, while the broad corrective actions described above appear responsive to several of the causal factors, we are concerned that the actions had not been initiated by the date of the enforcement conference. Consequently, the civil penalty was neither escalated nor mitigated based on your corrective actions. The remaining factors in the Enforcement Policy were also considered and no further adjustment to the base civil penalty was considered appropriate. Therefore, in summary, the base civil penalty was escalated 100%.

The enclosed Notice does not include the apparent violations discussed in our inspection report regarding transportation of licensed materials. Those apparent violations are under further review and you will be notified separately regarding those issues. Notwithstanding, you should continue to proceed with the corrective actions you deem appropriate for your transportation deficiencies as described in the letter from Mr. James L. Beckett of your staff dated February 16, 1994. Furthermore, we have determined that two other apparent violations regarding notification of the radiation safety staff of certain matters and maintenance of certain records did not occur based on additional information your staff provided as described in the enclosed enforcement conference report.

Within thirty days, you are required to respond to the specific violations in the enclosed Notice and should follow the instructions specified in the Notice when preparing your response. In your response, you should document the specific actions taken to correct the violations and any additional actions you plan to prevent recurrence.

In addition to that response to the specific violations, I request that you provide to this office a Safety Performance Improvement Program which will result in: (1) a complete and thorough evaluation of your radiation safety practices and program by qualified persons to determine how you are currently complying with NRC regulations, the conditions of your license, and prudent health physics practices; (2) a compilation of radiation safety deficiencies from that effort; (3) a complete root cause analysis of those deficiencies; and (4) a description of corrective actions to accomplish the improvements necessary for lasting correction of the deficiencies.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

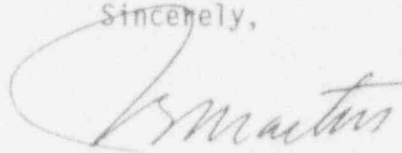
The Curators of the University
of Missouri

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The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. B. Martin".

John B. Martin
Regional Administrator

Enclosures:

1. Notice of Violation and Proposed Imposition
of Civil Penalty
2. Enforcement Conference Report

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