

March 21, 2011

Mr. Robert Martig  
Director, Quality and Regulatory Systems  
Midwest Research Institute  
425 Volker Blvd.  
Kansas City, Missouri 64110-2299

SUBJECT: NRC INSPECTION REPORT NO. 030-05083/11-01(DNMS) - MIDWEST  
RESEARCH INSTITUTE AND NOTICE OF VIOLATION

Dear Mr. Martig:

On January 6 and 7, 2011, with continuing in-office review through February 22, 2011, the U. S. Nuclear Regulatory Commission (NRC) conducted an inspection at the Midwest Research Institute facility located in Kansas City, Missouri. The continuing NRC in-office review related to, in part, additional information regarding the bioassay and air effluent program at your facility. A telephonic exit meeting was conducted between James McHugh of your staff and Michael LaFranzo and Bill Lin of my staff on February 23, 2011.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of the inspection, the NRC has determined that three Severity Level IV violations of NRC requirements occurred. The violations were evaluated in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforcement-pol.html>. The violations involved the failure to: 1) make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in Title 10 of the Code of Federal Regulation (CFR) Part 20, related to exposure to members of the general public and internal radiological exposures; 2) label a container that possessed licensed material; and 3) perform a physical inventory of all sealed and/or foil sources at intervals of 3 months.

The violations are cited in the enclosed Notice of Violation (Notice), because the NRC identified them. You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The guidance in NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful. You can find the Information Notice on the NRC website at: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1996/in96028.html>. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

R. Martig

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In accordance with 10 CFR Section 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/readingrm/adams.html>.

To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

*/RA/*

Tamara E. Bloomer, Chief  
Materials Inspection Branch

Docket No. 030-05083  
License No. 24-02564-02

Enclosure:  
Notice of Violation

cc/encl: Eric R. Jeppesen, Manager  
James M. McHugh, Radiation Safety Officer  
State of Missouri

R. Martig

-2-

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Docket No. 030-05083  
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Enclosure:  
Notice of Violation

cc w/encl: Eric R. Jeppesen, Manager  
James M. McHugh, Radiation Safety Officer  
State of Missouri

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## NOTICE OF VIOLATION

Midwest Research Institute  
Kansas City, Missouri

Docket No.: 030-05083  
License No.: 24-02564-02

During a U.S. Nuclear Regulatory Commission (NRC) inspection conducted on January 6, and January 7, 2011, three violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. Title 10 of the Code of Federal Regulations (CFR) 20.1501 requires that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in 10 CFR Part 20 and that are reasonable under the circumstances to evaluate the extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present.

Contrary to the above, as of January 7, 2011, the licensee did not make surveys to assure compliance with:

1. Title 10 CFR 20.1204, which allows for the determination of internal exposure through the use a bioassay program. Specifically, the licensee did not address the physical and/or biochemical properties of the radionuclides taken into the body or the behavior or the material in the individual which could affect the determination of internal exposure.
2. Title 10 CFR 20.1301(a), which limits the total effective dose equivalent to individual members of the public from the licensed operation to 0.1 rem in a year. Specifically, the licensee had not performed a radiological analysis or mathematical calculations to ensure individual members of the public did not receive in excess of 0.1 rem in a year from air effluents that contained carbon-14 and tritium.

This is a Severity Level IV violation (Section 6.3).

- B. Title 10 CFR 20.1904(a) requires the licensee to ensure that each container of licensed material bears a durable, clearly visible label bearing the words "CAUTION, RADIOACTIVE MATERIAL," or "DANGER, RADIOACTIVE MATERIAL." The label must also provide sufficient information (such as the radionuclide(s) present, an estimate of the quantity of radioactivity, the date for which the activity is estimated, etc.) to permit individuals handling or using the containers, or working in the vicinity of the containers, to take precautions to avoid or minimize exposures.

Contrary to the above, as of January 7, 2011, a filtration system, located in a container which contained a pre-filter, high efficiency particulate air and Charcoal filters contaminated with carbon-14 and tritium, did not bear a label that identified the radionuclides or the quantity of radioactivity, nor did it otherwise bear sufficient information to permit individuals handling or using the container, or working in the vicinity of the container, to take precautions to avoid or minimize exposure.

This is a Severity Level IV violation (Section 6.3).

Enclosure

- C. Condition 20 of NRC License 24-02564-02 states that the licensee shall conduct a physical inventory of all sealed and/or foil sources at intervals not to exceed 3 months.

Contrary to the above, as of January 7, 2011, the licensee failed to conduct a physical inventory of a foil source, containing approximately 139 millicuries of tritium, at 3 month intervals. Specifically, the licensee had not inventoried the Electron Capture Detector (ECD) foil source since the 1980's.

This is a Severity Level IV violation (Section 6.3).

Pursuant to the provisions of 10 CFR 2.201, Midwest Research Institute is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region III, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> to the extent possible, it should not include any personal privacy, proprietary or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information.

If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 21st day of March, 2011

Enclosure