



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

October 15, 2010

Docket No. 07000398

License No. SNM-362

Richard F Kayser, Ph.D.  
Chief Safety Officer  
U.S. Department of Commerce  
National Institute of Standards and Technology  
Building 301, Room B111  
Gaithersburg, MD 20899-1730

SUBJECT: NRC INSPECTION REPORT NO. 07000398/2010001, U.S. DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, GAITHERSBURG, MARYLAND AND NOTICE OF VIOLATION

Dear Dr. Kayser:

On May 6, July 19-21, and September 15, 2010, Todd Jackson of this office conducted a special safety inspection at your Gaithersburg facility to review a radioactive material contamination event you reported that resulted in the improper transfer for disposal of radioactive material to the normal trash. The inspection consisted of observations by the inspector, interviews with personnel, and a selective examination of representative records. The findings of the inspection were discussed with you and Thomas O'Brien of your organization at the conclusion of the inspection. The inspection report is enclosed.

Based on the results of this inspection and in accordance with the NRC Enforcement Policy, the NRC has determined that two Severity Level 4 violations of NRC requirements occurred. The violations involved: 1) the failure to make surveys that may be necessary for the licensee to comply with the regulations as required by 10 CFR 20.1501(a)(2)(iii); and 2) the failure to dispose of licensed material only as permitted by 10 CFR 20.2001(a).

The violations are cited in the enclosed Notice of Violation (Notice) because the violations were identified as a result of an event where NIST had prior opportunity to identify the problem but failed to take action that would have prevented the event. In this case, the NRC recognizes that you did contact the NRC when you determined that the violations had occurred.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC document system (ADAMS), accessible from the NRC website at <http://www.nrc.gov/reading-rm/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.

Current NRC regulations are included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **Nuclear Materials; Medical, Academic, and Industrial Uses of Nuclear Material**; then **Regulations, Guidance, and Communications Page**. The current Enforcement Policy is included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **About NRC; How We Regulate; Enforcement**; then

R. Kayser

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**Enforcement Policy.** You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 7:00 a.m. to 6:30 p.m. EST, Monday through Friday (except Federal holidays).

Please contact Todd Jackson at 610-337-5308 if you have any questions regarding this matter.

Sincerely,

***Original signed by James P. Dwyer***

James P. Dwyer, Chief  
Commercial and R&D Branch  
Division of Nuclear Materials Safety

Enclosures:  
Inspection Report No. 07000398/2010001  
Notice of Violation

cc w/enclosures:  
Thomas O'Brien, C.H.P., Radiation Safety Officer  
State of Maryland

R. Kayser

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Inspection Report No. 07000398/2010001  
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cc w/enclosures:  
Thomas O'Brien, C.H.P., Radiation Safety Officer  
State of Maryland

Distribution:  
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**SUNSI Review Complete: TJackson**

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DATE	10/15/10		10/15/10				

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## NOTICE OF VIOLATION

U.S. Department of Commerce  
Gaithersburg, MD

Docket No. 07000398  
License No. SNM-362

During an NRC inspection conducted on May 6, July 19-21, and September 15, 2010, two violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. 10 CFR 20.1501(a) requires, in part, 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 are reasonable under the circumstances to evaluate concentrations or quantities of radioactive material, and the potential radiological hazards.

Pursuant to 10 CFR 20.1003, "survey" means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation.

Contrary to the above, the licensee failed to make surveys necessary to assure compliance with the regulations in 10 CFR 20.2001(a), which limits transfer of licensed radioactive material to only authorized recipients. Specifically, the licensee did not adequately evaluate the hazards of utilizing the plutonium reference source in the Secondary Ion Mass Spectrometer (SIMS) when its use was first proposed in 2004, and surveys of the SIMS and materials used to clean the SIMS on April 13-and 14, 2010, were not adequate to identify the plutonium contamination present following use of the reference source.

This is a Severity Level IV violation (Supplement IV).

- B. 10 CFR 20.2001(a) requires a licensee to dispose of licensed material only by transfer to an authorized recipient as provided in 10 CFR 20.2006 or in the regulations in parts 30, 40, 60, 61, 63, 70, and 72 of 10 CFR.

Contrary to the above, the licensee failed to limit transfer of licensed material only to an authorized recipient. Specifically, following work on April 13-14, 2010, the licensee transferred trash contaminated with licensed material for disposal to the normal trash collector, which is not a licensed, authorized recipient.

This is a Severity Level IV violation (Supplement IV).

Pursuant to the provisions of 10 CFR 2.201, U.S. Department of Commerce is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, with a copy to the Regional Administrator, Region I, 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, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, 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 to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, any response which contests an enforcement action shall be submitted under oath or affirmation.

Your response will be placed in the NRC Public Document Room (PDR) and on the NRC Web site. To the extent possible, it should, therefore, not include any personal privacy, proprietary, or safeguards information so that it can be made publically available without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

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

Dated This 15 day of October 2010