

July 24, 2007

EA-07-184
NMED No. 060707

Frederick B. Entwistle, Corporate Radiation Safety Officer
3M Corporate Health Physics Services
3M Center, Building 220-06-W-08
P.O. Box 33283
St. Paul, MN 55133

SUBJECT: NRC SPECIAL INSPECTION REPORT NO. 030-04950/2007-001(DNMS)
AND NOTICE OF VIOLATION - 3M CORPORATE HEALTH PHYSICS
SERVICES

Dear Mr. Entwistle:

This refers to the special inspection conducted on June 25, 2007, at your Hartford City, Indiana facility. The purpose of the inspection was to review the circumstances, root and contributing causes, and proposed corrective actions related to a loss of a 609 millicurie hydrogen-3 plated foil source from a 3M Model II-3 static meter that occurred sometime in October 2007 at your Hartford City, Indiana facility. The results of this inspection were discussed between you and Darrel Wiedeman of my staff on July 18, 2007.

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 this inspection, the NRC has determined that a Severity Level IV violation of NRC requirements occurred. The violation was evaluated in accordance with the NRC Enforcement Policy included on the NRC's Web site at www.nrc.gov. The violation is cited in the enclosed Notice of Violation (Notice) and involves the failure to control and maintain constant surveillance of licensed materials that were in a controlled area and were not in storage.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. For your consideration and convenience, an excerpt from NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," is enclosed. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

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's document system (ADAMS), accessible from the NRC Web site 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.

Should you have any questions concerning this inspection, please contact Darrel Wiedeman of my staff at (630) 829-9808.

Sincerely,

/RA/

John R. Madera, Chief
Materials Inspection Branch

Docket No. 030-04950
License No. 22-00057-03

Enclosures:

- 1. Notice of Violation
- 2. Excerpt from NRC Information Notice 96-28
- 3. Inspection Report 030-04950/2007-001(DNMS)

cc w/encls: William Aspy, 3M, Hartford City, IN

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Letter to Frederick B. Entwistle from John R. Madera dated July 24, 2007

SUBJECT: NRC SPECIAL INSPECTION REPORT NO. 030-04950/2007-001(DNMS)
AND NOTICE OF VIOLATION - 3M CORPORATE HEALTH PHYSICS
SERVICES

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NOTICE OF VIOLATION

3M Corporate Health Physics Services
St. Paul, MN

Docket No. 030-04950
License No. 22-00057-03
EA-07-184

During an NRC inspection conducted on June 25, 2007, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Title 10 CFR 20.1801 requires that the licensee secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas. 10 CFR 20.1802 requires that the licensee control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. As defined in 10 CFR 20.1003, controlled area means an area, outside of a restricted area but inside the site boundary, access to which can be limited by the licensee for any reason; and unrestricted area means an area, access to which is neither limited nor controlled by the licensee.

Contrary to the above, in October 2006, the licensee did not secure from unauthorized removal or limit access to a plated source containing 609 millicuries of hydrogen-3 in a 3M Model II-3 static meter that was used in the manufacturing building. The licensee failed to maintain constant surveillance of this licensed material. Specifically, in October 2006, the hydrogen-3 source became detached from the static meter and the source was subsequently lost.

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

Pursuant to the provisions of 10 CFR 2.201, 3M Corporate Health Physics Services 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, 2443 Warrenville Road, Lisle, IL 60532-4352, 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 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, with the basis for your denial, to the Director, Office of Enforcement, United States 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 document 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). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

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

Dated this 24th day of July 2007

NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.: 030-04950

License No.: 22-00057-03

Report No.: 030-04950/2007-001(DNMS)

Licensee: 3M Corporate Health Physics Services

Location: Hartford City, Indiana

Date of Inspection: June 25, 2007

Inspector: Darrel G. Wiedeman, Senior Health Physicist

Reviewed By: John R. Madera, Chief
Materials Inspection Branch

NMED No. 060707

Enclosure 3

EXECUTIVE SUMMARY

**3M Corporate Health Physics Services
St. Paul, Minnesota
Inspection Report No. 03004950/2007-001(DNMS)**

The purpose of the inspection was to review the circumstances, root and contributing causes, and proposed corrective actions related to a reported loss of 609 millicuries of hydrogen-3 in the form of a plated source that was in a 3M Model II-3 static meter.

The source was discovered missing when the local radiation safety officer started receiving complaints that the static meter was operating erratically. As a result the radiation safety officer discovered that the hydrogen-3 source was missing on November 1, 2006. The licensee notified the NRC Operations Center on November 20, 2006, and provided their 30-day report on December 20, 2006. The licensee initiated an internal investigation regarding this matter and included interviews with all employees, posted a photograph and notice, and conducted a department-wide search to locate the source but was unable to find it. It was assumed that the source probably fell out of the wand around the end of October 2006 and was disposed as normal industrial waste and sent to a local landfill.

The root cause of the unauthorized disposal appears to be a failure to recognize that the source had fallen out of the device and failure to bring this issue to licensee management's attention.

The licensee's proposed corrective actions to reduce the likelihood of a similar event included: (1) employee training and, (2) modifications to the device were made by the device manufacturer (3M St. Paul, Minnesota) to secure the source in the device.

The loss of the 609 millicurie hydrogen-3 plated source resulted in an apparent violation of NRC requirements regarding the failure to control and maintain constant surveillance of licensed material in a controlled or unrestricted area and not in storage.

Report Details

1.0 Program Scope and Inspection History

License Number 22-00057-03 authorizes 3M Corporate Health Physics Services (licensee) to possess a variety of plated and sealed sources for sample analysis, level detection, thickness detection, density detection, static measuring devices and static elimination at eight 3M facilities located in other States.

The NRC inspections conducted on February 27, 1996, and October 19, 2001, did not identify any violations of NRC requirements.

2.0 Sequence of Events and Licensee Investigation

2.1 Inspection Scope

The inspector reviewed the results of the licensee's investigation into the loss of a 609 millicurie hydrogen-3 plated source. The inspector also interviewed selected licensee personnel, and observed related equipment and facilities.

2.2 Observations and Findings

After it was discovered that the plated source was missing, the licensee conducted an internal investigation into this matter, but was unable to find the missing source. During interviews with the various users, it was learned that one of the users indicated that around the end of October 2006, he found the source laying inside the wand storage case and proceeded to push the source back into the wand. The wand was used that day without any problems; however, within several days the local radiation safety officer started receiving complaints that the wand was operating erratically.

The facility radiation safety officer conducted an extensive search for the plated source, but was unable to locate it. The licensee concluded, based on its investigation into this matter, that the plated source was most likely mistakenly thrown away in the trash with other industrial debris at some time between the end of October and the beginning of November 2006, and disposed of in a sanitary landfill.

The loss of the 609 millicurie hydrogen-3 plated source within a 3M Model II-3 static meter resulted in an apparent violation of Title 10 Code of Federal Regulations (CFR) Parts 20.1801/1802, regarding the failure to secure licensed material stored in a controlled area from unauthorized removal or access or to control and maintain constant surveillance of licensed material in a controlled area and not in storage.

The licensee determined that the root cause of the unauthorized disposal appears to be a failure to recognize that the source had fallen out of the device and failure to bring this issue to licensee management's attention.

2.3. Conclusions

The NRC inspector identified an apparent violation of 10 CFR 20.1801/1802. The licensee conducted an appropriate review into the loss of the 609 millicurie hydrogen-3 plated source, including determining the root cause.

3.0 Licensee Corrective Actions

3.1 Inspection Scope

The inspector reviewed the licensee's proposed corrective actions to preclude similar events. The inspector also interviewed selected licensee personnel.

3.2 Observations and Findings

The licensee's proposed corrective actions to reduce the likelihood of a similar event included: (1) employee training and, (2) modifications to the device were made by the device manufacturer (3M St. Paul, Minnesota) to secure the source in the device.

3.3 Conclusions

The inspector reviewed the licensee's corrective actions to address the root cause of the loss of licensed materials. These corrective actions will be reviewed during a future inspection to determine if these actions were effective.

4.0 Notifications and Reports

4.1 Inspection Scope

The inspector reviewed the licensee's notifications to the NRC Operations Center, and its 30-day report, dated December 20, 2006, that was submitted to the NRC.

4.2 Observations and Findings

On November 20, 2006, the licensee notified the NRC Operations Center regarding the loss of the 609 millicurie hydrogen-3 plated source, once it determined the material could not be found at the Hartford City, Indiana facility and may have been disposed of in the normal trash. The licensee submitted its written report, dated December 20, 2006, within 30 days of the telephone report. The report included the information required by 10 CFR 20.2201.

4.3 Conclusions

The licensee made all of the notifications and submitted the reports required by 10 CFR 20.2201 within the specified time period. The licensee's 30-day written report included all of the required information.

5.0 Exit Meetings

At the completion of the onsite inspection, the inspector conducted a preliminary exit meeting with licensee management and staff. The inspector discussed the sequence of events that led to the loss of material, the root and contributing causes of the event, and the licensee's proposed corrective actions. The licensee did not identify any information reviewed during the inspection and proposed for inclusion in this report as proprietary in nature. The final exit meeting was conducted via telephone on July 18, 2007, with Mr. Entwistle, and included a discussion of the apparent violation and the licensee's associated corrective actions.

Partial List of Persons Contacted

- # William Aspy, Radiation Safety Officer-Hartford City, IN facility
- #* Frederick Entwistle, Corporate Radiation Safety Officer, St. Paul, MN

Denotes attended Exit Meeting on June 25, 2007

* Denotes attended the telephone conference (Exit Meeting) on July 18, 2007