

January 16, 2008

EA-08-002
NMED NO. 070659

Kevin B. Hoppe, P.E.
Chairman and Chief Financial Officer
NTH Consultants, Ltd.
38955 Hills Tech Drive
Farmington Hills, MI 48331-3432

SUBJECT: NRC SPECIAL INSPECTION REPORT NO 030-08223/2007-002(DNMS)
NTH CONSULTANTS, LTD.

Dear Mr. Hoppe:

This refers to the special inspection conducted on December 19, 2007, at your Farmington Hills, Michigan facility. The purpose of the inspection was to follow up on the theft of your Troxler portable gauge that occurred on October 28, 2007. The enclosed report presents the results of this inspection.

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, one apparent violation was identified and is being considered for escalated enforcement action 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 apparent violation involved the failure to use a minimum of two independent physical controls that form tangible barriers to secure the transport case lid when the portable gauge, containing cesium-137 and americium-241/berrilium sealed sources, was stored in the back of a pick-up truck and not under the control and constant surveillance of licensee personnel in accordance with 10 CFR 30.34(i). The circumstances surrounding the apparent violation, the significance of the issues, and the need for lasting and effective corrective action were discussed with your staff during the exit meeting on December 19, 2007. As a result, it may not be necessary to conduct a predecisional enforcement conference in order to enable the NRC to make an enforcement decision.

You should be aware that Section VII.A.1.g of the NRC Enforcement Policy states that for violations involving the loss, abandonment, or improper transfer or disposal of a sealed source or device, the NRC should normally exercise discretion when proposing the imposition of a civil penalty of at least the base amount. However, since the transport case containing the portable gauge was properly secured to the vehicle prior to the theft, the failure to have the case lid properly secured with two independent physical controls did not, in this event, result in the portable gauge being stolen. Therefore, a civil penalty may not be warranted for the loss of the portable gauge. The final decision will be based on your confirming, on the license docket, that the corrective actions previously described to the staff have been or are being taken.

Before the NRC makes its enforcement decision, we are providing you an opportunity to either: (1) respond to the apparent violation addressed in the inspection report within 30 days of the date of this letter or (2) request a predecisional enforcement conference. If a conference is held, it will be closed to public observation. Please contact John Madera at (630) 829-9834 within 7 days of the date of this letter to notify the NRC of your intended response.

If you choose to provide a written response, it should be clearly marked as a "Response to an Apparent Violation in Inspection Report No. 030-08223/07-02; EA-08-002" and should include for the apparent violation: (1) the reason for the apparent violation, or, if contested, the basis for disputing the apparent 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. In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violation. The guidance in the enclosed excerpt from NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision or schedule a predecisional enforcement conference.

In addition, please be advised that the number and characterization of apparent violations described in the enclosed inspection report may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter. In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response, if you choose to provide one, 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 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.

Sincerely,

/RA by K. O'Brien Acting for/

Steven A. Reynolds, Director
Division of Nuclear Materials Safety

Docket No. 030-08223
License No. 21-14894-01

Enclosures:

1. Inspection Report No. 030-08223/2007-002(DNMS)
2. Excerpt from NRC Information Notice 96-28

cc w/encl 1: State of Michigan

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Letter to Kevin Hoppe from Steven A. Reynolds dated

SUBJECT: NRC SPECIAL INSPECTION REPORT NO 030-08223/2007-002(DNMS)
NTH CONSULTANTS, LTD.

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REGION III

Docket No.: 030-08223

License No.: 21-14894-01

Report No.: 030-08223/2007-002(DNMS)

Licensee: NTH Consultants, Ltd.

Location Inspected: 38955 Hills Tech Drive
Farmington Hills, Michigan

Date: December 19, 2007

Exit Meeting: December 19, 2007

Inspectors: Ken Lambert, Senior Health Physicist
Robert Hays, Health Physicist

Approved by: John R. Madera, Chief
Materials Inspection Branch

EXECUTIVE SUMMARY

**NTH Consultants, Ltd.
Farmington Hills, Michigan
NRC Inspection Report 030-08223/2007-002 (DNMS)**

This was a special inspection conducted on December 19, 2007, to review the circumstances, root cause, and proposed corrective actions associated with the licensee's report that a Troxler Model 3401 portable moisture/density gauge (gauge) was stolen from an authorized gauge user's residence on October 28, 2007. The gauge contained approximately 8 millicuries of cesium-137 and 40 millicuries of americium-241/beryllium in sealed source form. The theft occurred while the gauge was stored overnight in the back of the authorized gauge user's pickup truck. The inspection determined that two cables and two padlocks were used to secure the transport case containing the gauge to the bed of the pickup truck. The inspection also determined, however, that the transport case lid was secured using only a single padlock and the cables that went through the case lid handle were long enough to allow the transport case lid to be opened without removing the cables once the padlock was removed.

The inspectors identified an apparent violation of Title 10 Code of Federal Regulations (CFR) Part 30.34(i) associated with the licensee's failure to use a minimum of two independent physical controls that form tangible barriers to secure the gauge whenever the gauge is not under the control and constant surveillance of the licensee.

The inspectors determined that the root cause for the event was the licensee staff's failure to recognize that the length of the cable used as one of the physical controls, was too long and would allow the transport case lid to be opened without cutting the cable once the padlock on the transport case lid hasp was removed. The licensee implemented corrective actions that included: (1) developing a steel strap that fits tightly around the transport case and uses a steel rod which runs through the handle of the transport case and through both ends of the steel strap and secured with a padlock; (2) improving security of the gauge by replacing the cables with thicker, heavier chains; (3) providing instructions on the revised security procedures to each gauge user; (4) increasing emphasis on gauge security during internal training sessions; and (5) reducing visibility of the gauges in open truck beds by using tarps to cover the gauge.

Report Details

1 Program Scope and Inspection History

NTH Consultants, Ltd. (licensee), is an engineering firm that evaluates physical properties of materials at various work sites in Michigan. The licensee is authorized by NRC License No. 21-14894-01 to possess and use portable gauges at temporary job sites anywhere in the United States where the NRC maintains regulatory jurisdiction. At the time of the inspection, the licensee possessed 38 Troxler 3400 series moisture-density gauges and one generally licensed device. The licensee has three storage locations listed on the license, which are located in Farmington Hills, Michigan (corporate office), Grand Rapids, Michigan (field office) and Detroit, Michigan (field office). The licensee staff consisted of 60 authorized gauge users between the corporate and field offices.

The licensee has not been subject to escalated enforcement for two previous inspections. No violations were identified for the most recent inspection conducted on February 6, 2007. A prior inspection conducted on November 27-28, 2001, identified one Severity Level IV violation of NRC requirements for a failure to block and brace a Troxler gauge during transport to a temporary job site. Corrected actions were reviewed and the violation was closed during the inspection conducted on February 6, 2007.

2 Event Chronology and Corrective Actions

2.1 Inspection Scope

The inspectors reviewed the licensee's response to the theft of its gauge and the implementation of security requirements. The inspectors interviewed the licensee's Radiation Safety Officer (RSO) and the authorized gauge user who was in possession of the gauge at the time the gauge was stolen, observed selected licensed activities, and reviewed selected licensee records.

2.2 Observations and Findings

On October 28, 2007, an authorized gauge user (AGU) stored and secured a Troxler Model 3401 portable moisture/density gauge (gauge) in the open bed of his personal pickup truck that was parked at his residence. The next morning, October 29, 2007, the AGU left his residence to travel to a temporary job site and about 12 noon, the AGU discovered the gauge missing from the truck. The AGU believed the gauge was stolen during the time his truck was parked at his residence because the truck was under constant surveillance by the AGU after he left his residence on October 29, 2007. The AGU also believed the padlocks used to secure the cables to the bed of the truck must have been cut off or removed because only the cables securing the gauge were left in the truck. The AGU reported that the gauge had been secured in his truck with two cables. Each cable had been looped through one of the two opposing side handles located at each end of the transport case (case) and both cables looped through the top handle of the case and locked to each side of the truck bed using two padlocks. One padlock was located at the case lid hasp, which locked the case lid. The other padlock was located on a "tie down" bracket that was bolted to the truck bed, preventing that

cable from being removed. The licensee believed its method of securing the case met the security requirements in 10 CFR 30.34(i)

Title 10 CFR 30.34(i) requires that each portable gauge licensee use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal, whenever portable gauges are not under the control and constant surveillance of the licensee. The inspectors determined that the licensee had used two cables and two padlocks to secure the case to the bed of the pickup truck. The inspectors also determined that the case lid was secured with only a single padlock, and the cables that went through the case lid handle were sufficiently long enough such that once the padlock was removed from the case lid hasp, the lid could be opened without removing the cables. While the case containing the gauge was secured to the truck with two independent physical controls to form tangible barriers, the case lid was secured with only one independent physical control. Therefore, the failure to properly secure the case lid with two physical controls forming tangible barriers is a violation of 10 CFR 30.34(i). However, in this event, the failure to properly secure the case lid was not the root cause for the theft of the gauge. The gauge was stolen after the two physical controls securing the case to the pickup truck were defeated, allowing removal from the truck.

In response to the theft, the AGU notified the Radiation Safety Officer and the Livonia, Michigan Police Department. The AGU also looked in the immediate vicinity of his residence for the gauge but it was not located. To date the gauge has not been recovered.

As corrective actions, the licensee: (1) developed a steel strap that fits tightly around the transport case and uses a steel rod which runs through the handle of the transport case and through both ends of the steel strap and secured with a padlock. The steel strap is secured to the bed of the truck using a chain and padlock; (2) improved security of the gauge by replacing the cables with thicker, heavier chains; (3) provided instructions on the revised security procedures to each gauge user; (4) increased emphasis on gauge security during internal training sessions; and (5) reduced visibility of the gauges in open truck beds by using tarps to cover the gauge.

2.3 Conclusions

The inspectors identified an apparent violation of 10 CFR 30.34(i) involving the licensee's failure to use a minimum of two independent physical controls that form tangible barriers to secure the gauge case lid. The licensee implemented corrective actions to prevent recurrence of the apparent violation.

3 Notifications and Reports

3.1 Inspection Scope

The inspectors interviewed the Radiation Safety Officer and reviewed the licensee's event report to determine what notifications and reports had been made to the NRC concerning the event.

3.2 Observations and Findings

The licensee notified the NRC regarding the stolen gauge on October 29, 2007, as required by 10 CFR 20.2201(a)(i). The licensee provided its 30-day report on November 26, 2007, in accordance with 10 CFR 20.2201(b). The inspectors reviewed the licensee's written report and determined that the licensee included all of the required information in the report.

3.3 Conclusions

The licensee made all of the notifications and submitted the 30-day report required by 10 CFR 20.2201 within the specified time period. No violations of NRC reporting requirements were identified.

4 **Exit Meeting Summary**

The inspectors discussed the preliminary conclusions, as described in this report, with licensee management during the exit meeting conducted at the licensee's facility on December 19, 2007. The inspectors discussed the activities reviewed, the inspection findings, and the apparent violation. The licensee did not identify any information reviewed during the inspection and proposed for inclusion in the inspection report as proprietary in nature.

Partial List of Personnel Contacted and Attendees at the Exit Meeting

Kevin Hoppe, Chairman and Chief Financial Officer
Jim Parsons, RSO
Jeff Stamper, Equipment Manager
Fernando Cazares, Authorized Gauge User