



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

September 25, 2017

EA-17-147

Ms. Elizabeth A. Taylor
Radiation Safety Officer
CTI and Associates, Inc.
28001 Cabot Drive, Suite 250
Novi, Michigan 48377

**SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 03012040/2017003(DNMS) AND
NOTICE OF VIOLATION – CTI AND ASSOCIATES, INC.**

Dear Ms. Taylor:

On August 9, 2017, an inspector from the U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection at a temporary jobsite in Ann Arbor, Michigan, with continued in-office review through September 5, 2017. The purpose of the inspection was to review activities performed under your NRC license to ensure that activities were being performed in accordance with NRC requirements. The in-office review included a review of information that was not immediately available at the time of the onsite inspection. The enclosed inspection report (Enclosure 2) presents the results of the inspection.

During this inspection, the NRC staff examined activities conducted under your license related to public health and safety. Additionally, the staff examined your compliance with the Commission's rules and regulations as well as 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 of NRC requirements 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 website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The apparent violation concerned the licensee's failure to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage and to use a minimum of two independent physical control to form a tangible barrier to secure a portable gauge for unauthorized removal whenever the gauge was not under the licensee's control and constant surveillance, as required by Title 10 of the *Code of Federal Regulations* (CFR) Section 20.1802 and 10 CFR 30.34(i).

Because the NRC has not made a final determination in this matter, the NRC is not issuing a Notice of Violation for this inspection finding at this time. Mr. Edward Harvey of my staff discussed the circumstances surrounding this apparent violation, the significance of the issue, and the need for lasting and effective corrective action with you at the inspection exit meeting on September 5, 2017.

Before the NRC makes its enforcement decision, we are providing you an opportunity to: (1) respond in writing to the apparent violation addressed in this inspection report within 30 days of the date of this letter; (2) request a Predecisional Enforcement Conference (PEC); or (3) request Alternative Dispute Resolution (ADR). **Please contact Aaron T. McCraw at 630-829-9650 or Aaron.McCraw@nrc.gov within ten 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 "Response to the Apparent Violation in Inspection Report No. 03012040/2017003(DNMS); EA-17-147," 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 was or 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 NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be useful in preparing your response. You can find the information notice on the NRC's website at: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1996/in96028.html>. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. Your response should be sent to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Director, Division of Nuclear Materials Safety, U.S. Nuclear Regulatory Commission, Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532. 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 PEC.

If you choose to request a PEC, it will afford you the opportunity to provide your perspective on the apparent violation and any other information that you believe the NRC should take into consideration before making an enforcement decision. The topics discussed during the conference may include the following: information to determine whether a violation occurred, information to determine the significance of a violation, information related to the identification of a violation, and information related to any corrective actions taken or planned to be taken. If a PEC is held, it will be open to public observation. The NRC will issue a press release to announce the time and date of the PEC.

In lieu of a PEC, you may also request ADR with the NRC in an attempt to resolve this issue. ADR is a general term encompassing various techniques for resolving conflicts using a third party neutral. The technique that the NRC has decided to employ is mediation. Mediation is a voluntary, informal process in which a trained neutral (the "mediator") works with parties to help them reach resolution. If the parties agree to use ADR, they select a mutually agreeable neutral mediator who has no stake in the outcome and no power to make decisions. Mediation gives parties an opportunity to discuss issues, clear up misunderstandings, be creative, find areas of agreement, and reach a final resolution of the issues. Additional information concerning the NRC's program can be obtained at <http://www.nrc.gov/about-nrc/regulatory/enforcement/adr.html>. The Institute on Conflict Resolution (ICR) at Cornell University has agreed to facilitate the NRC's program as a neutral third party. Please contact ICR at 877-733-9415 within 10 days of the date of this letter if you are interested in pursuing resolution of this issue through ADR.

Please be advised that the number and characterization of the 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.

The NRC has also determined that one Severity Level IV violation of NRC requirements occurred. The violation was evaluated in accordance with the NRC Enforcement Policy. The violation concerned the licensee's failure to block and brace radioactive material during transportation in accordance with 10 CFR 71.5(a) and 49 CFR 177.842(d). This violation is cited in the enclosed Notice of Violation (Notice) (Enclosure 1). The NRC is citing this violation in the Notice because the violation was identified by the inspector.

You are also required to respond to the enclosed Notice and should follow the instructions specified in the enclosed Notice when preparing your response. The guidance in Information Notice 96-28 may also be helpful in preparing your response to the Notice. 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 enclosure, and your response, will be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC's 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 publicly available without redaction.

Please feel free to contact Mr. Luis Nieves of my staff if you have any questions regarding this inspection. Mr. Nieves can be reached at 630-829-9571.

Sincerely,

/RA/

John B. Giessner, Director
Division of Nuclear Materials Safety

Docket No. 030-12040
License No. 21-17007-01

Enclosures:

1. Notice of Violation
2. IR 030-12040/2017003(DNMS)

cc w/encls: State of Michigan

E. Taylor

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Letter to Elizabeth Taylor from John B. Giessner dated September 25, 2017

SUBJECT: NRC ROUTINE INSPECTION REPORT NO. 03012040/2017003(DNMS) AND
NOTICE OF VIOLATION – CTI AND ASSOCIATES, INC.

DISTRIBUTION w/encls:

Cynthia Pederson
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ADAMS Accession Number ML

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DATE	09/21/17		09/22/17		09/23/17		09/25/17	

OFFICIAL RECORD COPY

NOTICE OF VIOLATION

CTI and Associates, Inc.
Novi, Michigan

License No. 21-17007-01
Docket No. 030-12040

During a U.S. Nuclear Regulatory Commission (NRC) inspection conducted on August 9, 2017, with continued in-office review through September 5, 2017, one violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Title 10 of the *Code of Federal Regulations* (CFR) Section 71.5(a) requires that each licensee who transport licensed material outside the site of usage, as specified in the NRC license, or where transport is on public highways, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the DOT regulations in 49 CFR Parts 107, 171 through 180, and 390 through 397, appropriate to the mode of transport.

Title 49 CFR 177.842(d) states that packages [of Class 7 radioactive material] must be so blocked and braced that they cannot change position during conditions normally incident to transportation.

Contrary to the above, on August 9, 2017, the licensee transported a package containing licensed material, outside the site of usage, as specified on the NRC license, or on a public highway, and the package was not blocked and braced such that it could not change position during conditions normally incident to transportation.

This is a Severity Level IV violation (Section 6.8).

Pursuant to the provisions of 10 CFR 2.201, CTI and Associates, Inc. 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: (1) the reason for the violation, or, if contested, the basis for disputing the violation or its 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 was or will be achieved. Your response may reference or include previously 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.

Your response will be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC's 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 publicly available without redaction.

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

Dated this 25th of September 2017.

U.S. Nuclear Regulatory Commission

Region III

Docket No.	030-12040
License No.	21-17007-01
Report No.	03012040/2017003(DNMS)
EA No.	EA-17-147
Licensee:	CTI and Associates, Inc.
Facility:	Temporary Jobsite Ann Arbor, Michigan
Inspection Dates:	August 9, 2017, with continued in-office review through September 5, 2017
Exit Meeting Date:	September 5, 2017
Inspector:	Luis Nieves, Health Physicist
Approved By:	Aaron T. McCraw, Chief Materials Inspection Branch Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

CTI and Associates, Inc. NRC Inspection Report 03012040/2017003(DNMS)

On August 9, 2017, the U.S. Nuclear Regulatory Commission (NRC) conducted an unannounced, temporary jobsite inspection of CTI and Associates, Inc., an engineering services provider authorized by NRC Materials License No. 21-17007-01 to possess and use portable moisture density gauges containing byproduct material at temporary jobsite locations in NRC jurisdiction. At the time of the inspection, the licensee had one gauge at a temporary jobsite near the intersection of Catherine Street and Thayer Street in Ann Arbor, Michigan.

As a result of this inspection, the NRC identified an apparent violation of Title 10 of the *Code of Federal Regulations* (CFR) Section 20.1802 and 10 CFR 30.34(i) for failure to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage and to 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. Specifically, the inspector determined that one of the licensee's authorized gauge users had left one gauge in the back of a pickup truck unsecured and accessible to unauthorized individuals while he went into a restaurant. The gauge was stored in a locked transportation case; however, the case itself was not secured within the pickup truck in any way. While the gauge user was in the restaurant, there were no other licensee personnel providing control or surveillance of the gauge or its transportation case.

The inspector also identified a violation of 10 CFR 71.5(a) and 49 CFR 177.842(d) for failure to block and brace a package containing radioactive material so that it cannot change position during conditions normally incident to transportation. Specifically, the licensee did not block and brace in any way to prevent it changing positions while in transport.

The licensee took immediate corrective actions to restore compliance with all requirements. The licensee temporarily suspended the gauge user's access to its portable gauges pending completion of the manufacturer's and the licensee's gauge user safety training. As corrective action to address the potential for recurrence for the violations, the licensee's Radiation Safety Officer (RSO) stated that the licensee will conduct annual field audits of each of its authorized gauge users. In addition, the licensee committed to retrain its employees on gauge security and transportation requirements during the next refresher safety training.

REPORT DETAILS

1 Program Overview and Inspection History

CTI and Associates, Inc. (the licensee) is authorized under NRC Materials License No. 21-17007-01 to use licensed material for measuring physical properties of materials with portable gauging devices. Licensed material is authorized to be used anywhere in the United States in areas of NRC jurisdiction. The licensee is authorized to use Troxler Model 3400 Series, InstroTek Model 3500, and CPN International Model MC portable gauges for construction engineering projects throughout the Michigan area.

The NRC conducted its last routine inspection of the licensee on August 2, 2017, at the licensee's main office in Farmington Hills, Michigan. The results of this inspection were still pending in-office review at the time of publication of this report.

The NRC conducted a temporary jobsite inspection of the license on January 25, 2017, at a jobsite in Detroit. The inspector did not identify any violations during this inspection.

On July 23, 2015, the NRC conducted a temporary jobsite inspection near the Detroit airport and identified a Severity Level III for the failure to secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas and to 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, as required by 10 CFR 20.1801 and 10 CFR 30.34(i). On April 25, 2016, and July 11, 2016, the NRC conducted an escalated enforcement followup inspection to review the licensee's corrective actions in response to this violation. The inspector noted that the licensee took appropriate corrective action, did not identify any additional examples of the violation, and closed the violation.

2 Security of Licensed Material

2.1 Inspection Scope

The inspector observed a gauge in transport to a temporary jobsite in Ann Arbor, Michigan. The inspector also interviewed the authorized gauge user.

2.2 Observations and Findings

On August 8, 2017, the inspector received a phone call from the NRC Region III office asking for assistance in an open inspection of CTI and Associates, Inc. The inspector was given an address where the licensee had been scheduled to conduct licensed activities on or around that timeframe. On August 9, 2017, while driving between other inspections, the inspector identified a truck bearing the licensee's name and proceeded to follow it in an attempt to observe principal activities at a temporary jobsite. The inspector was unaware of whether or not the truck was transporting any licensed material at the time of identification of the truck. The individual driving the truck parked the truck, walked across the street to a restaurant, and remained in the restaurant for approximately 10 minutes. After which, the individual returned to the truck and proceeded to the temporary jobsite. Upon arrival at the temporary jobsite, the inspector announced himself and asked individual driving the truck if he was transporting a

portable gauge. The individual, who is an authorized gauge user, indicated he was transporting a gauge and proceeded to show the gauge to the inspector. The truck had an enclosed pick up bed that was unlocked when the operator opened it to show the inspector. The inspector observed the gauge case lying on the bed of the truck with no physical controls to prevent unauthorized removal. The gauge case had a single lock on a hasp that prevented the case from being opened; however, it did not provide a means to prevent unauthorized removal of the gauge's transportation case, with the gauge inside. The inspector then asked the gauge user about security of the gauge while he stopped and went into a restaurant. The gauge user stated that he was maintaining surveillance of the vehicle, with the gauge in the bed of the vehicle, while in the restaurant by occasionally glancing out at the vehicle, because he did not want to get a parking infraction. The inspector noted the distance between the truck and the restaurant was more than 30 feet, which inhibited the gauge user's ability to provide control over the material while in the restaurant. Additionally, the inspector noted that the gauge user's surveillance of the gauge was intermittent and not constant.

Title 10 CFR 20.1802 requires licensees to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. Title 10 CFR 30.34(i) requires licensee's to 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 licensee's failure to provide control and maintain constant surveillance or to use a two independent physicals control while the gauge was not under control and constant surveillance is an apparent violation of 10 CFR 20.1802 and 10 CFR 30.34(i).

The inspector determined that the root cause of the apparent violation was a misunderstanding of applicable security requirements for licensed material. Specifically, the gauge user believed that having the gauge or vehicle within viewing distance and providing occasional glances constituted adequate surveillance.

As corrective action to restore compliance, the gauge user immediately secured the gauge with two physical barriers. The licensee temporarily suspended the gauge user's access to its portable gauges pending completion of the manufacturer's and the licensee's gauge user safety training. As corrective action to address the potential for recurrence for the violation, the licensee's RSO stated that the licensee will conduct annual field audits of each of its authorized gauge users. In addition, the licensee committed to retrain its employees on gauge security during the next refresher safety training.

2.3 Conclusions

The inspector identified an apparent violation of 10 CFR 20.1802 and 10 CFR 30.34(i) for the licensee's failure to control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage and to use a minimum of two independent 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 licensee took corrective actions to restore compliance.

3 Transportation of Licensed Material

3.1 Inspection Scope

The inspector observed a gauge in transport to a temporary jobsite in Ann Arbor, Michigan. The inspector also interviewed the authorized gauge user.

3.2 Observations and Findings

Upon observation of the gauge at the temporary jobsite while the gauge was still technically in transit, the inspector noted that the gauge's transportation case was not blocked and braced to prevent it from changing position during transit. The gauge and its transportation case are considered a package containing Class 7 radioactive material.

Title 10 CFR 71.5(a) requires that each licensee who transport licensed material outside the site of usage, as specified in the NRC license, or where transport is on public highways, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the DOT regulations in 49 CFR Parts 107, 171 through 180, and 390 through 397, appropriate to the mode of transport. Title 49 CFR 177.842(d) states that packages [of Class 7 radioactive materials] must be so blocked and braced that they cannot change position during conditions normally incident to transportation. The licensee's failure to block and brace a package containing licensed radioactive material is a violation of 10 CFR 71.5 and 49 CFR 177.842(d).

The inspector determined that the root cause of the violation was an oversight on the part of the gauge user. The gauge user had removed some equipment from the back of his truck, including a wheel barrow and some buckets, when he went to get lunch. He indicated that he took the equipment out to save his parking spot at the temporary jobsite. The equipment had previously provided sufficient blocking and bracing to prevent the gauge transportation case from changing position while in transit.

As corrective action to restore compliance, the gauge user committed to block and brace the gauge when transporting the gauge back to its storage location. As corrective action to address the potential for recurrence for the violation, the licensee's RSO stated that the licensee will conduct annual field audits of each of its authorized gauge users. In addition, the licensee committed to retrain its employees on transportation requirements during the next refresher safety training.

Conclusions

The inspector identified a violation of 10 CFR 71.5(a) and 49 CFR 177.842(d) for the licensee's failure to block and brace a gauge while in transit. The licensee took corrective action to restore compliance.

4 Exit Meeting Summary

The NRC inspector presented preliminary inspection findings following the onsite inspection. The NRC conducted a final exit meeting on September 5, 2017, by telephone. The licensee did not identify any documents or processes reviewed by the inspector as proprietary. The licensee acknowledged the findings presented.

LIST OF PERSONNEL CONTACTED

Elizabeth A. Taylor

Participated in final exit meeting on September 5, 2017

INSPECTION PROCEDURE USED

87124: Fixed and Portable Gauge Programs