



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

September 15, 2015

EA-15-157

Ms. Elizabeth Taylor
Corporate Radiation Safety Officer
CTI and Associates, Inc.
51331 W. Pontiac Trail
Wixom, MI 48393

SUBJECT: NRC SPECIAL INSPECTION REPORT NO. 03012040/2015001(DNMS)
CTI AND ASSOCIATES, INC.

Dear Ms. Taylor:

On July 23, 2015, an inspector from the U.S. Nuclear Regulatory Commission (NRC) conducted a special inspection at your temporary jobsite at the Detroit Metro Airport in Romulus, Michigan. 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. Mr. Ryan Craffey of my staff conducted a final exit meeting by telephone with you on August 25, 2015 to discuss the inspection findings. The enclosed inspection report 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 secure portable gauges with two independent physical controls that serve as tangible barriers against unauthorized removal, as required by Title 10 of the *Code of Federal Regulations* (CFR) Part 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. The circumstances surrounding this apparent violation, the significance of the issue, and the need for lasting and effective corrective action were discussed with you at the inspection exit meeting on August 25, 2015.

Before the NRC makes its enforcement decision, we are providing you an opportunity to either: (1) respond in writing to the apparent violation addressed in this inspection report within 30 days of the date of this letter or (2) request a Predecisional Enforcement Conference (PEC). If a PEC is held, it will be open for public observation and the NRC will issue a press release to announce the time and date of the conference. **Please contact Aaron McCraw at 630-829-9650 within ten days of the date of this letter to notify the NRC whether you intend to respond in writing or whether you would like to request a PEC.**

If you choose to provide a written response, it should be clearly marked as "Response to the Apparent Violation in Inspection Report No. 03012040/2015001(DNMS); EA-15-157," 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. 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, the conference 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.

As your facility has not been the subject of escalated enforcement action within the last two years or two inspections, a civil penalty may not be warranted in accordance with Section 2.3.4 of the Enforcement Policy. In addition, based upon NRC's understanding of the facts and your corrective actions, it may not be necessary to conduct a PEC in order to enable the NRC to make a final enforcement decision. Our 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.

In addition, 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.

E. Taylor

-3-

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. Craffey of my staff if you have any questions regarding this inspection. Mr. Craffey can be reached at 630-829-9655.

Sincerely,

/RA/

John B. Giessner, Director
Division of Nuclear Materials Safety

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

Enclosure:
IR 03012040/2015001(DNMS)

cc w/encl: State of Michigan

E. Taylor

-3-

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Enclosure:
IR 03012040/2015001(DNMS)

cc w/encl: State of Michigan

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Letter to Elizabeth Taylor from John Giessner dated September 15, 2015

SUBJECT: NRC SPECIAL INSPECTION REPORT NO. 03012040/2015001(DNMS)
CTI AND ASSOCIATES, INC.

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**U.S. Nuclear Regulatory Commission
Region III**

Docket No.	030-12040
License No.	21-17007-01
Report No.	03012040/2015001(DNMS)
EA No.	EA-15-157
Licensee:	CTI and Associates, Inc.
Location Inspected:	Northline Road west of Middlebelt Road, Romulus, Michigan
Inspection Dates:	July 23, 2015
Exit Meeting Date:	August 25, 2015
Inspector:	Ryan Craffey, Health Physicist Materials Inspection Branch
Approved By:	Aaron T. McCraw, Chief Materials Inspection Branch Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

CTI and Associates, Inc. NRC Inspection Report 03012040/2015001(DNMS)

This was an unannounced, temporary jobsite inspection of CTI and Associates, Inc., an engineering services provider authorized by U.S. Nuclear Regulatory Commission (NRC) Materials License No. 21-17007-01 to possess and use portable moisture density gauges containing byproduct material. At the time of the inspection, the licensee had four gauges at a long-term temporary jobsite on the premises of the Detroit Metro Airport in Romulus, Michigan.

As a result of this inspection, the NRC identified an apparent violation of Title 10 of the *Code of Federal Regulations* (CFR) Part 30.34(i) for a failure 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 found that the licensee had left one gauge in an unlocked shipping container in the parking lot of the temporary jobsite, which was accessible to members of the public during business hours. The gauge was stored in a locked transportation case, but the case itself was not secured within the shipping container in any way. There were no licensee personnel providing control or surveillance of the container or the gauge when the inspector arrived on site.

As corrective action to restore compliance, the gauge user secured the unused gauge's case to the shipping container, and convinced the contractor to allow him to lock the shipping container's doors. The inspector discussed 10 CFR 30.34(i) with the individual to help him better understand the requirement.

As corrective action to address the potential for recurrence, the licensee's RSO stated that the licensee would begin using a new arrangement of locks, chains, and custom-made steel cables to ensure two barriers for each gauge. The RSO also stated that the licensee had already been planning to bring their own trailer to this jobsite in August, and would use their own trailer, rather than someone else's unattended container, to store the gauges. The RSO also committed to discuss this finding with the licensee's gauge users during their monthly safety meeting held the week of August 3, 2015, to clarify the regulatory requirements, as well the licensee's expectations for portable gauge security. Furthermore, the RSO planned to include this topic in annual refresher training for gauge users.

REPORT DETAILS

1 Program Overview and Inspection History

CTI and Associates, Inc. was authorized by NRC Materials License No. 21-17007-01 to use and store portable moisture density gauges containing byproduct material at its facilities in Wixom and Brighton Michigan, and at temporary jobsites anywhere in the United States where the NRC maintains jurisdiction for regulating the use of licensed material. At the time of the inspection, the licensee possessed 28 gauges, eight of which were out of service. Four of the 20 in-service gauges were in use at the location inspected, a long-term temporary job site on the premises of the Detroit Metro Airport in Romulus, Michigan.

The NRC last conducted an inspection of CTI and Associates on August 22, 2012. As a result of that inspection, the NRC identified one Severity Level IV violation for the failure to comply with the applicable requirements of the U.S. Department of Transportation (DOT) regulations in Title 49 of the *Code of Federal Regulations* (CFR) Part 172.704(c)(2) for recurrent training, as required by 10 CFR 71.5(a). This violation was not reviewed during this field inspection, and remains open for the next routine inspection of the radiation safety program.

2 Security of Licensed Material

2.1 Inspection Scope

On July 23, 2015, the inspector toured the publicly accessible area of the temporary jobsite in Romulus, Michigan, to evaluate available measures in place for materials security.

2.2 Observations and Findings

The inspector identified an apparent violation of Title 10 CFR Part 30.34(i) for a failure 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 found that the licensee had left one gauge, which was not in use at the time of the inspection, inside an unlocked shipping container in the parking lot of the temporary jobsite, accessible to members of the public during business hours via Northline Road. The gauge was stored in a locked transportation case, but the case itself was not secured within the shipping container in any way. When the inspector arrived on-site, there were no licensee personnel providing control or surveillance of the container or the gauge.

The gauge user who returned from the airport's restricted area to show the inspector the contents of the shipping container stated that when licensee personnel were not present, the gauge transportation cases were normally secured to mounting points inside the shipping container with four chains and four locks in an elaborate manner to ensure compliance with what he described as the "three locks rule" for each gauge. The user stated that he and the other gauge users had resorted to this method because the

contractor who owned the shipping container did not allow the licensee to lock the shipping container's doors, even though no other contractors, including the container's owner, used it for storage.

However, the aforementioned chains and locks had all been taken out of the container along with the other three gauges by licensee personnel that day, leaving no physical controls to secure the remaining gauge against unauthorized removal. The gauge user stated that he and the other users normally took one chain and lock per gauge when working inside the restricted area. The fourth chain and lock were found in an adjacent CTI and Associates vehicle.

The inspector determined that the root cause of this apparent violation was a misunderstanding of regulatory requirements, including the concepts of "independent controls that form tangible barriers against unauthorized removal," as well as "control and constant surveillance." The inspector identified two contributing factors: (1) licensee personnel routinely kept the aforementioned chains and locks with them while working in the restricted area, potentially leaving an insufficient number behind to secure any unused gauges; and (2) the contractor who owned the shipping container originally resisted the licensee's request to lock the container's doors, which would have constituted one tangible barrier had it been locked.

As corrective action to restore compliance, the gauge user secured the unused gauge's case to the shipping container using the lock and chain he had taken with him that morning, as well as the fourth chain and lock from the adjacent vehicle, and convinced the contractor to allow him to lock the shipping container's doors. The inspector discussed 10 CFR 30.34(i) with the individual to help him better understand the requirement.

As corrective action to address the potential for recurrence, the licensee's RSO stated during the preliminary exit on July 27, 2015, that the licensee would begin using a new arrangement of locks, chains, and custom-made steel cables to ensure two barriers for each gauge regardless of how many gauges were in use at the time, and regardless of whether the shipping container was locked or not. The RSO also stated that the licensee had already been planning to bring their own trailer to this job site in August, and would use this trailer, rather than someone else's unattended container, to store the gauges.

During a follow-up call on July 29, 2015, the RSO further committed to discuss this finding with the licensee's gauge during their monthly safety meeting held the week of August 3, 2015, to clarify the regulatory requirements, as well the licensee's expectations for portable gauge security. The RSO also planned to include this topic in annual refresher training for gauge users.

2.3 Conclusions

The inspector identified an apparent violation of 10 CFR 30.34(i) for CTI and Associates' failure 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.

3 Other areas inspected

3.1 Inspection Scope

The inspector interviewed one of the licensee's authorized gauge users and reviewed a selection of relevant records available on the job site.

3.2 Observations and Findings

The inspector found through discussion of gauge use, transportation and emergency response, that the licensee's gauge user was knowledgeable of radiation protection principles and licensee procedures.

The inspector reviewed a copy of the licensee's operating and emergency procedures, as well as shipping papers and leak test results for the gauge in storage and the gauge in the user's possession.

3.3 Conclusions

The inspector had no findings or other concerns in this area.

4 Exit Meeting Summary

The NRC inspector presented preliminary inspection findings to the licensee's RSO by telephone on July 27, 2015. The inspector conducted a final exit meeting with the RSO by telephone on August 25, 2015. The licensee did not identify any documents or processes reviewed by the inspectors as proprietary. The licensee acknowledged the findings presented.

LIST OF PERSONNEL CONTACTED

- Austin Johnson – Authorized Gauge User
- # Elizabeth Taylor – Radiation Safety Officer
- # Attended exit meeting on August 25, 2015.

INSPECTION PROCEDURES USED

87124: Fixed and Portable Gauge Programs