



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

August 16, 2017

EA-17-118

Ms. Julie Tappendorf
Radiation Safety Officer
Midwest Engineering and Testing, Inc.
501 Mercury Drive
Champaign, IL 61822

SUBJECT: NRC RECIPROCITY INSPECTION REPORT NO. 15000012/2017002(DNMS) –
MIDWEST ENGINEERING AND TESTING, INC.

Dear Ms. Tappendorf:

On June 22, 2017, an inspector from the U.S. Nuclear Regulatory Commission (NRC) conducted a reciprocity inspection at your job site in Unionville, 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. 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's 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 failure to secure a portable gauge using two independent physical controls that form tangible barriers against unauthorized removal or access while stored in a controlled or unrestricted area, as required by Title 10 of the *Code of Federal Regulations* (CFR) Section 20.1801 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. Ryan Craffey 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 August 3, 2017.

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). **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. 15000012/2017002(DNMS); EA-17-118" 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. If a PEC is held, the NRC will issue a press release to announce the time and date of the PEC. The PEC will be open to public observation.

Because 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.

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.

J. Tappendorf

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Please feel free to contact Mr. Craffey 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. 150-00012
License No. IL-01673-01

Enclosure:
IR 15000012/2017002(DNMS)

cc w/encl: State of Illinois

Letter to Julie Tappendorf from John Giessner dated August 16, 2017.

SUBJECT: NRC INSPECTION REPORT NO. 15000012/2017002(DNMS) – MIDWEST ENGINEERING AND TESTING, INC.

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

Docket No. 150-00012

License No. IL-01673-01

Report No. 15000012/2017002(DNMS)

EA No. EA-17-118

Licensee: Midwest Engineering and Testing, Inc.

Facility: Cross Winds Energy Park
5620 North Unionville Road
Unionville, MI

Inspection Date: June 22, 2017

Exit Meeting Date: August 3, 2017

Inspector: Ryan Craffey, Health Physicist

Approved By: Aaron T. McCraw, Chief
Materials Inspection Branch
Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

Midwest Engineering and Testing, Inc. NRC Inspection Report 15000012/2017002(DNMS)

This was an unannounced reciprocity inspection involving the use of byproduct material (cesium-137 and americium-241) in portable gauges. Midwest Engineering and Testing, Inc., based in Champaign, Illinois, was authorized by State of Illinois License No. IL-01673-01 to use sealed byproduct material for measuring the physical properties of materials. The licensee was authorized to perform these activities in NRC jurisdiction during Calendar Year 2017 under the general license in Title 10 of the *Code of Federal Regulations* (CFR) Section 150.20(a)(1).

On June 22, 2017, the inspector identified an apparent violation of 10 CFR 20.1801 and 10 CFR 30.34(i) involving the failure to secure a portable gauge using two independent physical controls that form tangible barriers against unauthorized removal or access while the gauge was not under control or constant surveillance while at a temporary job site in Unionville, Michigan. Specifically, the technician assigned to the job site stored his gauge in a construction trailer, but forgot to secure either locking mechanism on either of the trailer's two doors before leaving the site on the day of the inspection, resulting in zero tangible barriers to secure the gauge case from unauthorized removal.

As corrective action for the apparent violation, the technician returned to the site, and locked the trailer doors so as to re-establish the required physical controls. The licensee committed to retrain its employees on gauge security, and is considering additional security measures to complement the two barriers already present at the job site.

REPORT DETAILS

1 Program Overview and Inspection History

Midwest Engineering and Testing, Inc. (the licensee) was authorized by the State of Illinois to possess and use sealed sources of byproduct material for use in portable gauges to measure physical properties of material at a facility in Champaign, Illinois, and at temporary job sites within the State. The licensee was authorized to perform these activities in NRC jurisdiction during Calendar Year 2017 under the general license in 10 CFR 150.20(a)(1), having satisfied the requirements in 10 CFR 150.20(b) with a request approved by NRC Region III on June 6, 2017. The licensee intended to use one Troxler 3430 portable gauge at the Cross Winds Energy Park in Unionville, Michigan, between June 12, 2017 and October 13, 2017. The licensee intended to use the gauge in support of construction activities at the wind farm, including access road and turbine foundation installation.

2 Use of Byproduct Material in NRC Jurisdiction

2.1 Inspection Scope

The inspector toured the temporary job site in Unionville, Michigan. The inspector interviewed the technician assigned to the project, and the licensee's RSO by telephone.

2.2 Observations and Findings

Upon arrival at the address listed on the licensee's NRC Form 241, the inspector interviewed various non-licensee personnel to determine whether anyone from the licensee was on-site. The personnel indicated that one of the licensee's employees recently began working on the site, but had left for the day. However, the personnel also indicated that the licensee did maintain a presence on the site (a lay-down yard for equipment) in the form of a construction trailer.

The inspector walked over to the trailer, a shipping container repurposed as a mobile materials laboratory. The container had two doors and six barred windows. Looking into one of these windows, the inspector noticed a Troxler gauge case sitting on the floor of the lab. The inspector performed radiation surveys using a ThermoFisher RadEye G survey meter (last calibrated on February 22, 2017) opposite the wall against which the case was placed, and confirmed that a gauge was present inside that case. The inspector challenged the trailer's doors, and found that both were unlocked. The inspector peered in the trailer and confirmed that, although the case lid was secured with two combination locks, the case itself was not secured to anything inside the trailer. The inspector immediately contacted the licensee's main office in Illinois. The licensee then made contact with the technician who had been on-site, and directed him to return to the job site and re-secure the trailer.

The inspector maintained control and surveillance of the trailer for approximately an hour while the technician traveled back to the site. Upon his arrival, the technician acknowledged that he had forgotten to lock the trailer doors upon leaving the site earlier that day. When asked how he intended to secure the gauge with two barriers, the gauge technician explained that both of the trailer's doors had two locking mechanisms: the first was a locking door handle, the second an independent padlocked deadbolt. The

technician then produced keys and deadbolts from his truck and proceeded to secure both doors. The inspector evaluated these measures, and determined that in conjunction with the robustness of the trailer, the heavy-gauge doors and deadbolt mechanisms, and the additional locking door handle, that the technician did in fact re-establish two independent physical controls to secure the gauge.

Title 10 CFR 20.1801 states that the licensee shall secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas. Title 10 CFR 30.34(i) requires that each portable gauge licensee shall 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. Midwest Engineering and Testing's failure to use a minimum of two independent physical controls when not under the control and constant surveillance at its job site in Unionville, Michigan, is an apparent violation of 10 CFR 20.1801 and 10 CFR 30.34(i).

The root cause of the violation appears to be an oversight by the technician as he was leaving the site that day. As corrective action, the technician returned to the site and locked the trailer doors so as to re-establish the required physical controls. During subsequent telephone discussions, the licensee's RSO committed to retrain its employees on gauge security, and is considering options for modifying the trailer (which the licensee does not own) in order to add additional barriers inside the trailer in the event that any of the locking mechanisms are left unsecured. At a minimum, the licensee intends to add a locked chain to secure the gauge case to the leg of a concrete crushing press, which weighs nearly 1,000 pounds.

2.3 Conclusions

The inspector identified an apparent violation of 10 CFR 20.1801 and 10 CFR 30.34(i) for the failure to use a minimum of two independent physical controls that form tangible barriers to secure a portable gauge from unauthorized removal.

3 **Other Areas Inspected**

3.1 Inspection Scope

The inspector toured the temporary job site in Unionville, Michigan. The inspector interviewed the technician and reviewed records related to the transportation and use of portable gauges.

3.2 Observations and Findings

The inspector found the licensee's gauge to be in good condition. Readings from independent surveys in the vicinity of the gauge were consistent with those in the relevant Safety Evaluation in the NRC's Sealed Source and Device Registry. The technician demonstrated the implementation of procedures for gauge transportation and discussed the licensee's intentions for use of radioactive material on the construction project. Through these demonstrations and discussions, the inspector found the technician to be knowledgeable of radiation protection principles and regulatory requirements. The inspector reviewed a selection of available records, including a copy

of its State of Illinois license, operating and emergency procedures, current leak test results for the gauge, and shipping papers.

3.3 Conclusions

The inspector had no findings in these other areas.

4 **Exit Meeting Summary**

The NRC inspector presented preliminary inspection findings following the onsite inspection on August 3, 2017. 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

- Lucas Burnham – Authorized User
- # Julie Tappendorf – Radiation Safety Officer
- # Attended exit meeting on August 3, 2017

INSPECTION PROCEDURES USED

87124: Fixed and Portable Gauge Programs