



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

March 16, 2023

EA-21-146
EN 55356
NMED No. 210302 (closed)

Kim LeBlanc
Director of Administration
Somat Engineering, Inc.
6680 Middlebelt Road
Romulus, MI 48174

SUBJECT: NRC INSPECTION REPORT NO. 03029146/2023001(DRSS) – SOMAT
ENGINEERING, INC.

Dear Kim LeBlanc:

On February 17, 2023, an inspector from the U.S. Nuclear Regulatory Commission (NRC) conducted a non-routine enforcement follow-up inspection at your facility in Romulus, Michigan, following receipt of correspondence dated January 26, 2023, notifying the NRC that Somat Engineering had fulfilled terms and conditions of the Confirmatory Order dated March 3, 2022. The purpose of this inspection was to review activities performed under your NRC license and the Confirmatory Order to ensure that activities were being performed in accordance with NRC requirements. The enclosed inspection report presents the results of the inspection. A final exit briefing was held with Matthew Richardson and Rian Greene of your staff at the conclusion of the inspection on February 17, 2023.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions in your license. Within these areas, the inspection consisted of an examination of selected procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, no violations of NRC requirements were identified. Somat Engineering has completed all actions contained in the Confirmatory Order dated March 3, 2022, which modified your license in response to the findings from NRC Inspection Report No. 03029146/2021001(DRSS) dated November 2, 2021. The actions that Somat Engineering has taken, as well as the NRC's review and evaluation of these actions, are discussed in more detail in the following report.

In accordance with the NRC's "Rules of Practice" in 10 CFR 2.390, a copy of this letter, its enclosure, and your response, if you choose to provide one, 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, any 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 Ryan Craffey of my staff if you have any questions regarding this inspection. Ryan can be reached at 630-829-9655 or ryan.craffey@nrc.gov.

Sincerely,



Signed by Edwards, Rhex
on 03/16/23

Rhex Edwards, Chief
Materials Inspection Branch
Division of Radiological Safety and Security

Docket No. 030-29146
License No. 21-24685-01

Enclosure:
Inspection Record for IR 03029146/2023001
(DRSS)

cc (w/encl): Matthew Richardson, RSO
State of Michigan

Letter to K. LeBlanc from R. Edwards, dated March 16, 2023

SUBJECT: NRC INSPECTION REPORT NO. 03029146/2023001(DRSS) – SOMAT ENGINEERING, INC.

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

Docket No. 030-29146

License No. 21-24685-01

Report No. 03029146/2023001(DRSS)

EA No. / NMED No. EA-21-146 / 210302

Licensee: Somat Engineering, Inc.

Facility: 6680 Middlebelt Road
Romulus, MI

Inspection Dates: February 17, 2023

Exit Meeting Date: February 17, 2023

Inspector: Ryan Craffey, Senior Health Physicist

Approved By: Rhex Edwards, Chief
Materials Inspection Branch
Division of Radiological Safety and Security

Enclosure

EXECUTIVE SUMMARY

Somat Engineering, Inc. NRC Inspection Report 03029146/2023001(DRSS)

This was a non-routine inspection of an engineering firm authorized by NRC License No. 21-24685-01 to use portable gauges containing byproduct material at field offices in Michigan and at temporary job sites in NRC jurisdiction. The purpose of the inspection was to confirm completion of the actions contained in Confirmatory Order dated March 3, 2022, modifying the above license in response to the findings in NRC Inspection Report No. 03029146/2021001(DRSS), dated November 2, 2021.

Based on the results of this inspection, no violations of NRC requirements were identified. Somat Engineering has completed all actions contained in the Confirmatory Order dated March 3, 2022.

REPORT DETAILS

1 Program Overview and Inspection History

Somat Engineering, Inc. (the licensee) was authorized under NRC Materials License No. 21-24685-01 to store portable moisture density gauges containing licensed material at its facilities in Romulus and Grand Rapids, Michigan and to use these devices for measuring physical properties of materials at temporary job sites in NRC jurisdiction. At the time of the inspection, the licensee had 28 gauges in Romulus and seven in Grand Rapids. The licensee's radiation safety officer (RSO) was based in Romulus, assisted by a Site RSO in Grand Rapids.

The NRC last performed a routine inspection of the licensee on August 5-25, 2021, concurrent with a reactive inspection in response to the licensee's July 2021 notification of a lost gauge (EN 55356). As a result of this inspection, an ADR mediation session was held on January 11, 2022, which resulted in a Confirmatory Order dated March 3, 2022.

Since then, the NRC performed one field inspection of the licensee, on August 30, 2022, at a temporary job site in Detroit, Michigan. No violations were identified during that inspection.

2 Terms and Conditions of the Confirmatory Order

2.1 Inspection Scope

The inspector met with the RSO and Grand Rapids Site RSO at the licensee's facility in Romulus to review completion of the actions contained in the Confirmatory Order dated March 3, 2022. The inspector interviewed staff, examined equipment, and reviewed a selection of records.

2.2 Observations and Findings

a. Electronic Verification Forms

No later than May 1, 2022, Somat will create and implement an electronic form that will be used by Somat field personnel to verify the presence and security of licensed gauges any time prior to leaving the storage location of the gauges or a job site where gauges are used. The form will be completed electronically and submitted with a photo of the secured gauge in the vehicle (except for rare occurrences, e.g., inoperable phone camera). An independent Somat representative will review the forms on a random basis, and there will be no fewer than 3 reviews per week when gauges are in use. Somat will evaluate the effectiveness of this commitment and develop a report no later than one year following the date of this Confirmatory Order, to be made available to NRC inspectors for review.

The inspector confirmed that the licensee had developed and, beginning on March 18, 2022, implemented an electronic utilization form as described in the Order. The inspector confirmed during a prior field inspection on August 30, 2022, that staff had access to and were familiar with this form and knew how to properly complete it.

The inspector also confirmed that a member of the employee's administrative staff had reviewed 254 form submissions on a random basis between March 21, 2022, and February 16, 2023, (an average of approximately five per week) to confirm that the information provided on the form matched location information from a separate fleet management system. The licensee evaluated the effectiveness of this commitment and in a report prepared prior to the inspection, which concluded that the form was beneficial as a reminder to staff and as an additional means to evaluate staff compliance with gauge security and transport protocols.

b. Sharing Lessons Learned with MDOT

No later than December 31, 2022, Somat will engage with the Michigan Department of Transportation (MDOT) to propose a lessons-learned summary of these incidents for inclusion in MDOT's initial and refresher training of moisture density gauge technicians. This summary need not identify Somat's company information or that of its personnel.

The inspector confirmed that the licensee engaged with the RSO for MDOT via email to propose a lessons learned summary of the incidents described in IR 03029146/2021001(DRSS). The licensee sent its proposal on December 7, 2022. The RSO for MDOT declined the proposal in a reply dated January 3, 2023.

c. Sharing Lessons Learned with InstroTek

No later than December 31, 2022, Somat will engage with InstroTek Incorporated to propose a lessons-learned summary of these incidents for inclusion into InstroTek's periodic "lunch and learn" seminars. This summary need not identify Somat's company information or that of its personnel.

The inspector confirmed that the licensee engaged with the RSO for InstroTek via email to propose a lessons learned summary of the incidents described in IR 03029146/2021001(DRSS). The licensee sent its proposal on January 31, 2022. The licensee reported that the RSO for InstroTek did not reply to the email, but in a follow-up call from the licensee, declined the proposal as well.

d. Sharing Lessons Learned at a Construction Field Staff Meeting

No later than June 30, 2022, Somat will include a discussion of these incidents, with lessons learned, at its Annual Pre-Season Construction Field Staff Meeting(s).

The inspector confirmed that the licensee provided a discussion of the incidents described in IR 03029146/2021001(DRSS), with lessons learned, during a construction field staff meeting held on March 18, 2022.

e. Sharing Lessons Learned at a Bi-Weekly Management Meeting

No later than May 1, 2022, Somat will include a discussion of these incidents, with lessons learned, at one of its bi-weekly management meetings.

The inspector confirmed that the licensee provided a discussion of the incidents described in IR 03029146/2021001(DRSS), with lessons learned, during a bi-weekly management meeting held on February 3, 2022.

f. Sharing Lessons Learned at a Health and Safety Committee Meeting

No later than May 1, 2022, Somat will include a discussion of these incidents, with lessons learned, at its next Health and Safety Committee Meeting. The minutes from the Health and Safety Committee Meeting will include the discussion of the incident and will be provided to all company personnel no later than May 1, 2022.

The inspector confirmed that the licensee provided a discussion of the incidents described in IR 03029146/2021001(DRSS), with lessons learned, during a Health and Safety Committee meeting held on February 8, 2022. The inspector also confirmed that the licensee had uploaded the minutes of this meeting to a shared document folder accessible to all company staff and sent notification of its availability to all company staff via text message.

g. Enhanced Job Site Audit Program

No later than May 1, 2022, Somat will enhance its job site audit program—specific to the use of gauges—to perform audits of job sites more frequently. Specifically, one audit will occur each week at a job site chosen at random when gauges are in use.

The inspector confirmed that on March 7, 2022, the licensee implemented an enhanced job site audit program. Since then, the licensee had performed 63 job site audits (an average of 1.25 per week) to evaluate the conduct of licensed activities in the field.

The licensee noted that during one such audit, a gauge user was observed leaving his gauge “unsecured.” The inspector discussed this with the RSO, who performed the audit. Although the user did not maintain control and constant surveillance of his gauge, the RSO, while observing the user’s conduct, did; therefore, no violation of NRC requirements occurred. The gauge user was subsequently disciplined for his behavior and was eventually let go for other matters related to care and control of company property.

h. Independent Review of Program Audits

No later than December 31, 2022, a Somat employee who is not engaged in the day-to-day operations of moisture density gauges will perform an independent review of two bi-annual program audits.

The inspector confirmed that the licensee’s program audits dated July 8, 2022, and December 30, 2022, were reviewed by its Construction Technology Manager, who was not engaged in the day-to-day operations of moisture density gauges. The individual confirmed that the audit checklist and public dose evaluations were accurately completed and had no additional findings.

i. Gauge Tracking Devices

Somat will incorporate tracking devices to enhance its ability to track the location of moisture density gauges. In addition to Somat's three existing gauges with internal tracking capability, Somat will procure and field one additional gauge with internal tracking capability no later than December 31, 2022. Additionally, for a trial period beginning no later than August 1, 2022, 50 percent of Somat's remaining gauges or their transport cases will be fitted and fielded with aftermarket tracking devices. The trial period will end no later than November 30, 2022. At that time, Somat will prepare a report available for NRC inspector review with the results of the trial period and recommendations for future use of aftermarket tracking devices. This report will be completed no later than one year following the date of this Confirmatory Order.

The inspector confirmed that the licensee procured and fielded an InstroTek 3500 Xplorer 2 gauge (s/n 4780) with internal tracking capability on January 31, 2022. Since then, the licensee has procured and fielded an additional five Xplorer 2 gauges with internal tracking capability (s/n 4899, 4900, 4902, 4903, and 4904). The inspector confirmed that the cases of all remaining gauges had been fitted and fielded with aftermarket tracking devices by February 3, 2022, and that all the above tracking capabilities were still operational as of the date of the inspection. The licensee evaluated the effectiveness of this commitment and in a report prepared prior to the inspection, concluded the following:

“During the trial period Somat Engineering found that the manufacturer's internal tracking devices worked well. The internal tracking devices operated off a GPS tracking system with a simple log in to locate the devices. The [aftermarket tracking devices] operated off surrounding [cell phones] pinging locations of the device. The devices did not provide real time locations; however, they did perform as planned and offered a general location of the gauge. Moving forward Somat Engineering plans to continue the use of [aftermarket tracking devices] in all devices not containing manufacturer internal tracking. Once a gauge needs to be decommissioned and replaced Somat plans to replace the gauge with a new one that contains internal tracking offered by the manufacturer.”

2.3 Conclusions

The inspector had no findings in this area and confirmed that the licensee had completed all the actions contained in the Confirmatory Order.

3 Effectiveness of Corrective Actions

3.1 Inspection Scope

The inspector met with the RSO and Grand Rapids Site RSO at the licensee's facility in Romulus to evaluate the effectiveness of corrective actions taken in response to the findings from IR 03029146/2021001(DRSS). The inspector interviewed staff, examined equipment, and reviewed a selection of records.

3.2 Observations and Findings

The inspector toured the Romulus gauge storage area and reviewed physical inventories and utilization logs to confirm that all material in the licensee's possession was properly accounted for. All material in Romulus was adequately secured, and no material had been lost or stolen since the last inspection.

The inspector noted that the electronic verification forms (Section 2.2.a) had proven effective at identifying opportunities to improve the safe and secure transport of gauges in the field, and that the licensee had utilized the opportunities as teachable moments.

The inspector also noted that the licensee's enhanced job site audit program (Section 2.2.g) had provided similar opportunities, and moreover on at least one occasion had prevented a violation from occurring, as the auditor maintained control and constant surveillance of a gauge when the user did not.

The inspector noted finally that these actions in aggregate fostered stronger coordination and communication between the RSO, Grand Rapids Site RSO and management, and resulted in more comprehensive oversight of the entire program.

3.3 Conclusions

The inspector concluded that the licensee has implemented corrective actions to address the findings in IR 03029146/2021001(DRSS).

4 **Exit Meeting Summary**

The NRC inspector presented inspection findings following the onsite inspection on February 17, 2023. The licensee acknowledged the findings presented and that the use of electronic verification forms and implementation of an enhanced job site audit program are to continue until and unless the terms of its NRC License and/or Confirmatory Order are modified.

LIST OF PERSONNEL CONTACTED

- # Rian Greene – Grand Rapids Site RSO
- # Matthew Richardson – RSO

- # Attended exit meeting on February 17, 2023

INSPECTION PROCEDURES USED

IP 87139 – Portable Nuclear Gauge Programs