

PART I – LICENSE, INSPECTION, INCIDENT/EVENT AND ENFORCEMENT HISTORY

1. AMENDMENTS AND PROGRAM CHANGES SINCE LAST INSPECTION:

<u>AMENDMENT #</u>	<u>DATE</u>	<u>SUBJECT</u>
06	04/25/16	Appointed new RSO
05	06/22/15	Requested renewal of NRC license

2. INSPECTION AND ENFORCEMENT HISTORY:

<u>REPORT #</u>	<u>DATE</u>	<u>TYPE</u>	<u>RESULTS</u>
2012001	04/04/12	Routine	SLIV – 10 CFR 71.5(a) [49 CFR 172.704(c)]
2007001	04/26/07	Routine	No violations
2002001	03/14/02	Routine	No violations

3. INCIDENT/EVENT HISTORY:

No incidents or events since the last inspection.

PART II – INSPECTION DOCUMENTATION

1. ORGANIZATION AND SCOPE OF PROGRAM:

Moore & Bruggink, Inc. (the licensee), a professional engineering, survey, and inspection services company, was authorized to possess and use portable nuclear gauges at its facility in Grand Rapids, Michigan, and at temporary jobsites in NRC jurisdiction. At the time of the inspection, the licensee had three gauges and seven individuals authorized to use them. The licensee transported its gauges to a nearby gauge manufacturer's service facility for periodic maintenance and calibration. The licensee had access to survey instruments at this service facility in the event of an emergency.

2. SCOPE OF INSPECTION:

Inspection Procedure(s) Used: 87124

Focus Areas Evaluated: All

The inspector toured the facility in Grand Rapids to evaluate the licensee's measures for materials security, hazard communication, and exposure control for material in storage. The inspector also visited one of the licensee's gauge users at a jobsite in Ada, Michigan, to evaluate the similar measures for material in the field, and to discuss with the user the safe handling, use and transport of licensed material.

The inspector also interviewed the licensee's new radiation safety officer (RSO), and reviewed a selection of records including shipping papers, leak tests, utilization records, personnel dosimetry, and documentation of authorized user training.

3. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:

Using a Thermo Fisher RadEye G survey meter last calibrated on February 22, 2017, the inspector conducted independent surveys at the licensee's facility in Grand Rapids, and at the job site in Ada. The inspector found no readings that would indicate residual contamination or exposures to members of the public in excess of regulatory limits.

4. VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES:

A. Radiation Safety Training for Authorized Gauge Users

During a review of authorized user training records, the inspector identified a violation of Condition 11 of NRC Materials License No. 21-23396-02, which describes the training expected of the licensee's portable gauge users.

Contrary to this requirement, the inspector found that the gauge user whom he interviewed at the jobsite in Ada had not actually completed a portable gauge manufacturer's course for users or an equivalent course that meets Appendix D criteria.

The licensee hired this individual in June 2016, though he had only begun using gauges in April 2017. At the time of the inspection, he had already completed a course in Michigan Department of Transportation (MDOT) density testing procedures; however, this course did not fully meet Appendix D criteria, notably regarding radiation protection principles. This user had also received hands-on training in the use of portable gauges by the RSO and other qualified individuals on at least half a dozen occasions of supervised use.

During the inspection, the individual was able to satisfactorily demonstrate to the inspector the implementation of licensee procedures for gauge transportation, use, and emergency response at the jobsite in Ada. The inspector also determined that the individual possessed an adequate understanding of radiation safety principles and regulatory requirements, thereby providing the inspector with a sufficient basis of confidence that he had safely conducted licensed activities in the past and would continue to do so in the future.

The inspector determined that the root cause of this violation was a lack of understanding of regulatory requirements. The new RSO believed that the aforementioned MDOT course was sufficient to meet initial training requirements for gauge users, including those for radiation safety.

As corrective action, on May 29, 2017, the individual in question completed a portable gauge manufacturer's course for users. On May 31, the licensee's RSO forwarded to the inspector a copy of the individual's certificate of completion, and a revised "New Hire Check List for Inspection" that now included a line item for radiation safety training. The RSO discussed this revision with the company's office manager in charge of hiring. The RSO also updated the company's tracking chart for safety training, and discussed the expectations for radiation safety training with the administrative staff who assisted in managing the chart.

Although the NRC normally characterizes the conduct of licensed activities by unqualified individuals at a Severity Level III in accordance with Section 6.3 of the Enforcement Policy, the agency recognized that the individual in question demonstrated a satisfactory understanding of the necessary principles and procedures for the safe handling, use, and transport of portable gauges. Therefore, this violation was characterized at a Severity Level IV, in accordance with Section 3.5.1 of Part II of the Enforcement Manual, and case-specific mitigating factors.

B. Training for Hazmat Employees

1. Initial Training

During a review of authorized training records, the inspector identified a violation of 49 CFR 172.704(b), which requires hazmat employees to be trained in accordance with the requirements of Subpart H to 49 CFR Part 172 before performing any function subject to the requirements of 49 CFR Parts 171-177.

The inspector found that one hazmat employee (the individual discussed in section A, above) had not completed a formal hazmat training course. The employee had received some relevant on-the-job training from properly-trained individuals; however, the license did not maintain documentation of this training to demonstrate whether this employee met the requirements for hazmat training, nor did it ensure that the employee was tested on these requirements by appropriate means.

The inspector determined that the root cause of the violation was a lack of understanding of regulatory requirements. The new RSO believed that the aforementioned MDOT course was sufficient to meet initial training requirements for gauge users, including those requirements for hazardous materials transportation.

As corrective action, on May 29, 2017, the hazmat employee completed the required training. The RSO revised the company's "New Hire Check List for Inspection" to specifically include hazmat training, and discussed the revision with the office manager in charge of hiring. On May 31, 2017, the RSO forwarded copies of the training certification and the revised checklist to the inspector.

2. Refresher Training

During the same review of authorized user training records, the inspector identified a violation of 49 CFR 172.704(c)(2), which requires that a hazmat employees receive the training required by Subpart H to 49 CFR Part 172 at least once every three years.

The inspector found that two hazmat employees had not received the required training in the last three years. One individual had last received this training in

April 2012, the other in March 2014, intervals which exceeded three years by approximately two years and two months, respectively.

The inspector determined that the root cause of the violation was an oversight by the licensee in ensuring that all hazmat employees had been trained within the last three years.

As corrective action, on May 30, 2017, both hazmat employees completed the required training. The RSO also reviewed and updated the company's tracking chart for safety training and discussed the expectations for radiation safety training (including hazmat) with the administrative staff who helped manage the chart. On May 31, 2017, the RSO forwarded copies of the training certifications to the inspector.

3. Status of Previously Identified Violations

The licensee was previously cited in IR 03031159/2012001(DNMS) for failure to ensure that its hazmat employees were trained as required by 10 CFR 71.5(a) and 49 CFR 172.704(c) every three years. The licensee took corrective actions as indicated in the inspection report; however, the inspector identified new examples of this violation. This violation therefore remains open for further review.

5. PERSONNEL CONTACTED:

- Josh Clark – Gauge User
- # Scott Knapp – Radiation Safety Officer
- # Attended exit meeting on June 29, 2017.

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