

ENCLOSURE 6 - INSPECTION RECORD

Region: III

Inspection Report No. 2014002

License No. 24-32704-01

Docket No. 030-37787

Licensee: Jackson County Road Commission  
2400 Elm Road  
Jackson, MI 49201

Location Inspected: Same as above

Licensee Contact: Daniel Valdez, Surveyor/Engineering Specialist

Telephone No. 517-788-4230

Program Code: 03121 Priority: 5

Type of Inspection: ( ) Initial ( ) Routine ( ) Announced  
(X) Special (X) Unannounced

Last Inspection Date: 01/13/2014

Date of This Inspection: 07/29/2014

Next Inspection Date: 01/13/2019

( ) Normal ( ) Reduced

Justification for reducing the routine inspection interval:

N/A

Summary of Findings and Actions:

- ( ) No violations cited, clear U.S. Nuclear Regulatory Commission (NRC) Form 591 or regional letter issued
- ( ) Non-cited violations (NCVs)
- ( ) Violation(s), Form 591 issued
- (X) Violation(s), regional letter issued
- ( ) Follow-up on previous violations

Inspector(s) Ryan Craffey, Health Physicist

  
\_\_\_\_\_  
Signature

Date 9/9/14

Approved Aaron T. McCraw, Chief, MIB

  
\_\_\_\_\_  
Signature

Date: 9/11/14

## **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>
02	07/30/14	License placed in standby

On August 27, 2014, the licensee submitted an amendment request to return the license to active status, following completion of adequate training by the proposed RSO.

### 2. INSPECTION AND ENFORCEMENT HISTORY:

The NRC conducted a routine inspection of Jackson County Road Commission on January 13, 2014, following an initial inspection on July 9, 2009. No violations of NRC requirements were identified as a result of either inspection.

### 3. INCIDENT/EVENT HISTORY:

There have been no incidents or reportable events since the last inspection.

## **PART II - INSPECTION DOCUMENTATION**

### 1. ORGANIZATION AND SCOPE OF PROGRAM:

Jackson County Road Commission was authorized by NRC Materials License No. 24-32704-01 to use byproduct material in portable gauging devices for measuring the physical properties of materials. The licensee conducted these operations at temporary job sites in NRC jurisdiction using devices stored at their facility in Jackson, Michigan.

At the time of the inspection, two authorized users (one of them the proposed RSO) conducted licensed activities using one of two devices: a Troxler 3440 gauge containing cesium-137 and americium-241, or a Seaman C-200 gauge containing radium-226.

### 2. SCOPE OF INSPECTION:

Inspection Procedure(s) Used: 87124

Focus Areas Evaluated: FE-1: Security and Control of Licensed Material  
FE-6: Instruction to Workers  
FE-7: Program Oversight

The inspector toured the facility in Jackson to evaluate the licensee's measures for materials security, hazard communication, and exposure control while devices were kept in storage. The inspector interviewed members of the licensee's staff to evaluate their level of knowledge regarding radiation safety and regulatory topics, and to confirm their understanding of the conditions of a standby license. The inspector also reviewed a selection of licensee records, including use logs and training certificates.

3. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:

Using a Canberra MRAD213 survey instrument calibrated on April 4, 2014, the inspector conducted independent surveys of the licensee's facility, including devices containing licensed material. The inspector found no readings which would indicate residual contamination or exposures to members of the public in excess of regulatory limits.

4. VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES:

On June 27, 2014, the licensee notified Region III staff that they had fired their RSO on the previous day. The licensee proposed naming one of their gauge users as the new RSO, and had included the user's training certificates for Density Technology and Hazardous Materials Transportation courses in support of the proposal. However, upon review of the documentation, the NRC staff realized that not only did the training appear inadequate to meet the criteria in NUREG-1556 Vol. 1, Rev. 1 for RSOs, the training also appeared inadequate to meet the criteria for portable gauge users.

The training criteria for portable gauge RSOs and Authorized Users are essentially the same: the completion of a portable gauge manufacturer's course for users [or for RSOs]; or an equivalent course that meets Appendix D criteria.

Appendix D, "Criteria for Acceptable Training Courses for Portable Gauge Users," requires 1.5 to 2 hours of radiation safety and regulatory requirements, 1.5 to 2 hours of practical explanation of portable gauge theory and operation, and a 25- to 50-question closed book written test. The proposed RSO's training, as confirmed by the provider, did not include a review of topics relating radiation safety and regulatory requirements; instead, the Density Technology course focused on the practical explanation of portable gauge theory and operation, though it did include a discussion on the appropriate response to various emergency scenarios involving portable gauges.

Because of the concerns regarding the adequacy of past training and the remaining staff's level of knowledge pertaining to the oversight of the radiation safety program, the inspector visited the licensee's facility on July 29, 2014 and reviewed the circumstances with the proposed RSO and his management. The licensee confirmed that both gauge users remaining on staff had only completed the aforementioned Density Technology and Hazardous Materials Transportation courses, and that both had used the portable gauges as late as July 18, 2014.

During telephone interviews on August 13, 2014, both gauge users demonstrated a basic understanding of radiation safety and applicable regulatory concepts, in addition to a satisfactory understanding of portable gauge operation and hazardous materials transportation. Both individuals had several years of experience using a variety of portable gauge models safely and without incident. From these interviews, the inspector concluded that although the users did not fully meet the licensee's commitments for training, they were aware of the hazards associated with portable gauges and knowledgeable in those areas where training was lacking, and therefore were less likely than an untrained individual to use the gauge in an inappropriate manner.

The proposed RSO also demonstrated a satisfactory understanding of the activities performed under the license during the month that he had acted as RSO and, therefore,

had been less likely than an untrained individual to have maintained oversight of the program in a less than adequate manner. The individual had ensured that gauges were transported, used, and stored appropriately, that the licensee's dosimetry had been processed in a timely fashion, and that the NRC was notified of a change in RSO. No other RSO duties (i.e. leak tests, audits, emergency response) had been required of the individual during this time.

The licensee's failure, between July 17, 2008, and July 18, 2014, to ensure that licensed material was used by, or under the supervision and in the physical presence of, individuals who had received the training described in the application dated May 5, 2008, is a violation of Condition 11 of NRC License No. 21-32704-01.

The absence, between June 26, 2014, and July 30, 2014, of a qualified individual to fulfill the duties and responsibilities of an RSO, is a violation of Condition 12 of NRC License No. 21-32704-01.

The NRC Enforcement Policy normally characterizes both the conduct of licensed activities by unqualified individuals and the appointment of an unqualified individual as RSO as Severity Level III violations. However, the Region considered the completed training and apparent knowledge of both gauge users, the absence of actual safety or security consequences, and the short duration of the proposed RSO's tenure as sufficient mitigating factors to characterize both violations at a Severity Level IV.

The inspector determined that the root cause of both violations was a lack of understanding of NRC training requirements: the licensee did not realize that the Density Technology and Hazardous Materials Transportation training courses were not sufficient to meet the criteria in NUREG-1556 Volume 1 for RSOs or for gauge users. Because these violations shared a common root cause, they were characterized as one Severity Level IV problem.

As corrective action, on July 29, 2014, the licensee provided a letter to Region III stating that it would not use the gauges until a new RSO was named on the license. The license was subsequently amended to authorize possession in storage only on the following day. For the remainder of the construction season, the licensee arranged to subcontract its gauging work to another portable gauge operator (Soils and Materials Engineers, Docket No. 030-19574).

On August 25, 2014, one of the gauge users (the proposed RSO) completed a gauge manufacturer's online training course, and had it certified two days later by the RSO of the Michigan Department of Transportation. During the exit meeting on September 4, 2014, the proposed RSO also confirmed that both he and his supervisor had enrolled in a 40-hour RSO training course.

5. PERSONNEL CONTACTED:

- Joseph Michalsky, Director of Engineering
- Shaun Surque, Surveyor/Engineering Specialist
- # Dan Valdez, Surveyor/Engineering Specialist (proposed RSO)
  
- # Attended exit meeting on September 4, 2014.