



## **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>
10	09/30/14	Added InstroTek gauges and increased possession limits
09	05/29/14	Change of ownership and RSO
08	03/07/13	Change of RSO
07	09/19/12	Added Troxler models and location of use, changed RSO

### 2. INSPECTION AND ENFORCEMENT HISTORY:

The NRC last conducted a routine inspection Construction Materials Testing Group, LLC (CMTG) on July 15, 2010, when it was known as Superior Bowen Asphalt Company. As a result of that inspection, the NRC identified one Severity Level IV violation of Title 10 of the *Code of Federal Regulations* (CFR) 30.34(i) for the failure to use two independent physical controls that form tangible barriers to secure portable gauges while in transport.

Prior to that, the NRC conducted a routine inspection of this licensee on April 29, 2005. No violations of NRC requirements were identified as a result of this inspection.

### 3. INCIDENT/EVENT HISTORY:

No open items or events since the last routine inspection.

## **PART II – INSPECTION DOCUMENTATION**

### 1. ORGANIZATION AND SCOPE OF PROGRAM:

Construction Materials Testing Group, LLC was authorized by NRC Materials License No. 24-26162-01 to use and store portable moisture density gauges containing sealed sources of cesium-137 and americium-241 at two locations in Kansas City, Missouri, and at temporary job sites anywhere in the United States where the NRC maintained jurisdiction for regulating the use of licensed material. At the time of the inspection, the licensee possessed five gauges: three were located at the Blue Banks Avenue facility in Kansas City, and two were at a long-term job site in the State of Kansas. The licensee had three authorized users: two primary users, and one new to the company.

### 2. SCOPE OF INSPECTION:

Inspection Procedure(s) Used: 87124

Focus Areas Evaluated: All

The inspectors toured the facility on Blue Banks Avenue in Kansas City to evaluate the licensee's measures for materials security, hazard communication and exposure control.

The inspectors were unable to observe the conduct of any licensed activities at a temporary job site during the inspection; however, the licensee's staff was able to demonstrate the safe transportation and use of gauges at the facility. Through these demonstrations and other discussions, the inspectors found the licensee's staff to be knowledgeable of radiation protection principles and licensee procedures.

The inspectors also reviewed a selection of records, including sealed source leak tests, physical inventories, gauge user training, shipping papers and program audits.

3. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:

Using a Thermo Fisher Scientific RadEye G Gamma Survey Meter calibrated on January 5, 2015, the inspectors conducted independent surveys within the vicinity of the gauge storage location at the facility on Blue Banks Avenue in Kansas City. The inspectors 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:

A. Radiation Safety Officer

On September 15, 2015, the inspectors identified a violation of Condition 11 of NRC License No. 24-26162-01, Amendment No. 10, for the failure of a specifically named individual to fulfill the duties of the Radiation Safety Officer (RSO) for the license.

The inspectors learned upon arriving at the facility that the specifically named individual had been terminated by the company on or about July 4, 2015, and that although the licensee had intended to name a new individual, a supervising technician who was one of the licensee's authorized gauge users, as RSO, the licensee had not yet notified the NRC nor submitted a license amendment request the change.

Since the former RSO's departure, the supervising technician, laboratory manager and others had collaborated to ensure that the licensee's gauges were maintained and leak tested as required, and that gauge user dosimetry was provided and processed at quarterly intervals.

The inspectors determined that the root cause of the violation was a lack of understanding of regulatory requirements regarding license conditions. The licensee was unaware that the new individual, even if qualified, had to be listed on the license in order to be in compliance with NRC requirements.

As corrective action, on September 15, 2015, the licensee committed to submit a request to amend its NRC Materials License, naming a new RSO. On September 18, 2015 the licensee submitted the amendment request to Region III's Materials Licensing Branch, and provided a copy of that request to the inspector.

B. Security of Portable Gauges

On September 15, 2015, the inspectors identified a violation of Title 10 CFR Part 30.34(i) for the licensee's 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.

The inspectors arrived at the Blue Banks Avenue facility and found that the premises were surrounded by a 6-foot tall barbed-wire perimeter fence, with access controlled through an automated gate by means of either a key card reader. The inspectors called the licensee, who then granted access through the gate remotely. The inspectors entered the facility, and one of the authorized gauge users escorted them from the office back to the shop, where the licensee's gauges were routinely stored. The inspectors found that one gauge was in storage, and was located in a bolted-down job box, behind a 6-foot tall chain link fence enclosure. However, the inspectors noted that at least one of the shop's doors was open (most notably, the roll-up door adjacent to where the gauges were stored), the door through the chain-link fence enclosure was not locked (although a chain and lock were present, hanging on the side of the enclosure itself), and while the job box did have a lock on the lid, the key was in the lock, negating its ability to prevent unauthorized access to the job box's contents. Therefore, the inspectors could only credit the barbed-wire perimeter fence as a tangible barrier against unauthorized removal of gauges.

The inspectors noted the presence of several licensee personnel in the facility. However, those individuals did not maintain constant control and surveillance of the gauge, as most were working elsewhere in the shop, out of the line of sight of the enclosure.

The inspector determined that the root cause of this violation was an oversight by the last individual to remove a gauge from storage. The licensee stated that it was standard practice to lock the chain-link fence enclosure with the available chain and lock, but that the last individual to remove a gauge from storage that day likely forgot to re-secure the enclosure.

As corrective actions to restore compliance, on September 15, 2015, the licensee locked the interior fenced enclosure to secure the remaining gauge with two independent physical controls. As corrective action to address the potential for recurrence, on September 16 and 17, 2015 the licensee provided refresher training to its employees regarding the storage and transportation of portable gauges. In the documentation of this training provided to the inspector on September 18, 2015, the licensee also described its revised expectations for utilizing a third independent physical control – the job box in which the gauges were normally stored – by removing the key from the lock on the lid and securing that key in a combination box along with the key to the lock for the fenced enclosure.

Although violations of 10 CFR 30.34(i) are normally characterized in the Enforcement Policy at Severity Level III and considered for escalated enforcement action, the NRC exercised discretion in accordance with Enforcement Guidance Memorandum 11-004 to characterize the violation as a Severity Level IV because: (1) one physical control – the facility's perimeter fence – existed to prevent loss or theft of the portable gauge present at the time of the inspection; (2) the licensee retained possession of the gauge; (3) the violation was isolated to the day of the inspection, as the interior fenced enclosure which had been left unlocked that morning normally constituted a

second physical control; and (4) the violation did not appear to indicate any kind of programmatic weakness.

#### C. Closure of Previous Violations

As described in Part I of this Inspection Record, the licensee was previously cited in IR 03031561/2010001(DNMS) for a violation of 10 CFR 30.34(i). The inspector reviewed the licensee's corrective actions, but found the violation to be recurring, albeit in a slightly different context. Therefore, the NRC will not consider this violation of 10 CFR 30.34(i) to be closed until found to be non-recurring in a future inspection.

#### D. Shipping Papers

On September 15, 2015, the inspectors identified several examples of a violation of 10 CFR 71.5(a) for the licensee's failure to comply with the applicable requirements of the DOT regulations in 49 CFR Parts 107, 171 through 180, and 390 through 397, appropriate to the mode of transport. Specifically, the inspectors noted the following examples regarding the preparation of shipping papers that accompanied shipments of portable gauges containing radioactive material to temporary job sites that day.

1. Contrary to 49 CFR Part 172.202(a), the shipping description on the shipping paper that accompanied the gauges did not include the correct identification numbers and proper shipping names. The licensee used one shipping paper for all gauges, and that shipping paper identified the material contained therein as "UN 2974, Radioactive material, special form, n.o.s." instead of "UN 3332, Radioactive material, Type A package, special form", as indicated on the gauge transportation cases.
2. Contrary to 49 CFR Part 172.203(d) the description on the shipping paper that accompanied the gauges did not include the name and activity of the 40 mCi Am-241 source contained in most of the licensee's gauges. The licensee used one shipping paper for all its gauges, and that shipping paper only included the 8 mCi Cs-137 source, as it was originally written for the licensee's Troxler 4640 gauge, which only contains the Cs-137 source.
3. Contrary to 49 CFR Part 172.604, the emergency response telephone number on the shipping paper that the licensee provided with the shipment was inadequate. The telephone number, for an office phone at the licensee's abovementioned facility, was not monitored at all times, as the inspectors discovered when they originally attempted to contact the licensee upon arriving at the facility (it was the same number as that which the licensee had on file for the former RSO).

The inspectors determined that the root cause of the violation was an oversight with regard to the accuracy of information contained in the licensee's shipping papers.

As corrective action, on September 15, 2015, the licensee committed to revise the shipping papers for each portable gauge in its possession. On September 18, 2015, the licensee provided copies of revised shipping papers to the inspector.

5. PERSONNEL CONTACTED:

Justin Daugherty – Authorized Gauge User

# Allen Holloway – Laboratory Manager

# Participated in telephonic exit meeting on November 4, 2015

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