



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

April 24, 2015

EA-15-073  
EN 50322  
NMED No. 140409 (Closed)

Mr. Derek Stokes, President  
Blevins Asphalt Construction Co., Inc.  
P.O. Box 230  
Mt. Vernon, MO 65712

SUBJECT: NRC SPECIAL INSPECTION REPORT NO. 03037419/2015001(DNMS) –  
BLEVINS ASPHALT CONSTRUCTION CO., INC.

Dear Mr. Stokes:

On March 30, 2015, an inspector from the U.S. Nuclear Regulatory Commission (NRC) conducted a special inspection at your Mt. Vernon, Missouri facility. The purpose of the inspection was to review the facts and circumstances associated with an event involving damage to a portable gauge that occurred on July 30, 2014, and selected activities performed under your NRC license to ensure that activities were being performed in accordance with NRC requirements. Mr. Robert Gattone of my staff held an exit meeting with Mr. Doug Stokes and Mr. David Snyder of your staff on March 30, 2015, to discuss the inspection findings.

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 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 licensee's failure to maintain constant surveillance of a portable gauge containing licensed material that was in an unrestricted area and not in storage, and use a minimum of two independent physical controls that form tangible barriers to secure the gauge from unauthorized removal when the gauge was not under the control and constant surveillance of the licensee, as required by Title 10 of the *Code of Federal Regulations* (CFR) 20.1802 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. The circumstances surrounding this apparent violation, the significance of the issue, and the need for lasting and effective corrective action were discussed with your aforementioned staff members at the inspection exit meeting on March 30, 2015.

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; (2) request a Predecisional Enforcement Conference (PEC); or (3) provide no further response. If a PEC is held, it will be open for public observation, and the NRC will issue a press release to announce the time and date of the conference. **If you decide to participate in a PEC, please contact Aaron T. McCraw at 630-829-9650 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. 03037419/2015001(DNMS); EA-15-073," 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 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 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.

As 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.

D. Stokes

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Based on the results of this inspection, a violation of 10 CFR 30.50(c)(2) was also identified. The violation concerned failure to submit the written, followup report for the aforementioned damaged gauge event to the NRC within 30 days of the initial report. In accordance with Section 2.3.1 of the NRC Enforcement Policy, the violation was categorized as minor. As such, the minor violation does not warrant enforcement action; therefore, you are not required to respond to the minor violation.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," 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, your 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 Robert Gattone of my staff if you have any questions regarding this inspection. Mr. Gattone can be reached at 630-829-9823.

Sincerely,

*/RA/*

Julio F. Lara, Acting Director  
Division of Nuclear Materials Safety

Docket No. 030-37419  
License No. 24-32645-01

Enclosure:  
IR No. 03037419/2015001(DNMS)

cc w/encl: David Snyder, Radiation Safety Officer  
State of Missouri

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See next page

D. Stokes

-3-

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State of Missouri

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**OFFICIAL RECORD COPY**

Letter to Derek Stokes from Aaron T. McCraw dated April 24, 2015

SUBJECT: NRC SPECIAL INSPECTION REPORT NO. 03037419/2015001(DNMS) –  
BLEVINS ASPHALT CONSTRUCTION CO., INC.

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

Docket No. 030-37419

License No. 24-32645-01

Report No. 03037419/2015001(DNMS)

EA No./NMED No. 15-073/140409

Licensee: Blevins Asphalt Construction Co., Inc.

Facility: 11837 Lawrence County 1163  
Mt. Vernon, Missouri 65712

Inspection Date: March 30, 2015

Exit Meeting Date: March 30, 2015

Inspector: Robert G. Gattone, Jr.  
Senior Health Physicist

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

Enclosure

## **EXECUTIVE SUMMARY**

### **Blevins Asphalt Construction Co., Inc. NRC Inspection Report No. 03037419/2015001(DNMS)**

On March 30, 2015, an inspector from the U.S. Nuclear Regulatory Commission (NRC) conducted a special inspection to review the facts and circumstances associated with an event involving damage to a portable gauge containing approximately 10 millicuries of cesium-137 and 40 millicuries of americium-241.

The inspector determined that, on July 30, 2014, an Authorized User (AU) did not control and maintain constant surveillance of a gauge when it was in an unrestricted area and not in storage at a temporary job site. While the AU was reviewing a manual, he forgot that he had left the gauge behind the truck. He subsequently backed the truck up and struck the gauge.

The inspector identified an apparent violation of Title 10 of the *Code of Federal Regulations* (CFR) 20.1802 and 10 CFR 30.34(i) involving the licensee's failure to maintain constant surveillance of a portable gauge containing licensed material that was in an unrestricted area and not in storage, and use a minimum of two independent physical controls that form tangible barriers to secure the gauge from unauthorized removal when the gauge was not under the control and constant surveillance of the licensee (gauge control and security). In addition, the inspector identified a minor violation involving the licensee's failure to submit the follow-up written report of the damaged gauge event to the NRC within 30 days of the initial telephonic report.

The root cause of the damaged gauge event and the apparent violation involving gauge control and security was AU distraction. The root cause of the minor violation involving failure to submit the follow-up written report of the damaged gauge event to the NRC within 30 days of the initial telephonic report was that the licensee's Radiation Safety Officer was unaware of the requirement. Contributing factors of the damaged gauge event and the apparent violation involving gauge control and security were: (1) having to search for a manual that was stored amongst many records in the cab of a truck; and (2) being understaffed at the time of the event.

As immediate corrective action to achieve compliance with the apparent violation involving gauge control and security, the AU maintained constant surveillance and control of the damaged gauge until it was put back into secured storage at the licensee's base facility. As long-term corrective actions to prevent similar events and the apparent violation involving gauge control and security, the licensee: (1) provided AUs with offices and desks rather than using their trucks to stow records; (2) initiated a rule to not leave the gauge where someone can run over it; (3) trained all AUs on the need to maintain constant surveillance of the gauge when it is in use; (4) planned to conduct AU re-training on the need to maintain constant surveillance of the gauge when it is in use in the beginning of the 2015 construction season; and (5) added a new employee for more help.

As corrective action to prevent a similar violation involving failure to submit the follow-up written report of damaged gauge events to the NRC within 30 days of the initial telephonic report, the licensee committed to amend its "Safety Book" to include a reminder to submit a written follow-up event report to the NRC within 30 days of the initial telephonic event report.

## **REPORT DETAILS**

### **1 Program Overview and Inspection History**

Blevins Asphalt Construction Co., Inc. (licensee) is authorized under NRC Materials License No. 24-32645-01 to use licensed material for measuring physical properties of materials with nuclear gauging devices. Licensed material is authorized to be used at the licensee's facilities in Mount Vernon, Missouri, and at temporary job sites of the licensee anywhere in the United States where the NRC maintains jurisdiction for regulating the use of licensed material. The licensee possessed and used a Humboldt Scientific, Inc. Model No. 5001, Serial No. 5563, portable gauge (gauge) for measuring physical properties of materials at temporary job sites in Missouri where the NRC maintained jurisdiction. The gauge contains a nominal 10 millicuries of cesium-137 and a nominal 40 millicuries of americium-241 sources. Three authorized users, including the licensee's Radiation Safety Officer (RSO), used the gauge about 100 nights per year. Storage of the gauge was limited to the licensee's base facility.

The licensee was previously inspected by the NRC on June 6, 2012, and June 28, 2007. No violations of NRC regulatory requirements were identified as a result of those inspections.

### **2 Damaged Gauge Event**

#### **2.1 Inspection Scope**

On March 30, 2015, the inspector observed the authorized user (AU) who was involved in a damaged gauge event that occurred on July 30, 2014; conduct a reenactment of activities that resulted in damage to the gauge. In addition, the inspector interviewed the AU regarding information pertinent to the damaged gauge event.

#### **2.2 Observations and Findings**

##### **a. Event Chronology**

On July 30, 2014, an AU prepared to use the gauge at a temporary job site at 5650 West U.S. Highway 60 in Brookline, Missouri. The gauge was stored securely at the licensee's base facility in accordance with 10 CFR 30.34(i). The storage area was posted with a "Caution Radioactive Material" sign and NRC Form 3. The gauge case was marked and labeled as required. The gauge transportation case hasps were both padlocked with access limited to authorized persons. In addition, the cesium source rod was locked in the shielded position.

The AU loaded the case containing the gauge into the bed of a pickup truck and secured the gauge in accordance with 10 CFR 30.34(i). In addition, the gauge was blocked and braced as required. The AU used a proper shipping paper during transportation of the gauge. On rare occasions, he left the gauge unattended in the truck while he stopped to eat while the gauge was secured in accordance with 10 CFR 30.34(i).

After arrival at the temporary job site, the AU placed the gauge on a “Standard Block” of known physical properties that was on the ground about 10 feet behind the pickup truck. The AU attempted to conduct a “Standard Count” test using the Standard Block to get confidence that the gauge would provide accurate measurements; however, the test did not pass.

The AU did not have an office to keep records in; therefore, he possessed many records in the cab of the pickup truck. The AU determined that he needed to review the gauge operator manual that was in the pickup truck, amongst the records in the truck. The AU left the gauge behind the truck and searched the truck cab for the gauge operator manual. During the time that the AU was looking for the manual in the cab of the truck, the AU did not maintain control and constant surveillance of the gauge and did not use a minimum of two independent physical controls that form tangible barriers to secure the gauge from unauthorized removal. In addition, the AU did not control and maintain constant surveillance of the gauge when it was in an unrestricted area and not in storage. While the AU was reviewing the manual, he forgot that he had left the gauge behind the truck. He subsequently backed the truck up and struck the gauge.

Title 10 CFR 20.1802 requires that the licensee control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. 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. The licensee’s failure to: (1) maintain constant surveillance of a portable gauge containing licensed material that was in an unrestricted area and not in storage; and (2) use a minimum of two independent physical controls that form tangible barriers to secure the gauge from unauthorized removal when the gauge was not under the control and constant surveillance of the licensee, is an apparent violation of 10 CFR 20.1802 and 10 CFR 30.34(i).

The inspector determined that the root cause of the apparent violation and the damaged gauge event was AU distraction incident to trying to find the gauge manual to obtain information necessary to resolve a failed Standard Count test. Having to search for the manual amongst many records in the cab of the truck was a contributing factor of the apparent violation and the damaged gauge event. In addition, a contributing factor of the apparent violation and the damaged gauge event was that the licensee was understaffed in 2014.

b. Event Response

The AU immediately stopped the vehicle and assessed the situation. The AU identified that the gauge was damaged. Specifically, the shaft that sets the test depth of the cesium-137 source, which is also part of the handle, was broken. In addition, there was surface scarring to the gauge housing.

The AU realized that he had failed to control and maintain constant surveillance of the gauge. As immediate corrective action, the AU maintained constant surveillance and control of the damaged gauge. The AU summoned a local portable gauge licensee that arrived at the temporary job site with a survey instrument and conducted an ambient exposure rate survey of the gauge to verify that the sources were shielded.

The AU contacted the gauge manufacturer regarding how to safely ship the damaged gauge to the manufacturer for assessment, repair, and calibration. The manufacturer instructed the AU to: (1) affix packaging tape around the cesium-137 source rod handle and the bottom of the gauge to prevent the cesium-137 source from being pulled out of the shielded position from the top of the gauge; and (2) obtain leak test samples for both of the sources, in accordance with the instructions.

The AU drove the damaged gauge from the temporary job site to the licensee's base facility with packaging tape around the cesium-137 source rod handle and the bottom of the gauge. During the transfer, the gauge was in the case and secured as required.

In accordance with the gauge manufacturer's instructions, the AU: (1) kept the packaging tape around the cesium-137 source rod handle and the bottom of the gauge; (2) properly collected the leak test samples; (3) sent the leak test samples to the manufacturer for analysis; and (4) secured the gauge as required until the leak test results were received. After receipt of the negative leak test results, the AU: (1) kept the packaging tape around the cesium-137 source rod handle and the bottom of the gauge; and (2) shipped the gauge in its transportation case to the manufacturer.

The manufacturer replaced the shaft that sets the test depth of the cesium-137 source, calibrated the gauge, and shipped the gauge back to the licensee.

As long-term corrective actions to prevent similar events and violations of 10 CFR 20.1802 and 10 CFR 30.34(i), the licensee: (1) provided AUs with offices and desks instead of having them use their trucks to stow records; (2) initiated a rule to not leave the gauge where someone can run over it; (3) trained all AUs on the need to maintain constant surveillance of the gauge when it is in use; (4) planned to conduct AU re-training on the need to maintain constant surveillance of the gauge when it is in use in the beginning of the 2015 construction season; and (5) added a new employee for more help. Since the damaged gauge event, there were no other similar events or any other violations of 10 CFR 20.1802 and 10 CFR 30.34(i) as of the onsite inspection.

### 2.3 Conclusions

The inspector identified an apparent violation of 10 CFR 20.1802 and 10 CFR 30.34(i) involving licensee failure to maintain constant surveillance of a portable gauge containing licensed material that was in an unrestricted area and not in storage, and failure to use a minimum of two independent physical controls that form tangible barriers to secure the gauge from unauthorized removal when the gauge was not under the control and constant surveillance of the licensee. The licensee implemented immediate and long-term corrective actions to prevent a similar event and violations of 10 CFR 20.1802 and 10 CFR 30.34(i).

### **3 Notifications**

#### **3.1 Inspection Scope**

The inspector reviewed Event Notification 50322 and the licensee's letter dated September 26, 2014, regarding the licensee's notification to the NRC of the damaged gauge event pursuant to 10 CFR 30.50.

#### **3.2 Observations and Findings**

Title 10 CFR 30.50(b)(2) requires, in part, that each licensee notify the NRC Operations Center by telephone within 24 hours after the discovery of events involving licensed material when equipment is disabled or fails to function as designed when: (1) the equipment is required by regulation or license condition to prevent releases exceeding regulatory limits, to prevent exposures to radiation and radioactive materials exceeding regulatory limits, or to mitigate the consequences of an accident; (2) the equipment is required to be available and operable when it is disabled or fails to function; and (3) no redundant equipment is available and operable to perform the required safety function. The inspector noted that the licensee telephoned the NRC Operations Center on July 30, 2014, to notify the NRC about the damaged gauge event within 4 hours of the damaged gauge event.

Title 10 CFR 30.50(c)(2) requires, in part, that each licensee who makes a report required by paragraph (a) or (b) of 10 CFR 30.50 shall submit a written follow-up report to the NRC within 30 days of the initial report. The licensee's written follow-up report to the NRC dated September 26, 2014, was received by the NRC on September 26, 2014, more than 30 days later than the licensee's July 30, 2014, initial report. As such, the inspector identified a minor violation of 10 CFR 30.50(c)(2) involving licensee failure to submit the follow-up report to the NRC within 30 days of the initial report.

The cause of the minor violation was that the licensee's RSO was unaware of the requirements in 10 CFR 30.35(c)(2). As corrective action to prevent a similar violation, the RSO committed to amend his "Safety Book" to include a reminder to submit a written follow-up report to the NRC within 30 days of the initial report.

#### **3.3 Conclusions**

The inspector identified a minor violation of 10 CFR 30.50(c)(2) involving licensee failure to submit the follow-up report to the NRC within 30 days of the initial report. The licensee implemented corrective actions to prevent violations of 10 CFR 30.50(c)(2).

### **4 Other Areas Inspected**

#### **4.1 Inspection Scope**

The inspector conducted independent radiation surveys with an NRC owned, calibrated survey instrument, interviewed selected licensee staff members, toured the licensee's facility, and reviewed selected records.

#### 4.2 Observations and Findings

The inspector observed that the gauge case was marked as a Department of Transportation Type 7A container and it was in good condition. The inspector's independent ambient exposure rate survey at the surface of the gauge case with the gauge inside resulted in a maximum of 6.3 milliroentgens per hour (mR/hr).

While reviewing recent gauge utilization log entries, the inspector noted that individuals who used the gauge were authorized users. In addition, the inspector observed training records showing that all of the authorized users received the required training, including security awareness, accident prevention and procedures, transportation, and hazardous material.

The inspector reviewed recent leak test records showing that the samples were analyzed by the gauge manufacturer, the results were negative, and the tests were conducted at the required frequency.

Based on dosimetry badge results, the highest annual whole body dose was 50 millirem.

#### 4.3 Conclusions

No violations of NRC regulatory requirements were identified.

### 5 **Exit Meeting Summary**

The NRC inspector presented preliminary inspection findings following the onsite inspection on March 30, 2015. 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**

#David Snyder, RSO

#Doug Stokes, Regulatory Manager

# Attended exit meeting on March 30, 2015

#### **INSPECTION PROCEDURES USED**

87124: Fixed and Portable Gauge Programs

87103: Inspection of Material Licensees Involved in an Incident or Bankruptcy Filing