

December 9, 2010

EA-10- 242

Mr. Rami Anabtawi, President  
Geotechnical and Materials Engineers, Inc.  
3517 Focus Drive  
Fort Wayne, IN 46818

SUBJECT: NRC INSPECTION REPORT NO. 030-35029/2010-001(DNMS) –  
GEOTECHNICAL AND MATERIALS ENGINEERS, INC.

Dear Mr. Anabtawi:

On November 9, 2010, the U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection of your facility located in Fort Wayne, Indiana. The purpose of the inspection was to determine whether activities authorized under your license were conducted safely and in accordance with NRC requirements. The enclosed report presents the results of this inspection, which were discussed with you during the exit meeting held on November 9, 2010.

During this inspection, the NRC staff examined activities conducted under your license as they relate to public health and safety, compliance with the Commission's rules and regulations, and compliance with 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, an apparent violation 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 involved the 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, as identified in Title 10 of the Code of Federal Regulations (CFR) 30.34(i). Since the NRC has not made a final determination in this matter, no Notice of Violation is being issued for this inspection finding at this time. The circumstances surrounding this apparent violation, the significance of the issues, and the need for lasting and effective corrective action were discussed with you at the inspection exit meeting on November 9, 2010.

Before the NRC makes its enforcement decision, we are providing you an opportunity to either: (1) respond to the apparent violation addressed in this inspection report within 30 days of the date of this letter; or (2) request a Predecisional Enforcement Conference (PEC). If a conference 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. Please contact Tamara E. Bloomer at 630-829-9627 within seven 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. 030-35029/2010-001(DNMS); EA-10- 242," 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 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 helpful. 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 previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision or schedule a PEC.

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. 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.

As your facility has not been the subject of escalated enforcement actions 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 pre-decisional enforcement conference (PEC) in order to enable the NRC to make a final enforcement decision. However, 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 violation 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.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and your response, if you choose to provide one, will be available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC 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 available to the public without redaction.

- 3 -

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

*/RA/*

Steven A. Reynolds, Director  
Division of Nuclear Materials and Safety

Docket No. 030-35029  
License No. 13-321821-01

Enclosure:  
Inspection Report No. 030-35029/2010-001(DNMS)

cc w/encl: State of Indiana

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

*/RA/*

Steven A. Reynolds, Director  
Division of Nuclear Materials and Safety

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Letter to Rami Anabtawi from Steven A. Reynolds, dated December 9, 2010.

SUBJECT: NRC INSPECTION REPORT NO. 030-35029/2010-001(DNMS) —  
GEOTECHNICAL AND MATERIALS ENGINEERS, INC.

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EA-10- 242

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

Docket No. 030-35029

License No. 13-32182-01

Report No. 3035029/2010-001(DNMS)

EA No. EA-10- 242

Licensee: Geotechnical and Materials Engineers, Inc.

Location: Fort Wayne, Indiana

Date: November 9, 2010

Inspector: Edward L. Kulzer, Health Physicist

Approved By: Tamara E. Bloomer, Chief  
Nuclear Materials Inspection Branch  
Division of Nuclear Materials Safety

Enclosure

## **EXECUTIVE SUMMARY**

### **Geotechnical and Materials Engineers, Inc. NRC Inspection Report 030-35029/2010-001(DNMS)**

This was a routine inspection of licensed activities involving the use of byproduct material (cesium-137 and americium-241) for measuring physical properties of materials with portable nuclear gauging devices. Geotechnical and Materials Engineers, Inc. is an engineering company located in Fort Wayne, Indiana. The U.S. Nuclear Regulatory Commission (NRC) License No.13-32182-01 authorizes Geotechnical and Materials Engineers, Inc. to use Troxler Models 3430 and 3440 portable density gauges for measuring physical properties of construction materials.

Inspection items identified include one apparent violation listed below:

On November 9, 2010, during a routine license inspection, the inspector identified an apparent violation of Title 10 of the Code of Federal Regulations (CFR) 30.34(i) involving the failure to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal, when the portable gauges were not under the control and constant surveillance of the licensee.

Specifically, the inspector arrived at the licensee's facility and found the business still closed. The inspector walked around the back of the business and observed that three company vehicles, open bed pickup trucks, were parked there. There were no fences around the building or parking area, and the trucks were readily accessible.

The inspector observed that each of the three trucks contained Troxler gauges in transportation cases that were not secured using two independent physical barriers and were not under the control or constant surveillance of the licensee. These three examples of the licensee failing to secure the gauge cases and gauge case lids did not meet the requirement for independent physical controls of 10 CFR 30.34(i). The inspector observed that there was no security fence around the facility, and that anyone in the area had access to the parking lot and the three trucks in question.

As corrective action for the apparent violation, the RSO planned to: (1) provide a second lock and chain on the gauge cases so that the gauges would be secured with two independent tangible barriers during transport and at temporary job sites; and (2) train all gauge users on the requirement to use the two locks to secure the gauges at temporary job sites in the field.

## Report Details

### **1 Program Overview**

Geotechnical and Materials Engineers, Inc. is authorized under NRC Materials License No. 13-32182-01 to use licensed material for measuring physical properties of materials with nuclear gauging devices. Licensed material is authorized to be used anywhere in the United States in areas of NRC jurisdiction. The licensee uses the gauges on a daily basis for construction engineering projects throughout the Indiana area. The licensee uses Troxler Model 3430 and 3440 portable gauges, containing cesium-137 and americium-241.

### **2 Radiation Safety Program**

#### **2.1 Inspection Scope**

On November 9, 2010, the inspector reviewed the elements of the licensee's radiation safety program including the following: records of the physical inventories, leak tests, and dosimetry records.

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

The inspector found that the licensee had maintained physical inventory records for all of the gauges and operational logs for the three gauges during the construction season. The inspector determined that the licensee had completed the required leak tests on the portable gauges annually.

NRC License No. 13-32182-01 required all nuclear gauge operators to wear personnel-monitoring devices (dosimeters) to measure radiation exposure when using or transporting gauges. The NRC inspector did not identify if dosimetry was worn since no operations were observed; however, the inspector did determine that the licensee exchanged dosimeter badges at three-month intervals. The inspector did not identify any dosage that was in excess of NRC regulations.

#### **2.3 Conclusions**

The inspector reviewed physical inventory records, operational logs, leak tests, and dosimetry. The inspector had no findings in these areas.

### **3 Security of Portable Gauges**

#### **3.1 Inspection Scope**

The inspector observed the licensee's method of securing portable gauges in storage and in transport.

### 3.2 Observations and Findings

On November 9, 2010, during a routine license inspection, the inspector identified an apparent violation of 10 CFR 30.34(i) for a 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.

Specifically, the inspector arrived at the licensee's facility and found the business still closed. The inspector walked around the back of the business and observed that three company vehicles, open bed pickup trucks, were parked there. There were no fences around the building or parking area and the trucks were readily accessible, and no licensee personnel were observed in the area.

The inspector observed that each of the three trucks contained Troxler gauge transportation cases. The cases were secured in the trucks in the following manner: 1) One truck had one lock and one chain running through both side handles and top handle of a Troxler gauge case. There was also a lock securing the gauge case lid. Therefore, this truck had two barriers to secure the gauge inside its case, but only a single barrier securing the case to the truck. 2) A second truck had one lock and one chain running through one side handle and through the hasp on the gauge case lid. The lock securing the chain also went through the hasp. Therefore, this truck had only a single barrier to secure both the gauge inside its case and to secure the case to the truck. 3) A third truck had a lock securing the gauge case lid, but no chains or locks securing the case to the truck. Therefore, this truck had a single barrier to secure the gauge inside its case, but no barriers to secure the case to the truck.

The inspector spent approximately 15 to 20 minutes behind the building near the trucks before licensee personnel came out of the licensee's building. The inspector identified himself, gave the person his card, and asked if the radiation safety officer (RSO) was available. The individual went back inside for 5 to 10 minutes before returning and saying the RSO was not there. The inspector stated he did not talk to the licensee individual about how the gauges were secured. The inspector went around to the front of the building and shortly afterwards, one of the trucks came around. The inspector stopped the driver and asked to look at how the gauge was secured. At this time, the licensee employee informed the inspector that the gauge was properly secured. The inspector verified that the gauge was properly secured with two chains and two locks securing the case to the truck. Additionally, the gauge was secured in the case by use of the lock on the hasp and one of the chains pulled tautly through the case lid top handle as the second barrier. The licensee employee told the inspector that he was headed for a temporary jobsite in Warsaw, Indiana, about an hour and a half away.

When the inspector returned to the licensee site, the licensee had moved the other two trucks inside the licensee's garage, and the gauges were properly secured inside a storage cabinet. The change in location and the way the gauges were now secured inside of the building indicated to the inspector that the gauges were in the cases when he observed them that morning.

The RSO indicated that he believed that if the trucks and gauges were on the licensee's property they were appropriately secured. The inspector informed him of the need for

two independent physical controls whenever a gauge is not under the control and constant surveillance of the licensee, regardless of location.

As corrective action for the apparent violation, the RSO planned to: (1) provide a second lock and chain on the gauge cases so that the gauges would be secured with two independent tangible barriers during transport and at temporary job sites; and (2) train all gauge users on the requirement to use the two locks to secure the gauges at temporary job sites in the field.

### 3.3 Conclusions

The inspector identified an apparent violation of 10 CFR 30.34(i) in which the licensee failed to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges, when the gauges were not under the control and constant surveillance of the licensee.

## 4 **Exit Meeting Summary**

The NRC inspector presented preliminary inspection findings following the onsite inspection on November 9, 2010. The licensee did not identify any documents or processes reviewed by the inspectors as proprietary. The licensee acknowledged the findings presented.

### **PARTIAL LIST OF PERSONNEL CONTACTED**

\*Rami Anabtawi, Radiation Safety Officer

\* Attended exit meeting on November 9, 2010

### **INSPECTION PROCEDURES USED**

|       |                           |
|-------|---------------------------|
| 87124 | Fixed and Portable Gauges |
| 86740 | Transportation            |