

November 17, 2010

EA-10-229

Mr. Carl L. Jacobi, President
Jacobi Geotechnical Engineering, Inc.
798 Hoff Road
O'Fallon, MO 63366

SUBJECT: NRC INSPECTION REPORT NO. 030-35293/2010-001(DNMS) – JACOBI
GEOTECHNICAL ENGINEERING, INC.

Dear Mr. Jacobi:

On October 21, 2010, the U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection of your facility located in O'Fallon, Missouri. 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 your staff during the exit meeting held on October 21, 2010.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and 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 a portable gauge, when the gauge was not under the control and constant surveillance of the licensee, as identified in Title 10 of the Code of Federal Regulations (10 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 actions are described in detail in the subject report, and were discussed with members of your staff at the inspection exit meeting on October 21, 2010.

Before the NRC makes its enforcement decision, we are providing you an opportunity to either: (1) respond to the apparent violations addressed in this inspection report within 30 days of the date of this letter; or (2) request a Predecisional Enforcement Conference (PEC). 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. 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 a Response to the Apparent Violation in Inspection Report No. 030-35293/2010-001(DNMS); EA-10-229 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.

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 on 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.

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, its enclosure, 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.

C. Jacobi

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

Sincerely,

***/RA/ Christine Lipa Acting
For/***

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

Docket No. 030-35293
License No. 24-32231-01

Enclosure:
Inspection Report No. 030-35293/2010-001(DNMS)

cc w/encl: James Pyatt, Radiation Safety Officer
State of Missouri

C. Jacobi

-3-

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Letter to Carl L. Jacobi from Tamara E. Bloomer, dated November 17, 2010.

SUBJECT: NRC INSPECTION REPORT NO. 030-35293/2010-001(DNMS) – JACOBI
GEOTECHNICAL ENGINEERING, INC.

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EA-10-229

U.S. Nuclear Regulatory Commission
Region III

Docket No. 030-35293

License No. 24-32231-01

Report No. 030-35293/2010-001(DNMS)

EA No. EA-10-229

Licensee: Jacobi Geotechnical Engineering, Inc.

Location: O'Fallon, Missouri

Date: October 21, 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

Jacobi Geotechnical Engineering, Inc NRC Inspection Report No. 030-35293/2010-001(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. Jacobi Geotechnical Engineering, Inc. is an engineering company located in O'Fallon, Missouri. The Jacobi Geotechnical Engineering, Inc., NRC License No. 24-32231-01 authorized the use of Humboldt Scientific Model 5001 Series portable density gauges for measuring physical properties of construction materials.

Inspection items identified include one apparent violation listed below:

On October 21, 2010, the inspector observed an authorized user returning from a temporary job site, the inspector determined that the licensee was transporting a Humboldt Scientific gauge in an open bed pick-up truck with one lock and one chain through each handle of the gauge case and only one lock securing the gauge case lid. The inspector asked if the user ever left the vehicle unattended while the gauge was locked in that fashion. The authorized user confirmed that he had left the vehicle unattended on occasion with the gauge secured in that fashion. This is an apparent violation of Title 10 of the Code of Federal Regulations (10 CFR) 30.34(i).

The inspector determined that the root cause of the violation was that the licensee personnel misunderstood the requirements in 10 CFR 30.34(i); the licensee believed that two locks and chains through each handle on the gauge case met the NRC requirement. The licensee believed that the gauge was adequately secured. The inspector explained the single lock securing the gauge case lid with chains through each handle did not meet the requirement for a second independent physical control to prevent removal of the gauge and did not meet the requirements of 10 CFR 30.34(i).

As corrective actions for the violation, the Radiation Safety Officer (RSO) committed to: (1) providing a second lock on the gauge case lid so that the gauge could be secured with two independent tangible barriers during transport and at temporary job sites; and (2) training all gauge users on the requirement to use the two locks to secure both the gauge and the gauge lid during transport and at temporary job sites in the field.

Report Details

1 Program Overview

Jacobi Geotechnical Engineering, Inc. is authorized under the U.S. Nuclear Regulatory Commission (NRC) Materials License No. 24-32231-01 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 Missouri area. The licensee uses Humboldt Scientific Model 5001 gauges, containing cesium-137 and americium-241.

2 Radiation Safety Program

2.1 Inspection Scope

On October 21, 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

Physical Inventories

The inspector found that the licensee had maintained operational logs for the eighteen gauges during the construction season, and had physical inventory records for all of the gauges. The inspector had no findings in this area.

Leak Tests

The inspector determined that the licensee had completed the required leak tests on the portable gauges every six months. The inspector had no findings in this area.

Dosimetry

The inspector reviewed dosimetry records. Badges were exchanged in the required three-month frequency and no overexposures were identified.

2.3 Conclusions

The inspector determined that the licensee performed physical inventories and leak testing as required and all reviewed dosimetry was within NRC regulatory limits.

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 and by interviewing the authorized users and requesting these authorized users to demonstrate how they used and transported the gauges.

3.2 Observations and Findings

Title 10 CFR 30.34(i) requires, in part, 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 the portable gauges are not under the control and constant surveillance of the licensee. The inspector determined that the licensee failed to use a minimum of two independent physical controls that form tangible barriers to secure a portable gauge, when the gauge was not under the control and constant surveillance of the licensee.

On October 21, 2010, the inspector observed an authorized user returning from a temporary job site. The inspector observed that the licensee was transporting a Humboldt Scientific gauge in an open bed pick-up truck with one lock and one chain through each handle of the gauge case and only one lock securing the gauge case lid. The inspector asked if the authorized user ever left the vehicle unattended while the gauge was locked in that fashion. The authorized user confirmed that he had left the vehicle unattended on occasion with the gauge secured in that fashion. The inspector indicated that securing the gauge in this manner while not under the control and constant surveillance of the licensee was an apparent violation of 10 CFR 30.34(i).

The inspector determined that the root cause of the violation was that the licensee personnel misunderstood the requirements in 10 CFR 30.34(i); the licensee believed that two locks and chains through each handle on the gauge case met the NRC requirement. The licensee believed that the gauge was adequately secured. The inspector explained that the single lock securing the gauge case lid with chains through each handle did not meet the requirement for a second independent physical control to prevent removal of the gauge and did not meet the requirements of 10 CFR 30.34(i).

The licensee's corrective actions were to rearrange the chains through both the top and side handles of the gauge case, and to train all authorized gauge users in properly securing the portable gauges during transport and when 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 a portable gauge, when the gauge was 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 October 21, 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

James Pyatt*, Radiation Safety Officer

* Attended exit meeting on October 21, 2010