



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION IV  
612 EAST LAMAR BLVD, SUITE 400  
ARLINGTON, TEXAS 76011-4125

April 21, 2009

EA-09-069

Gayle Packer  
Vice President Corporate Services  
Terracon Consultants, Inc.  
18001 W. 106<sup>th</sup> Street, Suite 300  
Olathe, Kansas 66061

SUBJECT: NRC INSPECTION REPORT 030-32176/09-001 AND NOTICE OF VIOLATION

Dear Ms. Packer:

This refers to the unannounced inspection conducted on February 25, 2009, at your main office in Olathe, Kansas, and at your field office in Kansas City, Missouri. The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel. The inspector discussed the preliminary inspection findings with Gary Bradley, Corporate Safety and Health Director, at the conclusion of the onsite portion of the inspection. The inspector conducted a final exit briefing telephonically with you and Mr. Bradley on April 15, 2009. The enclosed report presents the results of this inspection.

In a telephone conversation on April 15, 2009, Anthony Gaines of my staff informed you that the NRC was considering escalated enforcement for an apparent violation of NRC requirements. The apparent violation involved 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. The circumstances surrounding this apparent violation, the significance of the issue, and the need for lasting and effective corrective action were discussed with you and Mr. Bradley at the inspection exit briefing. Additionally, you have initiated corrective actions, some of which are documented in this report, to address the violation. Further, we provided you an opportunity to (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. Mr. Gaines also informed you that the NRC had sufficient information regarding the apparent violation and your corrective actions to make an enforcement decision without the need for a predecisional enforcement conference or a written response from you. You agreed that a predecisional enforcement conference or written response was not needed.

Based on the information developed during the inspection the NRC has determined that a violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report. As noted above, the violation involved a failure to use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal. The portable gauge was located in the back of a pickup truck and had only a single barrier to prevent unauthorized removal of the portable gauge while not under the

control and constant surveillance of the authorized user. The apparent root cause for the violation was the authorized user's misunderstanding of the regulation.

The NRC considers this violation significant because this security requirement provides a reasonable assurance that portable gauges will be secured from unauthorized access or theft. Therefore, this violation has been categorized in accordance with the NRC Enforcement Policy at Severity Level III. The NRC Enforcement Policy may be found on the NRC's Web site at [www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html](http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html).

In accordance with the NRC Enforcement Policy, a base civil penalty in the amount of \$3,250 is considered for a Severity Level III violation.

Because your facility has not been the subject of escalated enforcement actions within the last two inspections, the NRC considered whether credit was warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section VI.C.2 of the Enforcement Policy. Based on your prompt and comprehensive corrective actions, the NRC has determined that *Corrective Action* credit is warranted. Your corrective actions included placing the portable gauge in a permanent storage location that provided two independent barriers. In addition, the next day you sent an e-mail out to all of the field office radiation safety officers telling them of the violation, showing them pictures of the correct way to secure the gauges, and asking the field office radiation safety officers to ensure that the authorized users are reinstructed in the proper way of securing the gauges.

Therefore, to encourage prompt and comprehensive correction of violations, and in recognition of the absence of previous escalated enforcement action, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty. In addition, issuance of this Severity Level III violation constitutes escalated enforcement action that may subject you to increased inspection effort.

You are required to respond to the Notice and should follow the instructions specified in the enclosed Notice when preparing your response. The information provided in the excerpt from NRC Information Notice 96-28 may be helpful when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC's Web site 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. If personal privacy or proprietary information is necessary to provide an acceptable response, please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such information, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by

10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). The NRC also includes significant enforcement actions on its Web site at [www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html](http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html).

Should you have any questions concerning this inspection or the enclosed Notice of Violation, please contact Ms. Vivian Campbell at (817) 860-8287.

Sincerely,

/RA/

Elmo E. Collins  
Regional Administrator

Docket No. 030-32176  
License No. 15-27070-01

Enclosures:

1. Notice of Violation
2. NRC Inspection Report 030-32176/09-001  
(w/Attachment)
3. Excerpt from NRC Information Notice 96-28

cc w/Enclosures 1 and 2:  
Kansas Radiation Control Program  
Missouri Radiation Control Program

Terracon Consultants, Inc.  
EA 09-069

**DISTRIBUTION:**

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**OEMail** Resource  
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NMSB-A Inspectors

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[Angela.McIntosh@nrc.gov](mailto:Angela.McIntosh@nrc.gov)  
[Glenda.Villamar@nrc.gov](mailto:Glenda.Villamar@nrc.gov)

Hard copy:  
RIV Materials Docket File (5<sup>th</sup> Floor)

SUNSI Review Completed: ADG ADAMS:  Yes  No Initials: ADG  
 Publicly Available  Non-Publicly Available  Sensitive  Non-Sensitive

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RIV:DNMS:NMSB-A	C: NMSB-A	C: NMSB-B	ACES	RC
ADGaines	VHCampbell	JEWhitten	CMaier	KSFuller
<i>/RA/</i>	<i>/RA DBS for/</i>	<i>/RA/</i>	<i>/RA/</i>	<i>/RA/</i>
04/08/09	04/09/09	04/10/09	04/13/09	04/13/09
Div Dir	RA/DRA		OE	RA
ATHowell	EECollins		NHilton	EECollins
<i>/RA CLC for/</i>	<i>/RA Casto for/</i>		<i>/RA NColeman for/</i>	<i>/RA/</i>
04/15/09	04/ 16 /09		04/17 /09	04/21/09

OFFICIAL RECORD COPY

T=Telephone

E=E-mail

F=Fax

## NOTICE OF VIOLATION

Terracon Consultants, Inc.  
Olathe, Kansas

Docket No. 030-32176  
License No. 15-27070-01  
EA 09-069

During an NRC inspection conducted on February 25, 2009, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 30.34(i) requires the licensee 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.

Contrary to the above, on February 25, 2009, the licensee did not use a minimum of two independent physical controls that formed tangible barriers to prevent unauthorized removal of a gauge when not under the control and constant surveillance of the licensee. Specifically, at a field office in NRC jurisdiction, the licensee left a portable gauge that was not under the control and constant surveillance of the licensee in the back of a pick-up truck and used only one independent physical control that formed a tangible barrier to prevent unauthorized removal of the gauge.

This is a Severity Level III violation (Supplement VI).

Pursuant to the provisions of 10 CFR 2.201, Terracon Consultants, Inc., is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-001 with a copy to the Regional Administrator, Region IV, 612 East Lamar Blvd., Arlington, Texas 76011-4125 within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation; EA-09-069" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level, (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. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC's Web site at [www.nrc.gov/reading-rm/pdr.html](http://www.nrc.gov/reading-rm/pdr.html) or [www.nrc.gov/reading-rm/adams.html](http://www.nrc.gov/reading-rm/adams.html), to the extent possible, it should not include any personal privacy or proprietary information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed

copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

In accordance with 10 CFR 19.11, you may be required to post this Notice within 2 working days.

Dated this 21<sup>st</sup> day of April 2009

U.S. Nuclear Regulatory Commission  
Region IV

Docket No.: 030-32176  
License No.: 15-27070-01  
Report No.: 030-32176/09-001  
EA No.: 09-069  
Licensee: Terracon Consultants, Inc.  
Location: Main Office – Olathe, Kansas  
Field Office – Kansas City, Missouri  
Dates: February 25, 2009  
Inspectors: Anthony Gaines, Senior Health Physicist  
Nuclear Materials Safety Branch A  
Approved By: Vivian Campbell, Chief  
Nuclear Materials Safety Branch A  
Attachment: Supplemental Inspection Information

## **EXECUTIVE SUMMARY**

Terracon Consultants, Inc.  
NRC Inspection Report 030-32176/09-001

This was a routine, unannounced inspection of licensed activities involving the use and storage of byproduct material at the main office and a field office of Terracon Consultants, Inc. (Terracon). The inspection was an examination of activities conducted under NRC Materials License 15-27070-01, as they relate to radiation safety and to compliance with the Commission's rules and regulations, and the conditions of the license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. This report describes the findings of the inspection.

### **Program Overview**

Terracon is a licensee authorized to use byproduct material (cesium-137 and americium-241) in the operation of portable moisture density gauging devices in areas of NRC jurisdiction, including permanent field offices and temporary jobsites. (Section 1)

### **Inspection Findings Considered for Escalated Enforcement**

- The licensee stored a portable gauge in the back of a pickup truck with only one independent physical control that formed tangible barriers to prevent unauthorized removal of the gauge when it was not under the control and constant surveillance of the licensee. This was identified as a violation of 10 CFR 30.34(i). (Section 2.2)

### **Corrective Actions**

- On the day of the inspection, February 25th, the authorized user immediately removed the gauge from the pickup truck and placed the gauge in their permanent storage location which had two independent physical controls.
- The next day, February 26th, the corporate radiation safety officer (RSO) sent an email to all field office RSO's explaining the violation, attaching a picture of the correct way to secure the gauge, and asking the field office RSO's to re-instruct the authorized users on the requirement to have two independent physical controls. (Section 3)

## Report Details

### **1 Program Overview (87126)**

#### **1.1 Inspection Scope**

The inspector reviewed the license and supporting documentation, interviewed licensee staff, and examined storage locations at the licensee's field office in Kansas City, Missouri. Collectively, the documents reviewed described the licensee's implementation of its NRC license requirements and its radiation safety program.

#### **1.2 Observations and Findings**

Terracon is a large geotechnical and construction engineering firm which possesses approximately 700 portable gauging devices at multiple field office locations in both Agreement States and NRC jurisdiction. They have approximately 2,700 employees, of which approximately 1,000 employees could be considered authorized gauge users. Their corporate office is located in Olathe, Kansas.

### **2 Inspection Findings (87124)**

#### **2.1 Inspection Scope**

Interviews with licensee staff and observations at the Kansas City field office constituted the bulk of the inspection. Licensed activities were examined as they relate to the safety and security of the portable gauges and the licensee's efforts to protect members of the public. The inspector evaluated training, transportation, events, audits, instrument calibration, dosimetry, and storage of licensed material.

#### **2.2 Observations and Findings Considered for Escalated Enforcement**

##### **2.2.1 Material Security and Control**

10 CFR 30.34(i) requires the licensee 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 inspector reviewed the storage of a portable gauge at the licensee's field office in Kansas City, Missouri. The field office location had two scenarios for when the gauge needed to comply with 10 CFR 30.34(i). One was when the gauge was stored inside the licensee's work trailer, and the other was when the gauge was stored in the back of a pickup truck. When the inspector arrived at the field office, the authorized user escorted the inspector to the work trailer to review how the gauge was stored. The trailer contained a dedicated closet for the storage of the portable gauge. When the authorized user opened the closet there was no gauge inside. The inspector asked where the gauge was and was informed that it was stored in the back of a pickup truck in the parking lot. The authorized user proceeded to show the inspector how the gauge was secured in the trailer. Inside the closet was a chain that was bolted to the floor of the trailer. The authorized user indicated that when the gauge was stored in the closet that the case that the gauge was in was secured with the chain and a lock such that the

gauge could not be taken out of the case without cutting the chain or the lock, and then the closet door was locked. This provided two independent physical controls that formed tangible barriers to secure the portable gauge from unauthorized removal. The inspector asked the authorized user to show him how the gauge was stored in the back of the pickup. The pickup truck was in a parking lot approximately 200 feet from the trailer and was parked such that the authorized user did not have constant surveillance of the portable gauge while in the trailer. The gauge shipping case, with the gauge inside, was secured with two chains. The chain on the left of the case was attached to the bed of the truck and to the shipping case by a padlock that was used to lock the left hasp on the lid. The second chain on the right was attached to the bed of the truck and padlocked to the handle of the case. Therefore, the case was secured by two independent means. However, if someone cut the padlock used to secure the lid, they could open the case and take the gauge. Therefore, there was only one independent physical control, the lock on the left hasp that prevented the gauge from unauthorized removal.

On February 25, 2009, when the licensee stored the gauge in the bed of a pickup truck at their field office location in Kansas City, Missouri, the licensee failed to provide two independent physical controls while the portable gauge was not under constant surveillance by the licensee. This was identified as an example of a violation of 10 CFR 30.34(i). (030-32176/09-001)

### 2.3 Conclusions

The inspection identified one violation of failing 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.

### 3 **Corrective Actions (87124)**

On the day of the inspection, February 25th, the authorized user immediately removed the gauge from the pickup truck and placed the gauge in their permanent storage location in the work trailer which had two independent physical controls.

The next day, February 26th, the corporate radiation safety officer (RSO) sent an email to all field office RSO's explaining the violation, attaching a picture of the correct way to secure the gauge, and asking the field office RSO's to re-instruct the authorized users on the requirement to have two independent physical controls.

### 4 **Exit Meeting Summary**

A preliminary exit briefing was conducted at the conclusion of the on site inspection with the corporate radiation safety officer. A final telephonic exit briefing was conducted with the vice president of corporate services and the corporate radiation safety officer of Terracon Consultants, Inc., on April 15, 2009, to review the inspection findings as presented in this report. Licensee representatives acknowledged the inspectors' findings. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACT

Licensee

Gayle Packer, Vice President of Corporate Services  
Gary Bradley, Corporate Radiation Safety Officer  
Tim Fritz, portable gauge technician

INSPECTION PROCEDURES USED

87124 Fixed and Portable Gauge programs

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

030-32176/09-001	VIO	A violation involving 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.
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Closed

None

Discussed

None

LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
NRC	Nuclear Regulatory Commission
EA	Enforcement Action
VIO	Violation