

May 11, 2009

# Terracon

Consulting Engineers & Scientists

US Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555-001

Terracon Consultants, Inc.  
Corporate Headquarters  
18001 West 106th Street, Suite 300  
Olathe, Kansas 66061  
Phone 913.599.6886  
Fax 913.599.0574  
www.terracon.com

RE: Reply to a Notice of Violation; EA-09-069  
License No. 15-27070-01

Dear Sirs:

Terracon has reviewed your inspection report 030-32176/09-001 and the above referenced notice of violation. We have discussed this alleged violation on two separate occasions with Mr. Anthony Gaines of Region IV; once following the inspection of February 25, 2009 and again during the telephonic conference of April 15, 2009.

Terracon agrees that on February 25, 2009, Mr. Gaines observed a nuclear density/moisture gauge in the back of a pickup truck at a long-term construction project site at Arrowhead Stadium, Kansas City, MO. The gauge was in its DOT-approved shipping container in the rear of the pickup bed. The gauge case was secured in the bed of the vehicle by two chains. One chain terminated in a padlock run through the single available hasp which locked the gauge case. The other chain was run through the side handle of the gauge case and was independently padlocked to the bed of the pickup truck. Although our field employee believed he was appropriately applying the dual security rule, which Terracon had adopted and communicated since before the effective date of the rule, Mr. Gaines asserted that though the case was secured against theft with two tangible barriers, the gauge itself was not. Terracon cannot dispute this fact, though we were making a good faith effort to comply with 10 CFR 30.34(i).

After being notified by Inspector Gaines that the gauge was not appropriately secured in the pickup truck, Terracon's field employee Tim Fritz immediately moved the gauge to our secure storage trailer and placed the device under two tangible barriers to prevent theft. This action is corroborated by in the inspection report prepared by Inspector Gaines. As also noted by Inspector Gaines, the Corporate RSO immediately contacted Local RSOs in some key office locations and discussed the inspection findings and asked that the local RSOs properly chain gauges into vehicles in such a manner that BOTH the gauge and case were secured against theft. A memo regarding the dual security issue, the inspection findings and the photos of the correct way to secure our licensed devices were sent via email to Local RSO's in all Terracon offices within 24 hours of our initial discussions with Inspector Gaines. This is also corroborated in the inspection report prepared by Inspector Gaines. We believe these actions have been sufficiently communicated such that we have now achieved full compliance with 10 CFR 30.34(i).

Although not addressed in his final inspection findings, we also discussed possession limits listed on License No. 15-27070-01, and public dose assessments with Inspector Gaines during his February 25, 2009 inspection. In order to remain compliant with NRC regulations, we also submitted an amendment request to increase our device possession limits before they were exceeded. We also sent out examples and requested that every office prepare a formal public dose assessment for their files, even if prior radiation surveys were on hand. We mention these

IEO7  
RGM IV

Response to Notice of Violation  
License No. 15-27070-01, Docket No. 030-32176  
May 11, 2009  
Page 2

issues as further demonstration of our commitment to complying with our license conditions and applicable NRC regulations.

We regret the violation of 10 CFR 30.34(i) noted by Inspector Gaines on February 25, 2009. However we do request that the Agency consider the fact that the shipping container observed by Inspector Gaines was secured with two independent chains and padlocks on the date of the inspection. Although we admit that the gauge itself was secured by only one tangible barrier preventing theft due to the manner in which the chains were then applied, we trust we have demonstrated our good faith effort to train our personnel that single chaining devices in their transport vehicles is not acceptable. Had the device case observed by Inspector Gaines actually been equipped with a second, locking hasp, we are confident that no violation would have been observed. However, not all DOT approved portable gauge shipping containers are equipped with dual locking hasps, which requires additional consideration when applying a second chain to assure that it not only secures the case to the vehicle, but secures the gauge within the case. We now have a better appreciation for this issue, and have shared it with authorized operators in all NRC and Agreement States. We trust that this action, and the continuous reminders we intend to send in future, will help prevent a recurrence of this violation.

We appreciate the courtesy and professionalism demonstrated by Inspector Gaines throughout this process, and we appreciate the fact that the Agency voluntarily waived imposition of a civil penalty in this matter. We will continue to work toward compliance with our license obligations and applicable radiation regulatory requirements.

We trust the above response adequately complies with your expectations and our obligations. If you have any additional questions or if we may provide any additional information in this matter please contact us at your earliest opportunity.

Sincerely,

**Terracon**

  
Gary K. Bradley, CSP, CHMM  
Corporate Safety and Health Director/  
Corporate Radiation Safety Officer

CC: Regional Administrator  
USNRC Region IV  
612 East Lamar Blvd  
Arlington, TX 76011-4125

Attachments

## Bradley, Gary K.

---

**From:** Bradley, Gary K.  
**Sent:** Monday, March 02, 2009 1:19 PM  
**To:** 'anthony.gaines@nrc.gov'  
**Subject:** FW: NRC Inspection -- Public Risk Assessment and Gauge Security Issues

**Attachments:** Public Dose Assessment.doc; Nuclear Gauge Security 001.jpg; Nuclear Gauge Security 002.jpg

This went out to all RSOs around the country (Agreement State as well as NRC) the day after you left. I have already received some responses, including the attached.

GK Bradley  
Terracon

---

**From:** Bradley, Gary K.  
**Sent:** Thursday, February 26, 2009 4:09 PM  
**To:** Holguin, Gustavo G.; Brady, Jeff C.; Saenz, Leo; Markle, Terry; McKenzie, Cory S.; Rhodes, Clayton D.; Merhar, Michael R.; Jung, Jared; Thomas, Daren L.; Lockhart, Rick; Evans, Jeff R.; Gisi, Brian; Caldwell, Hughston; Andersen, Chad W.; Anderson, Steve; Lefeldt, Kirsten M.; Widener, Harold R.; Dornak, Mark E.; Rees, Tom; Chinn, P. Bryan; Armstrong, John B.; Henley, Dennis; Cleveland, Eric; Redman, Daniel E.; Falk, Paul J.; Clough, Brian; Walker, Mike L.; Bernal, Juan P.; Montenegro, Alex R.; Germany, Judson P.; Harper, Shane; Gruenberger, Scott M.; Bonner, Carl; Brown, Rex T.; Brigandi, Kevin J.; Buckley, Pat S.; Hernandez, Raymundo; Wells, Mary; Judd, Joe; Redfearn, K. Lee; Creamer, Carl; Knowles, Allison P.; Wilson, Russ A.; Haynie, Leslie M.; Baker, Shaun P.; Paas, Ed J.; Kennedy, Bob N.; Hagan, Ryan C.; Handley, Chris S.; Oliver, David G.; Wallace, Stanley J.; Bradfield, Brett E.; Morales, Rudolph; Patel, Manhar; Beaudoin, James L.; Hancock, Aron P.; Reed, Jan; Bunting, Steve; Creech, Zach; O'Brien, Brendan S.; Flores, Luis G.; Smith, Mike; Householder, Keith A.; Kuehnel, Andrea; Bedoya, Andrei; Anderson, Scott; Feeger, Walter J.; Adams, Thomas J.; Shafer, Bernard T.; Graves, John; Waldeier, Doug A.; Hohlt, Timothy; Perea, Rick L.; Kosub, Steve R.; Jones, Tom A.; Miller, Rowdy; Hudson, Gailen E.; Alexander, Ty; Walthour, Morris L.; Krauel, Jeanette; Roberts, Timothy H.; Hall, Mark W.; Dobler, Neill D.; Obenauf, James; Fitzsimmons, Kevin B.; Wolfgram, David J.; Waters, Randy; Munski, Ken D.  
**Subject:** NRC Inspection -- Public Risk Assessment and Gauge Security Issues

I received an unannounced inspection yesterday by the NRC. He spent most of the day here at Corporate interviewing me and reviewing documents, then went to a permanent storage site we have set up at Arrowhead Stadium. While there, he observed a gauge in a pickup under only one (not TWO) physical barriers against theft.

### **BOTTOM LINE:**

We did pretty well overall but we have to correct two things ASAP, and the sooner, the better.

#### **1) Radiation Survey and Public Dose Assessment**

The NRC no longer considers a basic radiation survey as adequate to meet our obligations to assure the public is not exposed above permissible limits. Every office MUST have a completed radiation survey. They must also have a document such as the attached drawn up to further explain/calculate that individual members of the public are not exposed above 2 mr/hr or 100 mr/year. See attached document which should work fine for most situations. If monitoring reveals folks on opposite sides of walls, etc may in fact reasonably receive more than 2 mr/hr or 100 mr/yr...we have to take some measures to change our storage. Ideally, gauge storage should be in the back lab area as far from clerical personnel, against an exterior wall and as far as practical from routinely occupied work stations.

I will have to respond to a letter I'll soon be receiving from our friends at NRC. I would be great that I could include Public Dose Assessments, especially from offices in the states of MT, ID, WY, MO, CT and SD. If you don't have a recent radiation survey (within last year)...I ask that you PLEASE do another now...then use the attached model and prepare a public dose assessment for our files. I'd like a copy ASAP. Thank you.



Public Dose  
Assessment.doc (74..

#### **2) DUAL Gauge Security**

Unfortunately, the inspector found storage of the gauge observed on our project site storage location in violation of the "dual security" rule. Although the gauge case was secured to the vehicle with two separate chains and padlocks...there was only one lock keeping the gauge itself from being stolen. We'll be cited for "escalated enforcement" based on this finding. To correct this in advance...We need to make sure that we are securing gauges such that there are always TWO independent barriers against theft. That means we either have a padlock on each hasp thru a length of suitably strong

chain securing the gauge to the vehicle...or...we have the gauge case LOCKED, and have two chains and independent locks fished thru both side handles and across the top of the gauge case. These should be just short enough to go from one side of the pickup bed to the other so that someone can't open the gauge case with the chains in place over the top of the case. Here are some pictures with acceptable DUAL SECURITY chains in place to prevent theft of the gauge and case. If you have two locking hasps on your gauge case, a padlock and chain thru each the vehicle structure will serve. Your cooperation in re-instruction your technicians on the requirements of the dual security rule will be greatly appreciated.



Nuclear Gauge Security 001.jpg... Nuclear Gauge Security 002.jpg...

Compliance with radiation regulatory requirements is critical for the retention of our radioactive materials licenses and the furtherance of our business. Thank you for your usual cooperation.

**Gary K. Bradley, CSP, CHMM**  
**Principal | Corporate Safety & Health Director**

**Terracon**

18001 W. 106th Street, Suite 300 | Olathe, Kansas 66061

P 913.599.6886 x 353 | F 913.599.4732

[gkbradley@terracon.com](mailto:gkbradley@terracon.com) | [www.terracon.com](http://www.terracon.com)

 Please consider the environment before printing this email



