

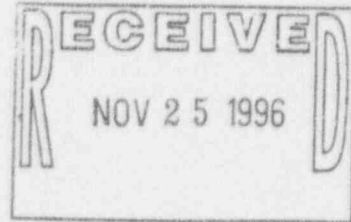
November 14, 1996

Mr. Ross A. Scarano
Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-8064

Terracon

THE TERRACON COMPANIES, INC.

16000 College Boulevard
Lenexa, Kansas 66219
(913) 599-6886 Fax (913) 599-0574



RE: Response to An Apparent Violation in
Inspection Report No. 030-32176\96-02"
NRC License # 15-27070-01

Dear Mr. Scarano:

This letter is in response to your correspondence of November 5, 1996 regarding a nuclear density/moisture gauge incident and subsequent inspection in Boise, Idaho. As we discussed during our "telephonic" interview of October 10, 1996, and as you have accurately recapitulated in the enclosure to your November 5, 1996 correspondence, a nuclear density/moisture gauge was destroyed at a construction project site in Boise, Idaho when a water truck backed over the device.

Although our authorized operator had been trained in accordance with NRC and Terracon requirements and was aware that he must maintain control over licensed materials at all times, on the date of this incident he walked approximately 15 feet away from the nuclear density/moisture gauge to record readings on his log sheet. In the seconds which elapsed, a water truck had begun backing toward the gauge. Although the operator attempted to flag the driver to stop, the gauge was struck by the water truck and badly damaged. Fortunately, follow-up activities performed by the operator were prompt, appropriate and in accordance with Terracon emergency procedures.

It is the opinion of Terracon that the operator did not have the gauge sufficiently under his control on this project site, else the accident would not have occurred. Therefore, we find it difficult to contest an apparent violation of 10 CFR 20.1802. However, the operator did not venture away from the licensed device by more than 15--20 feet, and was out of visual contact with the gauge for less than one minute on the date of the incident. Mindful of the need to maintain surveillance on the gauge, the technician had moved his support vehicle to within a few feet of his proposed test locations in order to help maintain surveillance and prevent unauthorized removal of the device. Although we do not condone leaving these devices unattended for any period of time, we feel our technician was in adequate proximity to the gauge and that the gauge was under sufficient surveillance that there was no danger of the gauge being removed from the project site by an unauthorized individual. We believe this contention is supported by the fact that the gauge operator had broken visual contact with the gauge only briefly, and that visual surveillance of the gauge was re-established *before* it was struck and damaged by the water truck. Therefore, we do not believe a violation of 10 CFR 20.1801 was committed. However, to preclude unauthorized removal from project sites in the future, our training efforts will focus on the need to keep the gauges within reach when in use and to lock the devices within secured storage containers when they are not actually in use.

Offices of The Terracon Companies, Inc.

Arizona ■ Arkansas ■ Colorado ■ Idaho ■ Illinois ■ Iowa ■ Kansas ■ Minnesota
Missouri ■ Montana ■ Nebraska ■ Nevada ■ Oklahoma ■ Texas ■ Utah ■ Wyoming

Geotechnical, Environmental and Materials Engineers

QUALITY ENGINEERING SINCE 1965

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The attached memorandum addressed to all Terracon deputy Radiation Safety Officers was drafted immediately following the telephone exit briefing of October 10, 1996. This memorandum and the accompanying training manual were presented to the President and CEO of Terracon and to the Terracon Operations Committee on the afternoon of October 10. The Terracon senior management team was briefed on past NRC infractions and was asked to approve a company-wide training effort to re-focus attention on nuclear device safety and security. This plan was unanimously approved and the training materials were distributed to all Terracon field offices beginning October 11, 1996.

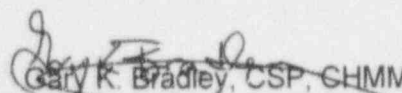
Terracon sincerely regrets the incident which occurred on August 29, 1996 in Boise, Idaho and has implemented a corporate-wide re-training program for all authorized operators of licensed materials at all Terracon offices. It is our intent that this mandatory re-training program focus attention on gauge security issues, prevent recurrences of events similar to that of August 29, 1996, and demonstrate the commitment of senior Terracon management that the licensed materials entrusted to our care be used safely and remain secured from theft or damage. This re-training effort is already underway and should be completed by December 15, 1996.

Since the telephone interview of October 10, 1996, an NRC bulletin regarding possibly defective welds in Troxler series nuclear density/moisture gauges was received. Upon review of this memo, the Terracon gauge inventory was reviewed and affected office managers/deputy Radiation Safety Officers were notified of this possible defect. Each office in possession of Troxler 3400 series gauges and were instructed to inspect each potentially affected gauge. A copy of this information distribution is attached as additional evidence of the seriousness with which Terracon views our obligations to protect our personnel and members of the general public from the potential hazards of licensed nuclear materials.

We hereby affirm that the statements contained in this correspondence are true and that the efforts described herein are currently being implemented throughout all Terracon office locations.

Sincerely,

THE TERRACON COMPANIES, INC.


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

Ref: License # 15-27070-01

MEMORANDUM

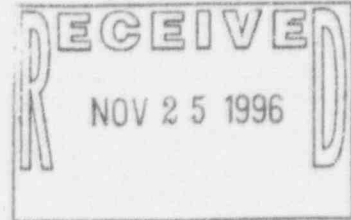
October 10, 1996

TO: Dave Cooley	Maroun Moussallem	Paul Pelengaris	Greg Longman
Darrell Davis	Rick Lockhart	Andre Gallet	Paul Schnyder
Dan Israel	Greg Longman	Kent Dvorak	Neill Dobler
Steve Fischer	Ron Shaffer	Mark Roenfeldt	Jim Eads
Doug Carlson	Tom Hawes	Dennis Johnson	Tim LaGrow
Eric Cleveland	Kemp Akeman	Eric Strickland	Dave Obenauf
Kirk Fraser	Mike Walker	Dave Richer	Ed Paas
Jan Cipares	Merle Listoe	David DuPont	Ed Keane
Doug Jobe			

FROM: Gary K. Bradley  Corp. Safety and Health Manager

THROUGH: Larry Davidson

SUBJ: Nuke Gauge Refresher Training



On August 29, 1996, a nuclear density/moisture gauge was struck by a water truck on a project site at an urban project site. A technician had just conducted a density/moisture reading at the site. After retracting the source rod into the safe position, he walked approximately 20 feet to the rear of his pickup to record the reading on a field data sheet. In the 15 to 20 seconds that elapsed, a water truck backed over and destroyed the *unattended* gauge. Fortunately, the sealed nuclear sources remained intact, but virtually every other component of the gauge was damaged to the point where repair exceeded gauge replacement cost.

Unfortunately, this is not the first such incident that has occurred at Terracon. As every one of you are aware, nuclear gauges are low-level, essentially innocuous radioactive devices when used correctly in accordance with Terracon radiation safety procedures. These procedures are in place to minimize radiation exposure to our employees and to members of the general public and to comply with the regulations governing our possession of nuclear gauges. Incidents such as these indicate that we are not always living up to our legal requirement to:

"...ensure that nuclear density/moisture gauges are secured against theft, damage or loss. Personnel using gauges in the field are required to maintain control of the gauges at all times and to secure them within the shipping container and secure the container against theft when the gauges are not actually in use."

Sure, you've heard all this before. But, it's time we paid more heed to this requirement. Terracon will be fortunate to escape some sort of NRC enforcement action as a result of this recent incident. NRC enforcement options include fines, imposition of more stringent license conditions and suspension or revocation of our radioactive materials license.

Attached you will find a copy of a radioactive materials training manual developed by Terracon. **It is requested that you utilize this manual to conduct refresher training for all authorized nuclear density gauge users by December 15, 1996.** Emphasis should be placed on Terracon radiation safety policies, especially those requirements to maintain continuous control of gauges at all times. Each authorized user must complete the attached training quiz and return it to my attention upon completion. Your assistance in reinforcing Terracon radiation safety procedures in a timely manner will be greatly appreciated.

CC: Terracon Operations Committee