



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

August 24, 2005

Docket No. 03034284
EA-05-146

License No. 45-25374-01

Raja S. El-Awar, P.E.
Principal Engineer/RSO
Foundation Engineering Science, Inc.
11843-B Canon Boulevard
Newport News, VA 23606

SUBJECT: INSPECTION 03034284/2004001, FOUNDATION ENGINEERING SCIENCE, INC., NEWPORT NEWS, VIRGINIA SITE; AND OFFICE OF INVESTIGATIONS (OI) REPORT NO. 2-2005-003

Dear Mr. El-Awar:

On November 18, 2004, Jim Schmidt of this office conducted a safety inspection at the above address of activities authorized by the above listed NRC license. The inspection was an examination of your licensed activities as they relate to radiation safety and to compliance with the Commission's regulations and the license conditions. The inspection consisted of observations by the inspector, interviews with personnel, and a selected examination of representative records. Additional information provided in your correspondence dated December 21, 2004, was also examined as part of the inspection. The findings of the inspection were discussed with you by telephone on December 22, 2004. The enclosed report presents the results of this inspection.

In addition to this inspection, NRC's Office of Investigations (OI) completed an investigation on May 19, 2005. The purpose of the OI investigation was to determine if the authorized user of a licensed portable gauging device deliberately failed to maintain control of the material as required by 10 CFR 20.1801 and deliberately failed to report the theft of the material to management as required to support immediate notification to the NRC as required by 10 CFR 20.2201. Based upon the evidence, documentation and testimony collected during the investigation, OI concluded that the authorized user deliberately failed to control the licensed material and deliberately failed to report the theft of licensed material to management, resulting in a failure to make a required immediate report to the NRC. A Factual Summary of the OI report is enclosed.

Based on the results of this inspection and the OI report, three apparent violations were identified. First, licensed material was not secured as required by 10 CFR 20.1801 which resulted in the theft of the licensed material. Second, the theft of the licensed material was not immediately reported as required by 10 CFR 20.2201(a). Third, the gauge containing the licensed material was not locked as required by Condition 16 of your license. Although the OI report concluded that the first and second of these apparent violations were a result of

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deliberate actions by one of your employees, you remain responsible for activities conducted under your license and are therefore responsible for these apparent violations.

The apparent violations for failing to secure licensed material and failure to make an immediate report are being considered for escalated enforcement in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at www.nrc.gov; select **What we Do, Enforcement**, then **Enforcement Policy**. There are three options available to you to assist NRC in reaching an enforcement decision in this matter: 1) respond in writing to the apparent violations within 30 days of the date of this letter; 2) request a Predecisional Enforcement Conference (PEC); or 3) request Alternative Dispute Resolution (ADR). In making your decision, you should be aware that although the NRC has not made a final decision about this case, a revision to the NRC Enforcement Policy became effective February 16, 2001 (Section VII.A.1.g) which states that cases involving the loss, abandonment, or improper transfer or disposal of a sealed source or device should normally result in a civil penalty.

If you choose to provide a written response, it should be clearly marked as a "Response to Apparent Violations in Inspection Report No. 03034284/2004001" and should include for each 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.

If you choose to attend a PEC, you will have the opportunity to discuss the apparent violations before an enforcement decision is made. This conference will be held at the Region I Office in King of Prussia, PA, will be closed to public observation, and will be transcribed. The decision to hold a PEC does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. The conference will be held to achieve a common understanding of the facts in the case, obtain appropriate information so that we can determine whether a violation occurred, to determine the significance of any violation which did occur, and to understand any corrective actions taken or planned by you. The conference will provide an opportunity for you to provide your perspective on these matters, and any other information that you believe the NRC should take into consideration in making an enforcement decision.

Our final decision on enforcement action will not be available at the conclusion of the PEC. You will be advised by separate correspondence of the results of our deliberations on all the information pertaining to the violation including that received at the PEC.

In presenting your corrective action, whether in writing or at a PEC, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violations. The guidance in the enclosed NRC Information Notice 96-28, "SUGGESTED GUIDANCE RELATING TO DEVELOPMENT AND IMPLEMENTATION OF CORRECTIVE ACTION," may be helpful. Your response should be submitted under oath or affirmation and may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response.

Instead of providing a written response or attending a PEC, you may request Alternative Dispute Resolution (ADR) with the NRC in an attempt to resolve any disagreement on whether a violation occurred and the appropriate enforcement action. ADR is a general term encompassing various techniques for resolving conflict outside of court using a neutral third party. The technique that the NRC has decided to employ during a pilot program which is now in effect is mediation. Additional information concerning the NRC's pilot program is described in the enclosed brochure (NUREG/BR-0317) and can be obtained at <http://www.nrc.gov/what-we-do/regulatory/enforcement/adr.html>. The Institute on Conflict Resolution (ICR) at Cornell University has agreed to facilitate the NRC's program as a neutral party. You must contact ICR at (877) 733-9415 within 10 days of the date of this letter if you are interested in pursuing resolution of these issues through ADR.

You must also contact Mr. John D. Kinneman at (610) 337-5252 within 10 days of the date of this letter to notify the NRC of your decision to either provide a written response or participate in a PEC or ADR. Unless you request a PEC, request ADR or provide a written response within the time specified above, we will make an enforcement decision based on the available information.

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 made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room). 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.

Should you have any questions concerning this letter, you should call Mr. Kinneman at (610) 337-5252.

Thank you for your cooperation.

Sincerely,

Original signed by Francis Costello

George Pangburn, Director
Division of Nuclear Materials Safety

Enclosures:

1. Inspection Report No. 03034284/2004001
2. OI Investigation Factual Summary (ML052060196)
3. NRC Information Notice 96-28
4. Brochure NUREG BR-0317

cc:
Commonwealth of Virginia

R. El-Awar
Foundation Engineering Science, Inc.

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NAME	Kfarrar klf		Ewilson jat		MJohnson*			
DATE	8/2/05		8/2/05		8/15/05			

*C Nolan for M Johnson based on e-mail A Hayes to J Wray 8/15

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No. 03034284/2004001
Docket No. 03034284
License No. 45-25374-01
Licensee: Foundation Engineering Science, Inc.
Location: 11843-B Canon Boulevard
Newport News, Virginia 23606
Inspection Dates: Onsite inspection conducted on November 18, 2004 with an exit via
phone on December 22, 2004
Date Followup
Information Received: December 21, 2004

	<i>/RA/</i>	<i>July 26, 2005</i>
Inspector:	_____ James Schmidt Health Physicist	_____ date
Approved By:	<i>Original signed by John D. Kinneman</i> _____ John D. Kinneman, Chief Security and Industrial Branch Division of Nuclear Materials Safety	<i>July 26, 2005</i> _____ date

EXECUTIVE SUMMARY

Foundation Engineering Science, Inc.
NRC Inspection Report No. 03034284/2004001

On October 25, 2004, Foundation Engineering Science, Inc., reported that a Troxler nuclear gauge (Model 3430, serial number 29129) containing 8 millicuries of Cs-137 and 40 millicuries of Am-241 was stolen from the back of a company truck on October 18, 2004. This nuclear gauge was recovered from a nearby pawn shop on October 29, 2004, when the shop owner became aware of the theft from a press release.

Based on discussions with the licensee and an onsite inspection, it was determined that 1) upon discovery of the stolen source, the authorized user filed a police report, but did not report the loss to management, 2) at the time of the theft, the unattended nuclear gauge was not locked to the back of the truck nor was the nuclear gauge case or trigger locked, and 3) on October 25, 2004, licensee management reported the loss of licensed material to the NRC after determining that the nuclear gauge had been stolen. This notification was made seven days after the actual date the nuclear gauge was stolen.

This inspection resulted in the following apparent violations:

- 1) 10 CFR 20.2201 requires that immediate NRC phone notification be made following the loss of a licensed quantity of material exceeding 1000 times the quantity listed in Appendix C to Part 20. The device in question contained 40 millicuries of Am-241 and the immediate reporting threshold for Am-241 is 1 microcurie. The fact that the nuclear gauge was lost on October 18, 2004, and reported by phone to the NRC on October 25, 2004, was a direct result of the failure of the authorized user of the gauge to inform licensee management that the gauge had been stolen.
- 2) 10 CFR 20.1801 requires that the licensee secure from unauthorized removal or access, materials that are stored in controlled or unrestricted areas. Although management's expectation was that this device would be locked to or otherwise secured in the individual's vehicle, the authorized user simply left the gauge in the back of the pickup truck making the licensed material available for easy theft.
- 3) Condition 16 of License Number 45-25374-01 requires that a nuclear gauge or gauge container be locked when in transport, storage or when not under the direct surveillance of an authorized user to prevent unauthorized or accidental removal of the source from its shielded position. In this case, neither the device trigger lock nor the box lock was installed while the authorized user left the device stored on his vehicle in the parking lot.

REPORT DETAILS

I. Loss of Troxler Nuclear Gauge Serial Number 29129

a. Inspection Scope

This inspection focused on the loss and subsequent recovery of Troxler nuclear gauge serial number 29129 reported lost by the licensee on October 25, 2004. This inspection included a review of the preliminary facts previously collected regarding the event, a review of selected licensee records surrounding the event and interviews with licensee personnel involved with the event.

b. Observations and Findings

The management structure and scope of activities were discussed with the licensee. Foundation Engineering Science (FES) is a small engineering design firm which consists of about 20 full-time employees. The company is privately owned by Cindy El-Awar (President) and Raja El-Awar (Vice President/Radiation Safety Officer). Management of test equipment, which includes portable gauges, is assigned to project manager Frya Barzanji and task assignment involving the nuclear gauges is made by project manager Zulfikhar Ahmed. Currently, there are three persons who are authorized gauge users. This licensee maintains Troxler nuclear gauges which are being used at temporary job sites on an almost daily basis.

A summary of the event details for the lost and subsequently recovered nuclear gauge is provided below. The source of this information was primarily phone conversations with members of the licensee staff and inspector review of the police report.

On the morning of October 25, 2004, at about 0900, Mr. Zulfikhar Ahmed, confronted an FES employee (hereafter called Employee A) regarding the whereabouts of Troxler 3430 nuclear gauge, serial no. 29129, assigned to him. Mr. Ahmed initiated this discussion because he was provided conflicting stories relative to the whereabouts of the nuclear gauge assigned to Employee A by the FES administrative assistant. After confronting Employee A, Mr. Ahmed was told that the gauge had been stolen during the previous week, a police report had been filed and that Mr. Ahmed had been verbally notified by Employee A on the day of the theft. Mr. Ahmed stated that he did not receive any notification of this licensed material loss.

According to Mr. Ahmed, Employee A stated that at about noon on Monday, October 18, 2004, he stopped at the Walmart located at 1170 North Military Highway, Norfolk, VA, to pick a few items while driving between work assignments. He was driving a company pickup truck (VA plate no. FESVA15) with the Troxler nuclear gauge in the truck bed. Upon return to his vehicle in the Walmart parking lot, he noticed that the nuclear gauge was no longer in the bed of the pickup. Employee A contacted security personnel at Walmart and on parking lot surveillance video tapes, two individuals were observed loading the nuclear gauge into their blue car (in its yellow transportation container) and driving off, apparently stealing the device. At this point, the Norfolk, VA, police were called and a police

report filed regarding the stolen nuclear gauge. Mr. Ahmed was provided with a Norfolk Police report number (041018151902).

Employee A was questioned by Raja El-Awar, FES vice president, regarding the security status of the nuclear gauge. Employee A reported that at the time of the theft, the gauge trigger was not locked (while it was stored inside the transportation container), the transportation container was not locked closed and the transportation container was not padlocked or otherwise secured to the truck. Mr. El-Awar stated that he has come to the conclusion that the employee failed to report the stolen nuclear gauge in hopes that it would be recovered and returned without FES management knowledge; thus allowing him to avoid any punitive actions resulting from the loss.

At 0958, on October 25, 2004, a formal verbal report was made to the NRC Operations Center by FES employee Zulfikhar Ahmed. This event is recorded as Event # 41145.

Mr. Ahmed subsequently reported that Employee A was terminated Monday morning, October 25, 2004, which concluded five years of employment with FES. Mr. Ahmed also reported that all other licensed material has been accounted for and that the no radioactive material leakage was reported from the nuclear gauge in question from the last scheduled leak test conducted on August 24, 2004.

On October 26, 2004, FES co-owner Cindy El-Awar obtained a copy of Police Report 041018151902 and discussed the event with the Norfolk Police. The case had been assigned to Detective Grover of the Norfolk Police Department. Review of the report confirmed that the device was reported stolen at about 1000 on October 18, 2004, in the fashion described by Employee A. Ms. El-Awar reported that based upon recommendations from the police, this theft would be reported via the existing CrimeLine system which will get the theft information out to the local members of the public.

On October 29, 2004, it was reported that Troxler nuclear gauge serial number 29129 had been recovered. Based upon a phone conversation between the NRC, the licensee and the owner of the Superior Pawn and Gun Shop, Virginia Beach, Virginia, (ML050030287) it was found that the gauge was purchased by the pawn shop on October 18, 2004, the day of the theft. The pawn shop owner notified the police after he saw a press article regarding loss of the device. FES retook possession of the nuclear device on October 29, 2004. A phone discussion was held with the pawn shop employee who actually handled the nuclear gauge on the day of its arrival at the pawn shop (ML050030294). From this conversation it was concluded that it was unlikely any significant dose was received by a member of the public as a result of this theft of licensed material and subsequent recovery due to the short time frame that the nuclear gauge was unaccounted for and the limited handling of the gauge by the pawn shop employee. As published in the Sealed Source and Device Registry for the Troxler 3430 nuclear gauge, the dose rate at 1 meter from this packaged unit is about 0.3 mrem/hour.

A review of select training records indicated that Employee A was a trained and authorized nuclear gauge user (initial vender-provided portable gauge training provided February 8, 2000) who had last received site specific training on January 17, 2004. This training included information regarding his responsibility to keep the device case locked and the case secured by lock to his vehicle in order to prevent unauthorized removal of licensed material while not under his direct surveillance. The licensee provided refresher training to all authorized users on December 12, 2004, to ensure the security requirements for control of the nuclear gauges are understood by all remaining authorized users.

Since Employee A was not available for an interview, his assertion that management was notified when the gauge was stolen was reviewed. A specific discussion was held with the FES administrative assistant relative to why she was concerned about the whereabouts of the nuclear gauge assigned to Employee A. She stated that during the week after October 18, 2004, she received a number of comments from other staff members regarding Employee A's use of their normally assigned nuclear gauges. When she asked Employee A about the location of his normally assigned gauge, he told her he did not have it because it was out for calibration. Knowing that the authorized users are not responsible for the recalibration of these devices, she brought the problem to the attention of Mr. Ahmed. The administrative assistant's personal knowledge of how Employee A was trying to hide the fact that his assigned nuclear gauge was missing supports the conclusion that management was never told of the theft until October 25, 2004.

c. Conclusions

This inspection resulted in several conclusions regarding this event.

- 1) Employee A was suitably trained to know his responsibility regarding the need for locked security of the nuclear gauge while not providing direct surveillance of the device. His failure to adequately secure the nuclear gauge in the open bed of his truck contributed to the ease by which the device could be stolen.
- 2) Employee A provided timely notification to the police on October 18, 2004, that the nuclear gauge had been stolen.
- 3) Employee A did not inform licensee management that the nuclear gauge had been stolen and a police report filed until confronted on October 25, 2004.
- 4) Licensee management made immediate NRC notification once it was identified that the nuclear gauge had been stolen.
- 5) The licensee took reasonable steps to support the timely recovery of the stolen nuclear gauge.

There are three apparent violations associated with this loss of licensed material event.

- 1) 10 CFR 20.2201 requires that immediate NRC phone notification be made following the loss of a licensed quantity of material exceeding 1000 times the quantity listed

in Appendix C to Part 20. The device in question contained 40 millicuries of Am-241 and the immediate reporting threshold for this isotope corresponds to 1 microcurie. The fact that the nuclear gauge was lost on October 18, 2004, and reported by phone to the NRC on October 25, 2004 was a direct result of the failure of the authorized user of the gauge to report the stolen gauge to management.

- 2) 10 CFR 20.1801 requires that the licensee secure from unauthorized removal or access materials that are stored in controlled or unrestricted areas. Although management's expectation was that this device would be locked to or otherwise secured in the individual's vehicle, the authorized user left the unsecured gauge in the back of the pickup truck making the licensed material available for easy theft.
- 3) Condition 16 of License Number 45-25374-01 requires that a nuclear gauge or gauge container be locked when in transport, storage or when not under the direct surveillance of an authorized user to prevent unauthorized or accidental removal of the source from its shielded position. In this case, neither the device trigger lock nor the box lock was installed while the authorized user left the device stored on his vehicle in the parking lot.

II. Exit Meeting

The findings of this inspection were discussed with Raja El-Awar by telephone on December 22, 2004. (Mr. Awar was on foreign travel during the onsite portion of the inspection).

The licensee concurs with our understanding of the facts related to this event. He understands the apparent violations as presented and requested that the unique circumstances related to the loss of material be considered in resolution of the violations.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

Zulfikhar Ahmed - FES Project Manager#
Cindy EL-Awar - FES President
Raja El-Awar - FES Vice President/RSO*
Frya Barzanji - FES Project Manager#
Deborah Tustin - FES Admin Assistant

Individuals present at entrance meeting on November 18, 2004

* Individual involved in phone exit meeting on December 22, 2004