

KCE STRUCTURAL ENGINEERS, P.C.

CONSULTING ENGINEERS • 1818 JEFFERSON PLACE, N.W. • WASHINGTON, D.C. 20036 • 202-833-8622

January 26, 1994

Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

Attn: Dr. Bellamy
Chief of Nuclear Materials Safety Branch

Re: KCE Structural Engineers, PC
Special NRC Inspection No. 030-33019/93-002

Gentlemen:

It was a pleasure meeting with and the other NRC representatives on January 25, 1994.

As discussed on our meeting, we had previously sent you on December 15, 1993 a letter responding to the December 10, 1993 notification.

We would like to respond in writing, confirming our verbal discussions accordingly. Please find KCE's response to each item: (for ease of reference the item as stated in your December 10, 1993 letter is repeated in a bold CAPITAL font)

1. **FAILURE TO ADEQUATELY SECURE LICENSED MATERIAL STORED IN AN UNRESTRICTED AREA.**

We assume this refers to the inspector's note that the 10CFR 20.207(a) requires that licensed materials stored in an unrestricted area be secured against unauthorized removal from the place of storage.

Our response is that the licensed materials was at all times either under our constant surveillance or was in a secured place of storage.

During Mr. Rouco's transport of the licensed material, the vehicle in which he carried the licensed material was locked. See photographs (Exhibit B attached.)

The pick-up truck, in fact is not a flat bed truck, but a Toyota 89 pick-up, with integral bed enclosure, model P-G2, license #ZXP8867, and serial number JT4RN93SOK5007160 with a factory installed welded enclosed body manufactured by Leer for Toyota. The only entry to this area is via a double locked space (keyed), see photos, steel lock with 3/8" forged steel turn lock, one each side, and a pull handle lock at the center.

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The rear door of the vehicle was forced open, (See police report in Exhibit G and photos in Exhibit B) bending the two steel tongues and then the pull handle pulled down. NRC's inspector observed the locking mechanism after the forced entry and before repair.

If your reference here is to storage of the device when at the temporary site, note, it was locked in a locked closet in a locked trailer at the NASA EOSDIS job site.

2. FAILURE TO HAVE A DESIGNATED RADIATION SAFETY OFFICER.

The writer was advised by both Mr. Johnson and our corporate secretary when we applied for our license, that the writer could not be, the radiation safety officer, that the person's using the device had to be noted as such (we now know that to be incorrect.)

In fact, our Radiation Safety Officer originally was Mr. Chris Johnson. Mr. Johnson, unexpectedly left KCE at the end of August 1993. Prior to this departure, the writer was informed that, among other things, all necessary information and documents had been forwarded relative to, among other things, the portable nuclear density testing device and that, the notation on our original application of the writer as an additional member of our firm, to be "in charge" precluded having to write to assign a new Radiation Safety Officer. The writer, immediately upon notification, on November 22, 1993 that this was not the case, followed the procedure as noted in the enclosed attachments. (Notes of subsequent phone conversation log with NRC, attached as Exhibit C)

3. UNAUTHORIZED USE OF LICENSED MATERIAL.

As we understand it, this violation is due to Mr. Emilio Rouco not having completed the Troxler course. In fact, Mr. Rouco was trained by Mr. Chris Johnson for over one month with the device. Mr. Johnson had been trained, in fact, by persons who now are in the employment of NRC. The writer was not aware of the additional need for a manufacturer's course for our substitute operator. We took steps, immediately upon notification on November 22, 1993, of this problem to arrange for Mr. Rouco to attend the necessary course (since we are not using the device we have held that course attendance in abeyance awaiting the outcome of the hearing to be held in January. It is planned that the writer will also attend said course. NB: This appears to be, in fact, a duplicative violation to item number 2 above.

4. FAILURE TO MAINTAIN RECORDS OF QUARTERLY PERSONNEL RADIATION EXPOSURE.

The radiation badge dosimetry processing was to be handled by our corporate secretary who inadvertently did not send the badges into Troxler for the period of 1/1/93 to 7/1/93. Note, the device was not in use from 01/93 to 07/93. This was corrected immediately upon the writer's knowledge of same, and the results of these and subsequent tests, are attached herewith as Exhibit D.

5. FAILURE TO PERFORM LEAK TESTS AT THE REQUIRED TIME INTERVALS.

A leak test was performed on March 10, 1993, copy enclosed as Exhibit E. The writer was told by Mr. Johnson (previous Radiation Safety Officer) prior to his departure, that a leak test was performed in August 1993, by Mr. Chris Johnson, but we cannot locate the record of those results. We have had a leak test performed on December 6, 1993 a copy of which is attached herewith as Exhibit F.

6. FAILURE TO PROPERLY PREPARE SHIPPING PAPERS PRIOR TO THE SHIPMENT OF LICENSED MATERIAL.

Shipping papers (copies enclosed as Exhibit H) were enclosed in the licensed material shipping container in a sealed envelope noting the material, quantity and listing emergency telephone numbers. Copies enclosed herewith. (Note, the licensed material, when stolen, was located by KCE some 18 hours after its theft, prior to the container being opened by the Hazardous Material Personnel and/or NRC. (See Police report enclosed as Exhibit G)

7. FAILURE TO ADEQUATELY SECURE SHIPMENTS OF RADIOACTIVE MATERIAL FOR TRANSPORT.

In fact, the device was adequately secured for shipping.

The material was in a double (actually triple) locked truck, in a padlocked container with the device further padlocked.

The carrying case was blocked in the bed, when in transit in the truck body with a bladed shovel and handle in one direction, and a steel bar, blocking the device to the body of the truck on one side and the rear door on the other.

In fact, therefore, KCE has technically violated two (possibly three) of the NRC rules and regulations as we understand them:

1. Failure to have a properly designated radiation safety officer.
2. Failure to maintain up to date dosimetry records.
3. Possibly not performing the leak test on a six month basis (9 months).

If KCE violated the NRC requirements as noted above, it was because it relied on its previous Radiation Safety Officer and Corporate Secretary to assure the proper paperwork and/or tests were accomplished per the necessary schedules and regulations.

We are a small firm and cannot, given the current state of the construction market, handle civil or other penalties which may or may not be levied by NRC.

We have already been penalized by having to expend (and project to expend) over thirty five thousand dollars (\$35,000) in non-reimbursable expense on the NASA project due to the required temporary transfer of the licensed device and the cost KCE must shoulder to pay another license to utilize our transferred device so that the NASA EOSDIS job site facility did not suffer beyond the initial delays.

We continue to remain liable at the NASA project for approximately 8 days "lost" on the project due to our inability to use the device and/or have it properly transferred, which could total a claim against KCE in the region of several hundred thousands of dollars (\$300,000).

We ask for you to issue, if you must, citations only and forgo financial penalty.

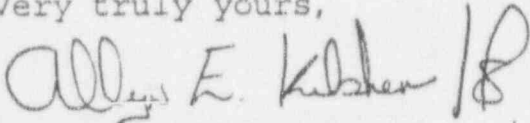
As noted to you in our hearing, we have not used the device since the Thanksgiving fiasco, and have not yet determined if we will transfer the device back to our use once the necessary documentation has been processed.

We therefore have not yet applied for a new radiation safety officer as you requested earlier.

Nuclear Regulatory Commission
January 26, 1994
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If you have any further questions on the above, please feel free to call.

Very truly yours,



Allyn E. Kilsheimer, P.E.
President
KCE Structural Engineers, P.C.

cc: Dr. Pasiak / NRC
Mr. Charles W. Hehl / Director of Radiation Safety & Safeguards
Mr. Stephen Courtemanche / NRC
Ms. Margaret S. Devenney / KCE
Mr. Emilio Rouco / KCE
Mr. Robert Gottlieb Esq. /Tucker Flyer & Lewis

AEK:sjt

Enclosures



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

DEC 10 1993

Docket No. 030-33019
EA No. 93-299

License No. 08-30006-01

KCE Structural Engineers, P.C.
ATTN: Mr. Allyn Kilsheimer
President
1818 Jefferson Place, N.W.
Washington, DC 20036

Dear Mr. Kilsheimer:

Subject: Special NRC Inspection No. 030-33019/93-002

On November 30, 1993, Mr. Richard Gibson, Jr. of this office conducted a special safety inspection at the above address and at a NASA facility located in Greenbelt, Maryland 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 conformance with the Commission's regulations and the license conditions. The findings of the inspection were discussed with you and members of your staff at the conclusion of the inspection. This also refers to the telephone discussions on November 18 and 26, 1993, between you and Dr. Walter J. Pasciak of my staff regarding Confirmatory Action Letter No. 1-93-022, and on December 6, 1993, between you and Dr. Ronald Bellamy, Chief, Nuclear Materials Safety Branch, regarding the numerous safety concerns identified during this inspection which indicate a need to improve your management controls related to your radiation safety program.

Areas examined during this inspection are described in the NRC Region I Inspection Report which is enclosed with this letter (Enclosure 1). Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel and observations by the inspector.

Based on the results of this inspection, seven apparent violations were identified. These apparent violations involved: (1) failure to adequately secure licensed material stored in an unrestricted area, (2) failure to have a designated Radiation Safety Officer, (3) unauthorized use of licensed material, (4) failure to maintain records of quarterly personnel radiation exposure, (5) failure to perform leak tests at the required time intervals, (6) failure to properly prepare shipping papers prior to the shipment of licensed material, (7) and failure to adequately secure shipments of radioactive material for transport. The apparent violations are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), 10 CFR Part 2, Appendix C. Accordingly, a Notice of Violation is presently being issued.

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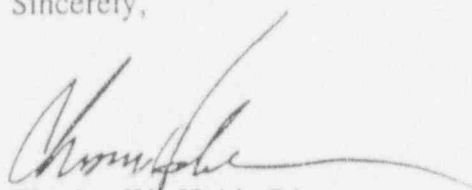
for these inspection findings. In addition, please be advised that the number and characterization of the apparent violations described in the enclosed inspection report may change as a result of further NRC review.

An enforcement conference to discuss these apparent violations has been scheduled for 3:00 p.m. on December 17, 1993, in the Region I office in King of Prussia, Pennsylvania. Directions to the Region I office are enclosed (Enclosure 2). This enforcement conference will be open to public observation in accordance with the Commission's trial program as discussed in the enclosed Federal Register Notice (Enclosure 3). The purposes of this conference are to discuss the apparent violations, their causes and safety significance; to provide you the opportunity to point out any errors in our inspection report; and to provide an opportunity for you to present your proposed corrective and preventive actions. In particular, we expect you to discuss the implications of these violations being indicative of a breakdown in your overall radiation safety program, and address those broader actions completed or proposed to improve your program. Furthermore, this is an opportunity for you to provide any information concerning your perspective on (1) the severity of the issues; (2) the factors that the NRC will consider when it determines the amount of a civil penalty that may be assessed in accordance with Section VI.B.2 of the Enforcement Policy (Enclosure 4), and (3) the possible basis for exercising discretion in accordance with Section VII of the Enforcement Policy. You will be advised by separate correspondence of the results of our deliberations on this matter. No response regarding these apparent violations is required at this time.

In accordance with Section 2.790 of NRC's "Rules of Practice, Part 2, Title 10, Code of Federal Regulations a copy of this letter and the enclosure will be placed in the Public Document Room.

Your cooperation with us is appreciated.

Sincerely,



Charles W. Hehl, Director
Division of Radiation Safety
and Safeguards

U.S. NUCLEAR REGULATORY COMMISSION
REGION I
INSPECTION REPORT

Report No. 030-33019/93-002

Program Code: 03121

Docket No. 030-33019

License No. 08-30006-01

Priority 4

Category E1

Licensee: KCE Structural Engineers, P.C.
1818 Jefferson Place, N.W.
Washington, DC 20036

Facility Name: KCE Structural Engineers, P.C.

Inspection At: 1818 Jefferson Place, N.W.
Washington, DC 20036

NASA
Greenbelt, Maryland

Inspection Conducted: November 30, 1993

Inspectors:

Richard Gibson

Richard Gibson, Jr., Health Physicist

12/9/93

Date

Approved by:

Walter J. Pasciak

Walter J. Pasciak, Chief

f Industrial Applications Section

12/9/93

Date

Inspection Summary: Announced, safety inspection conducted November 30, 1993
(Report No. 030-33019/93-002)

Areas Inspected: Training and instruction to workers; facilities and equipment;
personnel radiation protection-external; posting and labeling;
and materials.

Results: Seven apparent violations were identified. Unauthorized use of licensed material (Section 2); failure to have a designated Radiation Safety Officer (Section 2); failure to adequately secure licensed material stored in an unrestricted area (Section 3); failure to maintain records of quarterly personnel radiation exposure (Section 4); failure to perform the leak test of sealed sources within the required time interval (Section 6); failure to properly prepare shipping papers prior to the shipment of radioactive material (Section 6); and failure to adequately secure shipments of licensed material for transport (Section 6).

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Details

1. Persons Contacted

- * Margaret Devenney, Corporate Secretary, KCE Structural Engineers, P.C. (KCE)
Emilio Rouco, Field Inspector, KCE
Allyn E. Kilsheimer, President, KCE by telephone
- * denotes those present at the Exit Interview.

2. Organization and Scope of Licensed Activities

NRC License No. 08-30006-01 was issued on December 8, 1992 to KCE. The licensee's home office is in Washington, District of Columbia. The licensee maintains and operates one Troxler Model 3400 Series portable moisture/density gauge at this location and performs soil compaction and concrete measurements at a temporary job site, NASA in Greenbelt, Maryland. An initial inspection was performed by the NRC on May 14, 1993. An NRC Form 591 was issued with a non-cited violation. Specifically, documents were not posted or otherwise made available in accordance with 10 CFR 19.11. The license is due to expire on December 31, 1997.

The licensee's president and owner is Mr. Allyn E. Kilsheimer. The vice-president is Ms. Catherine Henry.

The licensee employs fifteen people. A former employee, Mr. James C. Johnson, was certified as a Troxler gauge user and is currently identified on the license as the Radiation Safety Officer (RSO). On August 31, 1993, Mr. Johnson left the company. Another individual employed by KCE, Mr. Emilio Rouco, used the gauge at a temporary job site from September 1, 1993 to November 25, 1993, and was not certified as a Troxler gauge user. Mr. Allyn E. Kilsheimer stated that Mr. Rouco did not receive the manufacturer's training program for gauge users. He did state however, that Mr. Rouco received in-house training, and worked under the supervision of Mr. Johnson prior to Mr. Johnson's departure from the company.

Condition 11.A. of NRC License No. 08-30006-01 requires, in part, that licensed material shall be used by, or under the supervision and in the physical presence of James C. Johnson, or individuals who have successfully completed the manufacturer's training program for gauge users. Mr. Rouco handled and used licensed material from September 1, 1993 to November 25, 1993, without having completed the manufacturer's training program for gauge users and he was not under the supervision and in the physical presence of Mr. Johnson or an individual who had successfully completed the manufacturer's training program.

The findings that Mr. Rouco handled and used licensed material without having completed the manufacturer's training program for gauge users and was not under the supervision of an individual who had completed the manufacturer's training is an apparent violation of Condition 11.A. of NRC License No. 08-30006-01.

Condition 11.B. of NRC License No. 08-30006-01 identified James C. Johnson as the RSO for the license. Mr. Johnson had not been employed by the company since August 31, 1993.

The finding that Mr. Johnson had not been performing the duties of the RSO since August 31, 1993, is an apparent violation of Condition 11.B. of NRC License No. 08-30006-01.

3. Facilities and Equipment

The inspector verified that the licensee's storage facility located at 1818 Jefferson Place, N.W., Washington, District of Columbia, was as described by the application dated November 17, 1992, to the NRC. The Troxler nuclear moisture/density gauge was stored in the described locked equipment storage room. The keys to the room were maintained by the president in his office.

On November 26, 1993, KCE notified the NRC Region I office that the Troxler Model 3440, (S/N 21496) containing 8 millicuries of cesium-137 and 40 millicuries of americium-241 was stolen from a private vehicle used to transport the gauge to and from temporary job sites. The licensee stated that the vehicle was parked in front of the office on the evening of November 25, 1993, when the gauge was stolen, and that entry into the vehicle was forced. The licensee added that the gauge was placed in the back of the vehicle in its locked transportation case and that the flip-down door to the vehicle was locked.

The inspector examined the vehicle at the temporary job site. The vehicle was a flatbed pick-up truck with a locking shell over the flatbed. Mr. Rouco stated that the locks to the shell were damaged and that entry into the shell was forced. The inspector observed that the tailgate to the pick-up could not be locked and that access to the back of the truck where the equipment was stored during transportation could easily be achieved. On November 25, 1993, the gauge was being transported in the back of the truck and was removed from the truck by unauthorized personnel.

10 CFR 20.207(a) requires that licensed materials stored in a unrestricted area be secured against unauthorized removal from the place of storage. 10 CFR 20.207(b) requires that licensed materials in an unrestricted area and not in storage be tended under constant surveillance and immediate control of the licensee.

The finding that the nuclear gauge was stored in an unrestricted area but was not adequately secured against unauthorized removal from the place of storage is an apparent violation of 10 CFR 20.207(a).

4. Personnel Radiation Protection - External

The inspector interviewed KCE field inspector, Mr. Emilio Rouco on November 30, 1993, at the NASA field site in Greenbelt, Maryland. The inspector determined that the licensee began the use of licensed material on August 2, 1993. Mr. Rouco informed the inspector that he was not issued a TLD badge in his name and that the president of the company, Mr. Allyn E. Kilsheimer, gave him the TLD badge that was issued to the president.

There were no exposure records available for the inspector to review at the time of the inspection. The inspector observed three Troxler TLD badges that were issued on October 1, 1993, to Allyn E. Kilsheimer, James C. Johnson and a control badge. The licensee stated that the exchange frequency for the badges is quarterly and that they have not received any reports from Troxler Electronics Laboratories, Inc.

10 CFR 20.401 (a) requires that each licensee maintain records showing radiation exposures on Form NRC-5, in accordance with the instructions contained in that form, or on clear and legible records containing all the information required by Form NRC-5.

The licensee did not maintain exposure records containing the required information. Specifically, no records were available for individuals who have used licensed material from August 2, 1993, to November 30, 1993.

The finding that the licensee did not maintain exposure records is an apparent violation of 10 CFR 20.401 (a).

5. Posting and Labeling

The inspector observed that NRC Form-3 "Notice to Workers" and other documents required to be posted were in the area where the gauge was stored in the licensee's facility.

No safety problems were identified.

6. Materials

The inspector verified that the isotope, form and quantity of licensed material used by KCE is authorized by License No. 08-30006-01. A review of records indicated that a Troxler Model 3440 (S/N 21496) gauge containing 8 millicuries of cesium-137 and 40 millicuries of americium-241 had not been tested for leakage between March 10, 1993 to November 30, 1993. This is an interval greater than six months.

Condition 13.A. of License No 08-30006-01 requires that sealed sources be tested for leakage at intervals not to exceed six months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed 3 years.

The finding that the gauge had not been leak tested at six month intervals and another interval was not specified by the certificate of registration is an apparent violation of Condition 13.A. of License No. 08-30006-01.

In the interview with Mr. Rouco, he stated that shipping papers were not prepared and used when the licensed material was transported from the licensee's office at 1818 Jefferson Place, N.W., Washington, DC to temporary job sites. Also, he stated that the gauge was not blocked or braced during transport.

10 CFR 71.5(a) requires that licensees who transport licensed material outside the confines of their plants or deliver licensed material to a carrier for transport comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR Part 170-189.

49 CFR 172.200(a) requires that each person who offers a hazardous material for transportation shall describe the hazardous material on the shipping paper in the manner required by this subpart.

The finding that shipping papers were not prepared and used is an apparent violation of 49 CFR 172.200(a).

49 CFR 173.448(a) requires that each shipment of radioactive material shall be secured in order to prevent shifting during normal transportation conditions.

The finding that radioactive material was not secured in order to prevent shifting during normal transportation conditions is an apparent violation of 49 CFR 173.448(a).

7. Exit Interview

The inspector reviewed the scope and purpose of the inspection with those individuals noted in Section I of this report. The inspector also discussed in detail the nature of the apparent violations. On November 30, 1993, NRC Region I issued Confirmatory Action Letter No. 1-93-022 confirming the licensee's commitments to correct several of the apparent violations prior to any further use of the licensed material. The president of KCE stated that corrective action had been initiated in order to comply with NRC regulations.