

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: John R. Pasciak  
Walter J. Pasciak, Chief  
for 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).

## 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 1 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.