



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report No. 45-16546-04/93-01

License No. 45-16546-04

Docket No. 030-30936

Licensee: ATEC Associates of Virginia, Inc.
Alexandria, Virginia

Inspection Conducted: April 15, 1993

Inspector:

C. Bermúdez
H. Bermúdez, Senior Radiation Specialist

5/3/93

Date Signed

Approved By:

C. Hosey
C. Hosey, Chief
Nuclear Materials Inspection Section
Nuclear Materials Safety and Safeguards Branch
Division of Radiation Safety and Safeguards

5/3/93

Date Signed

SUMMARY

Scope:

This special, unannounced inspection of activities conducted under NRC License No. 45-16546-04 was performed in response to a reported incident involving one of the licensee's moisture/density gauges. The inspection included a review of the organization and administration of the licensed program, security of licensed materials, radiation safety training, personnel radiation protection, and transportation of radioactive materials.

Results:

Several weaknesses were identified in the licensed program. The failure to perform required radiation safety activities appears to result from inadequate attention to regulatory requirements on the part of a licensee technician and inadequate management oversight of the program. Of particular concern was the failure to maintain positive control of a gauge containing licensed materials at a road construction site.

Within the scope of the inspection, the following apparent violations were identified:

- Failure to maintain constant surveillance and immediate control of licensed materials in an unrestricted area (Section 4).
- Transporting a package of licensed materials with an unlabeled, unmarked overpack (Section 4).

- Failure to maintain shipping papers readily visible while transporting a package of licensed materials (Section 4).
- Failure to block and brace a package of licensed materials during transportation (Section 4).

Report Details

1. Persons Contacted

C. Beatty, Technician

*G. McCoy, Office Manager and acting Radiation Safety Officer

Other licensee employees contacted during the inspection included members of the licensee's technical staff and administrative personnel.

*Denotes presence at exit interview.

2. Program Scope and Licensee Organization

License No. 45-16546-04 was originally issued on January 23, 1989, and was most recently amended on March 25, 1993. The license is due to expire on January 31, 1994. The license allows the use of cesium-137 and americium-241 in sealed sources contained in portable moisture/density gauges to measure properties of materials. The licensee has possessed up to 16 gauges at a time. At the time of the inspection there were nine authorized users reporting to the new office manager/RSO at the Alexandria, Virginia, location. Licensee representatives indicated that the use of the moisture/density gauges was one of the company's main sources of income. Since May 1992, there have been two changes in Radiation Safety Officers (RSO's), and since mid-1991, the licensee's physical address has also changed twice.

3. Incident Involving Nuclear Gauge

On April 9, 1993, the inspector received a telephone notification from Fairfax County Hazardous Materials personnel indicating that they were responding to an incident in which a moisture/density gauge was damaged at a road construction site in their county. The incident involved damage to the gauge caused by a frontloader during road construction operations. Based on the discussions over the telephone, the inspector determined that the radioactive source was retracted in the safe position, there was no damage to the source and no excessive radiation levels were created. The inspector also determined that, although the response of licensee management was prompt, by the time they responded to the event, county personnel had securely placed the damaged gauge in its shipping container and the gauge was in the process of being removed from the site by the licensee technician who was using the gauge.

4. Inspection Findings

10 CFR 20.207(a) requires that licensed materials stored in an unrestricted area be secured against unauthorized removal from the place of storage. 10 CFR 20.207(b) requires that materials not in storage be under the constant surveillance and immediate control of the licensee. As defined in 10 CFR 20.3(a)(17), an unrestricted area is any area access to which is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials. On April 15, 1993, the inspector visited the scene of the accident and interviewed the licensee technician who was using the gauge.

when the accident occurred. The technician acknowledged to the inspector that he had left the gauge unattended for a short period of time while doing other job-related duties and that he did not maintain usual contact with the gauge, thus failing to maintain immediate control of the gauge while the gauge was not being used. Such failure directly contributed to the accident. The inspector indicated that the failure to maintain constant surveillance and immediate control of the gauge while not in storage was an apparent violation of 10 CFR 20.207(b).

10 CFR 71.5(a) requires that a licensee who transports licensed material outside of the confines of its plant or other place of use, or who delivers 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 Parts 170 through 189. 49 CFR 173.25 requires, in part, for packages containing hazardous materials and offered for transportation in an overpack, that: 1) the overpack be marked with the proper shipping name and identification number, and labeled as required by 49 CFR Parts 171-177 for each hazardous material contained therein unless markings and labels representative of each hazardous material in the overpack are visible; and 2) the overpack be marked with a statement indicating that the inside (inner) packages comply with prescribed specifications when specification packagings are required, unless specification markings on the inside packages are visible. Pursuant to 49 CFR 172.101, radioactive material is classified as hazardous material. While interviewing the technician, the inspector noted that a gauge in the back of his vehicle had a plastic cover over it which made it impossible to see the transport package's labels and markings. The technician indicated that he had transported the package from the storage location to the jobsite in that condition. The inspector indicated transporting a package of licensed materials in a manner such that the labels and markings are not visible was an apparent violation of 10 CFR 71.5.

49 CFR 177.817(e) requires, in part, that the driver of a motor vehicle containing hazardous material ensure that the shipping paper is readily available to, and recognizable by, authorities in the event of an accident or inspection. Specifically, (i) when the driver is at the vehicle's controls, the shipping paper shall be: (A) within his immediate reach while he is restrained by the lap belt; and (B) either readily visible to a person entering the driver's compartment or in a holder which is mounted to the inside of the door on the driver's side of the vehicle; (ii) when the driver is not at the vehicle's controls, the shipping paper shall be: (A) in a holder which is mounted to the side of the door on the driver's side of the vehicle; or (B) on the driver's seat in the vehicle. During the interview, the licensee technician showed the inspector how he carried his shipping paper when transporting the gauge to the jobsite. The inspector noted that the technician placed the shipping paper inside a folder along with other documents and carried the folder on the floor of the passenger side of the vehicle. The inspector indicated that failure to carry the shipping paper as specified above was another apparent violation of 10 CFR 71.5.

49 CFR 177.842 requires, in part, that packages of radioactive materials be so blocked and braced that they cannot change position during conditions normally incident to transportation. The inspector noted that the gauge was not braced or properly blocked in the back of the vehicle so that the package could not change position during conditions normally incident to transportation. The technician indicated that he had transported the gauge package to the jobsite in that condition. The inspector indicated that the failure to block and brace the gauge transport package to prevent it from moving during transportation was another apparent violation of 10 CFR 71.5.

5. Exit Interview

The inspection scope and results were summarized with the individual indicated in Paragraph 1 above. The inspector reviewed the program areas inspected and discussed in detail the inspection findings listed in this report. The NRC's enforcement policy was discussed with the licensee representative. Proprietary information is not contained in this report. The licensee acknowledged the NRC concerns and provided no dissenting comments relative to the apparent violations. Licensee management indicated that all necessary efforts will be made to ensure compliance with NRC regulatory requirements.

ENCLOSURE 2

PROPOSED ENFORCEMENT CONFERENCE AGENDA

ATEC Associates of Virginia, Inc.

Atlanta, Georgia
Region II Executive Conference Room

May 14, 1993
10:00 a.m.

- | | | |
|------|--|------------------|
| I. | Opening Remarks | NRC and Licensee |
| II. | NRC Enforcement Policy
and Procedure | NRC |
| III. | Discussion of NRC Concerns | NRC |
| IV. | Inspection Findings and
Apparent Violations | NRC |
| V. | Causes of Apparent Violations
an Corrective Actions | Licensee |
| VI. | Closing Comments | NRC and Licensee |