

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 30-08223/82-01(DETP)

Docket No. 030-08223

License No. 21-14894-01

Priority VII

Category K

Licensee: Neyer, Tiseo and Hindo, Ltd.
30999 Ten Mile Road
Farmington Hills, MI 48024

Inspection At: Neyer, Tiseo and Hindo, Ltd.
Farmington Hills, Michigan

Inspection Date: June 24, 1982

Inspector: *Wayne J. Slawinski*
Wayne J. Slawinski

7-23-82

Approved By: *D. J. Sreniawski*
D. J. Sreniawski, Chief
Materials Radiation Protection
Section 2

8-4-82

Inspection Summary

Special Inspection on June 24, 1982 (Report No. 30-8223/82-01(DETP))

Areas Inspected: Special, unannounced inspection to review the facts surrounding the reported theft of a soil moisture density gauge containing sealed sources of cesium-137 and americium-241:beryllium, possessed under NRC Byproduct Material License No. 21-14894-01. Other areas inspected included organization; leak tests; and material security during transport. The inspection involved two inspector-hours onsite by one NRC inspector.

Results: Of the areas inspected, one item of noncompliance was identified against License No. 21-14894-01: License Condition No. 17 - licensed material not properly secured during transport (Section 6).

DETAILS

1. Persons Contacted

Linda L. Bennett, Director of Administrative Services
James Shovely, Manager of Construction Services

2. Licensed Program

NRC Byproduct Material License No. 21-14894-01 is an industrial Category K, Priority VII license originally issued November 5, 1971. This license was renewed on May 13, 1982 and currently authorizes the possession and use of cesium-137 and americium-241 as separate and combined sealed sources for use in Troxler moisture-density gauges for soil measurements. A maximum of 10 millicuries cesium-137 and 50 millicuries americium-241 is authorized for these gauges. The licensee possesses approximately 13 such Troxler gauges. Licensed materials are used at the licensee's facility in Farmington Hills, Michigan and at temporary job sites.

3. Inspection History

Inspection - November 5-6, 1981

Results: Four items of noncompliance were noted.

- a. Overexposure of 2.89 rem to whole body.
- b. Failure to adequately evaluate overexposure.
- c. Leak tests not conducted at required intervals.
- d. Failure to conduct physical inventory of licensed material.

A license of this category and priority is typically inspected only once.

4. Organization

The President and Radiation Safety Officer of Neyer, Tiseo and Hindo, Ltd., is Mr. Jerome Neyer. Mr. Khalid Hindo is Vice-President and Mr. Benedict Tiseo is the Treasurer. Mrs. Linda Bennett is the Director of Administrative Services and Messrs. James Shovely and Ed Waldecker are Managers of Construction Services and Laboratory/Testing respectively.

No violations were identified.

5. Notification of Theft

NRC Region III was contacted by Mrs. Linda Bennett on June 21, 1982 to report the theft of a company vehicle containing a Troxler moisture-density gauge. The licensee stated a pick-up truck containing one of

their soil moisture-density gauges had been stolen from a temporary job site at 11706 Rosemont in Detroit, Michigan. The theft occurred between 11:00 p.m. E.S.T. June 20, 1982 and 6:00 a.m. E.S.T. June 21, 1982. The gauge was reported to contain 8 millicuries of cesium-137 and 40 millicuries of americium-241.

The licensee also notified the Detroit Police, Michigan State Police and the Michigan Department of Radiological Health.

No press release was issued.

A Region III inspector, already in the area, was dispatched to review the incident.

6. Review of Report Theft

The missing gauge is a Troxler 3401 series moisture-density gauge (SN-4310) housing 8 millicuries of cesium-137 (SN-CC1308) and 40 millicuries of americium-241:beryllium (SN-CAA361). The stolen vehicle is a white 1982 chevy, half ton pick-up truck.

On June 20, 1982, at 10:30 p.m., Mr. Elliott, a senior engineering technician for Neyer, Tiseo and Hindo, Ltd., parked a company truck (doors locked) in front of his home at 11706 Rosemont in Detroit, Michigan. The gauge was placed (unfastened) on the floor of the cab. At 6:30 a.m. the following day, the vehicle was noticed missing. Mr. Elliott was scheduled to work at a job site at 8:30 a.m. that morning. The gauge trigger was believed to be padlocked, preventing the source rod from easily being placed in the unshielded exposed position. However, Mr. Elliott was not sure of this fact.

A licensee representative stated gauges have been transported on other occasions in a similar manner, inside the cab and not fastened to the vehicle nor placed in shipping or storage containers. This is an item of noncompliance with License Condition No. 17 which references licensee application dated September 23, 1981. This application states gauges shall be fully secured within any transportation vehicle away from the passengers compartment and when transported, installed in standard Troxler storage and shipping containers.

An area search was performed by Messrs. Shovely and Elliott encompassing an approximate one mile radius around the theft site. No signs of the gauge were found.

The vehicle was placarded with the company name, address, and phone number on a door sticker. A "Caution-Radioactive Materials" sign and brief description of the gauge contents along with company and state contacts was located in the back window of the vehicle.

The area police are investigating.

One item of noncompliance was identified.

7. Leak Tests and Anticipated Radiation Levels

Sealed source wipes are performed by the licensee. The wipes are then sent to Gulf Nuclear, Inc. in Webster, Texas for evaluation.

The sealed sources housed in the Troxler 3401 series gauge (SN-4310) at the time of the theft were last leak tested on February 1, 1982. Removable contamination was less than 1×10^{-6} μCi .

Maximum gamma radiation levels at the surface of a gauge with 8 millicuries cesium-137 and 40 millicuries Am:Be, source in shielded position, is approximately 25 mR/hr. Neutron radiation levels are minimal. With the source in the exposed position, cumulative gamma/neutron radiation levels are expected to be approximately 35 mrem/hr at one foot from the gauge. Therefore, no medically significant exposures would result if an individual was exposed to the unshielded source for a limited period from a distance of one foot or more.

An individual would have to be in close proximity (one foot) to the source for over 3.5 hours before receiving a dose in excess of 125 mRem and for 14 hours before exceeding 500 mRem.

No violations were identified.

8. Exit Meeting

On June 24, 1982, an exit interview was held at the conclusion of the inspection with Mrs. Linda Bennett. The apparent item of noncompliance was reviewed along with possible corrective action to minimize future thefts and/or losses.