



## EXECUTIVE SUMMARY

Connecticut Materials Testing Laboratories  
NRC Inspection Report No. 03036059/2012001

Connecticut Materials Testing Laboratories operates a licensed program to test the physical properties of materials using portable nuclear gauges. The license authorizes the possession and use of portable nuclear gauges containing sealed sources of cesium-137 and americium-241. This was a routine inspection of the licensee's portable nuclear gauge program to determine compliance with license conditions and NRC regulations.

Three violations of NRC regulations were identified regarding: 1) failure to limit possession of materials to that which is authorized by the license, 2) failure to conduct a review of the licensee's program at least annually, and 3) failure to provide accurate hazardous materials identification numbers on shipping papers. These violations are characterized at Severity Level IV in accordance with the NRC Enforcement Policy.

The licensee took the following corrective and preventative actions: 1) requested a license amendment to include all materials possessed, 2) implemented an electronic reminder system to remind the radiation safety officer when the annual program review is due, 3) revised all of the shipping papers to include the correct identification numbers, 4) discussed the results of the inspection with all authorized users, and 5) adopted the use of Appendix F, NUREG-1556, Vol. 1, "Portable Gauge Audit Checklist," for future program reviews. The licensee completed all corrective actions prior to the exit meeting on June 12, 2012.

## **REPORT DETAILS**

### **I. Organization and Scope of the Program**

a. Inspection Scope (Inspection Procedure 87124; FE-7)

This inspection included a review of the licensee's organizational structure, and the scope of the licensed program, to determine compliance with NRC regulations and license conditions. The inspection was conducted through direct observations, record reviews, interviews with employees, and discussions with the Radiation Safety Officer (RSO).

b. Observations and Findings

The licensee operates a materials testing laboratory and possesses six portable moisture density gauges; three Humboldt Model 5001's (cesium137 (Cs-137) and americium 241 (Am-241)); two Troxler Electronics Laboratories Model 3400 Series (Cs-137/Am-241); and one Seaman Nuclear Corporation Model C-200 gauge (radium 226 (Ra-226)). The licensee employs 14 individuals including five authorized gauge users. The owner and RSO is Anthony Broncati. Authorized gauge users report to the Vice President (VP) of Laboratory Operations, who reports directly to the RSO. This inspection included discussions with the RSO, the VP of Laboratory Operations, two Authorized Users, a review of licensee records, and observations of both the authorized storage location and two temporary jobsites in the State of Connecticut. Temporary jobsites observed were at 55 Abbey Lane near Danbury, CT, and at the corner of Strawberry Hill Avenue and Westport Avenue in Norwalk, CT. The licensee does not possess any generally licensed materials. Gauges are used as designed and as authorized by the license.

c. Conclusions

No violations of NRC requirements were identified.

### **II. Management Oversight of the Program**

a. Inspection Scope (Inspection Procedure 87124; FE-1 through FE-7)

This inspection included a review of the licensee's oversight to determine compliance with NRC regulations and license conditions. This inspection was conducted through direct observations, record reviews, and discussions with licensee employees, including the Radiation Safety Officer (RSO).

b. Observations and Findings

The inspector determined that the licensee had not completed a program review for the year 2009. The RSO stated that it was an oversight that the 2009 program review was not completed, and that an electronic reminder system had been implemented on May 1, 2012, to ensure the RSO is notified of the due dates of recurring program items such as the annual program review. Program reviews were conducted and documented for the years 2007, 2008, 2010, and 2011, although the reviews were not comprehensive. The RSO stated that future audits will be completed using Appendix F of NUREG-1556, Volume I, for conducting annual gauge program reviews. The licensee also stated that the results of this inspection will be discussed with licensee employees.

c. Conclusions

One violation of NRC requirements was identified. The licensee failed to conduct a program review annually as required by 10 CFR 20.2201.

### **III. Material Receipt, Use, Transfer, and Control**

a. Inspection Scope (Inspection Procedure 87124; FE-1 through FE-6)

This inspection included a review of the licensee's material receipt, use, transfer and control to determine compliance with NRC regulations and license conditions. This inspection was conducted through a review of transportation records and discussions with licensee employees and the RSO.

b. Observations and Findings

The licensee was in possession of one Seaman Nuclear Corporation Model C-200 portable gauge containing a single byproduct source (Ra-226), and the gauge was not authorized on the NRC license. The license authorized Humboldt Model 5001 series and Troxler Electronics Laboratories Model 3400 series portable gauges containing Am-241 and Cs-137 sealed sources only. The inspector performed surveys in the unrestricted areas, and all measurements were below NRC regulatory allowable limits.

c. Conclusions

One violation of NRC requirements was identified. The licensee took possession of a Seaman Nuclear Corporation portable gauge containing byproduct material (Ra-226) on March 16, 2012, and the material was not authorized by the NRC license. The RSO stated that he was unaware the gauge contained Ra-226. The licensee requested a license amendment immediately after being informed by NRC that the material was not authorized on the NRC license. The license amendment was issued on April 10, 2012.

#### **IV. Transportation**

a. Inspection Scope (Inspection Procedure 87124; FE-1 through FE-7)

This inspection included a review of the licensee's transport of licensed material to determine compliance with NRC regulations and license conditions. This inspection was conducted through direct observations, record reviews, and discussions with licensee employees and the RSO.

b. Observations and Findings

The inspector determined that the licensee's shipping papers did not contain all required information. Specifically, the description of the hazardous material on the licensee's bill of lading for gauge transport did not include the proper identification number as listed in Column (4) of the table in 49 CFR 172.101. The proper identification number is a requirement of 49 CFR 172.202. The RSO stated that it was an oversight that the information on the shipping papers was not current with the regulations.

c. Conclusions

One violation of NRC requirements was identified. The violation involved an incorrect UN number listed on the licensee's hazardous materials shipping papers for the transport of portable gauges. License condition 19 of NRC license 06-30745-01, requires the licensee to transport licensed material in accordance with 10 CFR 71. 10 CFR 71 requires the licensee to adhere to the regulations in 49 CFR (DOT transportation regulations). 49 CFR 172.202 requires, in part, that the shipping description of a hazardous material on the shipping paper must include the identification number prescribed in Column four of the table in 49 CFR 172.101. The table shows identification number UN3332 for the type of material transported in Humboldt and Troxler gauges. The licensee's shipping papers stated UN2974, a violation of license condition 19. The RSO stated that the shipping papers had been updated with the correct identification numbers on April 23, 2012. The RSO also stated that this violation will be discussed with all authorized users, and that future annual program reviews will include a review of shipping papers for accuracy.

#### **V. Exit Meeting Summary**

On June 12, 2012, an exit meeting was conducted between Scott Wilson, NRC Health Physicist, and Anthony Boncati, RSO and Owner of Connecticut Materials Testing, via telephone. The licensee agreed that the inspector did not have any proprietary information. The RSO agreed with the inspection results and the corrective actions.

**PARTIAL LIST OF PERSONS CONTACTED**

Licensee

Anthony Broncati, RSO  
Salah Al-Bakri, VP Laboratory Operations  
Scott Curtis, Authorized User  
Ed Garrison, Authorized User

**INSPECTION PROCEDURES USED**

IP 87124

**LIST OF DOCUMENTS REVIEWED**

NRC License  
Leak test records  
Annual program reviews  
Shipping papers  
Authorized user training records  
Gauge inventory records  
Personnel dosimetry reports  
Sealed source and device safety evaluations

END OF REPORT