



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

January 12, 2007

Docket No. 03006580

License No. 45-08890-02

William W. Briody  
Vice President  
Froehling & Robertson, Inc.  
3015 Dumbarton Road  
Richmond, VA 23261

SUBJECT: INSPECTION 03006580/2006001, FROEHLING & ROBERTSON, INC.,  
RICHMOND, CROZET, HARRISONBURG, ROANOKE, AND THE STERLING,  
VIRGINIA SITES

Dear Mr. Briody:

On April 5- December 29, 2006, Craig Gordon of this office conducted a safety inspection at the above addresses and 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 to compliance with the Commission's regulations and the license conditions. The inspection consisted of observations by the inspector, interviews with personnel, and a selected examination of representative records.

Additional information provided in your electronic mail on December 29, 2006, and the telephone conversations on October 31 and December 29, 2006 between you and Mr. Gordon and this office related to the incident involving a stolen moisture density gauge from an authorized user's vehicle at the Roanoke, Virginia office on December 12, 2005 were also examined as part of the inspection. The findings of the inspection were discussed with you at the conclusion of the inspection.

Within the scope of this inspection, no violations were identified.

Current NRC regulations are included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **Nuclear Materials; Medical, Academic, and Industrial Uses of Nuclear Material**; then **Toolkit Index Page**. The current NRC Enforcement Policy is included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **What We Do, Enforcement**, then **Enforcement Policy**. Or you may obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-888-293-6498. The GPO is open from 7:00 a.m. to 8:00 p.m. EST, Monday through Friday (except Federal holidays).

W. Briody  
Froehling & Robertson, Inc.

2

No reply to this letter is required. Your cooperation with us is appreciated.

Sincerely,

***Original signed by Marie Miller***

Marie Miller, Chief  
Security and Industrial Branch  
Division of Nuclear Materials Safety

cc:  
Commonwealth of Virginia

DOCUMENT NAME: C:\FileNet\ML070170177.wpd

**SUNSI Review Complete: CGordon**

After declaring this document "An Official Agency Record" it will be released to the Public.

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	<input checked="" type="checkbox"/> N	DNMS/RI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NAME	Cgordon/CZG		MMiller/MTM				
DATE	1/12/07		1/12/07				

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

INSPECTION REPORT

Inspection No. 03006580/2006001  
Docket No. 03006580  
License No. 45-08890-02  
Licensee: Froehling & Robertson, Inc.  
Address: 3015 Dunbarton Road  
Richmond, Virginia 23228-5831  
Other Locations Inspected: Crozet, Sterling, Roanoke, and Harrisonburg, Virginia  
Inspection Dates: April 5-December 29, 2006

Inspector: **Original Signed by:** 01/12/07  
Craig Z. Gordon date  
Senior Health Physicist

Approved By: **Original Signed by:** 01/12/07  
Marie E Miller, Chief date  
Materials Security and Industrial Branch  
Division of Nuclear Materials Safety

## **EXECUTIVE SUMMARY**

Froehling & Robertson, Inc.  
NRC Inspection Report No. 03006580/2006001

A routine safety inspection was conducted on April 5-September 29, 2006, at five Froehling and Robertson, Inc., Virginia offices where moisture density gauges were used and stored. The inspection included observation of gauge operation at each site, interviews with licensee representatives, and an examination of records maintained to support site activities.

In addition, the circumstances of an incident reported to the NRC on December 12, 2005, involving the theft of a gauge from an authorized user's vehicle in Roanoke, Virginia was reviewed. The licensee's Corporate RSO reported that a Troxler moisture density gauge was stolen from a company owned pick-up truck while parked at his residence overnight. The gauge was apparently secured and locked in the bed of the vehicle. The employee searched the area and found the undamaged gauge the next day. On January 10, 2006, the licensee provided a 30-day incident report which identified the circumstances and corrective actions taken relative to the missing gauge.

Overall, each site storing and using gauges was generally well managed. The CRSO provided effective corporate oversight and direct involvement in program implementation to ensure consistent radiation safety practices among each office. There were no issues found with routine radiation safety program activities.

Concerns identified with the stolen gauge related to an authorized user not following established corporate policy. Additional information was provided by the CRSO through December 29, 2006 which clarified NRC concerns about how the gauge was secured to the vehicle. The licensee's followup actions to the event were found to be prompt and thorough, and no violations of NRC security requirements were noted. Since this was the second incident reported by the licensee within a seven month period, additional training was provided to authorized users which emphasized security and handling of gauges used in the field.

## **REPORT DETAILS**

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

#### a. Inspection Scope

Inspection of the coordination and interaction between the Richmond and other Virginia offices was made to determine implementation of the radiation safety program within each office.

#### b. Observations and Findings

The licensee is authorized to possess and use licensed material in portable gauges for soil moisture and density measurements at six locations throughout Virginia. The CRSO, provides program oversight from the Richmond office through routine communications with site (Branch) RSO's and periodic visits to each site office. The program was generally well managed for the workload involved, with the CRSO directly involved in ensuring consistency for program implementation throughout each office.

In addition to managing activities at the Richmond office, the CRSO maintained current documentation and recordkeeping required for all offices. Documents organized by office or authorized user included material inventories, equipment, shipments, dosimetry, leak tests, and authorized user training.

#### c. Conclusions

No violations or concerns were identified.

### **II. Facilities and Equipment**

#### a. Inspection Scope

Inspection was performed at five of the six Virginia offices where gauges were stored: Richmond, Roanoke, Crozet, Chesapeake, and Harrisonburg. Authorized user performance was evaluated during a field site inspection or gauge demonstration.

#### b. Observations and Findings

Discussions were held with each Branch RSO about how individual offices were managed. Gauges were found to be used on a regular basis at each facility, with most gauges assigned to specific users. Shipping records for gauges transferred between offices were complete. Initial and refresher training for authorized users was up to date. Survey instruments and dosimetry are coordinated with the -01 radiography license; dosimeters were exchanged monthly with all reported exposures well below regulatory limits. Inventories and leak tests were performed at the required frequencies. Branch

RSOs perform periodic field audits of users, while the CRSO conducts the required 10 CFR 20 annual review (audit) of the radiation protection program content and implementation.

Security upgrades were noted in the Richmond and Roanoke sites where radiography devices were stored together with density gauges. Inspection of gauge storage areas at each facility found security and postings sufficient to restrict access to the material. Independent measurements taken at each storage location using an Eberline Model E-120 Geiger Counter (NRC S/N 23166G, calibration expiration 1/30/07) were at background levels.

c. Conclusions

No violations or concerns were identified.

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

a. Inspection Scope

The activities associated with the reported theft of a Troxler Model 3430 moisture density gauge on December 12, 2005 from a vehicle of an authorized user assigned to the Roanoke office was reviewed. Also, the status of a previous incident was reviewed.

b. Observations and Findings

On May 27, 2005, the CRSO reported to the NRC Operations Center (NMED No. 41731) that a sheepsfoot roller ran over a portable gauge being used at a temporary job site in Waynesboro, Virginia. The gauge was damaged, but the sources remained shielded. NRC review of the incident determined that the licensee lost control over the licensed material. The information was described in IR No. 45-08890-02-2005001, (EA-05-132), and categorized as a Severity Level III violation. NRC escalated enforcement action was taken in a letter to the licensee dated July 12, 2005. Discussion with the CRSO indicated the root causes of the incident were included in annual refresher training provided to users.

Another incident was reported to NRC on December 12, 2005. The CRSO reported that a Troxler Model 3430 moisture density gauge, S/N 36310 containing 8 mCi of Cs-137 and 40 mCi of Am-241 was stolen from a company owned pick-up truck while parked at his Roanoke, VA residence overnight. The gauge was apparently secured and locked inside its transport case on the bed of the vehicle. The employee searched the area and found the undamaged gauge. A summary of the incident was described in PNO-I-05-029, dated 12/12/05. After a search of the area, the gauge was found the next day approximately two miles near the employees residence (PNO-I-05-029A). On January 10, 2006, the licensee provided a 30-day incident report which identified the circumstances and corrective actions taken relative to the missing gauge. The report

indicated that all locks were removed, but the gauge was undamaged and operable. A radiation survey and wipe test showed no leakage of material.

During the inspection the incident was followed up with the CRSO and staff from the Roanoke office. The gauge was tested by the licensee for operation and leakage, then placed back into service. It has been used on a regular basis since the incident. The licensee's initial response to the event was prompt and satisfactory. After the event a notice was issued to all users by the CRSO reminding them of the revised security requirements while transporting gauges, emphasizing the need for proper use of locks and chains.

From a review of the diagram provided in the licensee's event report, photographs showing a reenactment of how the user believed the gauge was secured on the bed of the company vehicle at the time it was lost (provided to the inspector on December 29, 2006), and followup discussion with the CRSO, it appeared that the gauge case was locked properly when stored in the users vehicle while parked outside his residence overnight.

c. Conclusions

There were two incidents reported by the licensee within a seven month period. Previous NRC review of the first event found the licensee's corrective actions appropriate. After review of the second event the licensee took prompt actions to recover the gauge, reemphasizing to authorized users NRC requirements and corporate policies for securing gauges. The gauge was recovered undamaged and there was no contamination found. No concerns were identified with the licensee's transportation activities or response actions to the incident.

#### **IV. Exit Meeting**

An exit meeting was conducted on September 29, 2006, with a followup phone calls to the CRSO on October 31, 2006, and November 29, 2006, and December 29, 2006, to provide results of the inspection and obtain clarification about how the case with the gauge was secured to the back of the authorized user's vehicle prior to the gauge being stolen. On December 29, 2006 the CRSO provided electronic photographs which showed how the transport case was secured on the vehicle at the time the incident occurred. The photographs showed the proper locking arrangement to meet NRC requirements.

## **PARTIAL LIST OF PERSONS CONTACTED**

### Licensee

W. Briody, Corporate RSO, Richmond office  
S. Shulton, Branch RSO, Sterling office  
G. Witt, Manager, Roanoke office  
G. Bruce, Asst. Manager, Roanoke office  
B. Quarterman, Branch RSO, Crozet and Harrisonburg offices