



## **RADIATION SAFETY PROGRAM**

### **I. FIRM LOCATION**

#### **A. Address**

EnviroProbe Integrated Solutions, Inc.  
630 Cross Lanes Drive  
Nitro, WV 25143  
Phone: (304) 776-6717  
Fax: (304) 776-6769

Mailing Address:  
EnviroProbe Integrated Solutions, Inc.  
630 Cross Lanes Drive  
Nitro, WV 25143

### **II. GAUGE DESCRIPTION**

#### **A. Troxler Surface Moisture-Density Gauge, Model No. 3440.**

Radiological Specification  
Gamma Source - 0.30 GBq (8mCi)  $\pm 10\%$  mCi Cs-137 TEL  
Neutron Source - 1.48 GBq (40 mCi  $\pm 10\%$  Am-241;Be  
Source Form - Stainless steel encapsulated.  
Shielding - Lead and Tungsten.  
Source Rod Containment - Stainless steel

### **III. STORAGE FACILITY**

#### **A. Permanent Location (630 Cross Lanes Drive, Nitro, WV 25143)**

1. The building is rigidly constructed, with adequate fire safety equipment and located in a non-incorporated or residential area.
2. The gauges are stored in a separate room or cabinet. The storage room/cabinet is located in a remote area where only occasional personnel use is anticipated. The area is kept locked and secured at all times with keys available only to

licensed operators. In addition, the gauge's source rod is kept locked when not in use.

3. The building and the room/cabinet both are posted with appropriate radiation warning signs.
4. The building is locked and secured during non-working hours. The building is surrounded by a fence with locking gates along the rear perimeter of the lot.
5. The facility meets with the approval of the Radiation Safety Officer.
6. The facility shall always be subject to inspection for compliance to these requirements.
7. The Radiation Safety Officer or his designated alternate contact information will be posted in a visible location in case of emergencies.

### **B. Additional Location (963 Canyon Road, Morgantown, WV 26508)**

1. The building shall be rigidly constructed, with adequate fire safety equipment.
2. The gauge(s) will be stored in a separate room, if possible. If this is not possible, the storage cabinet will be located in a remote area where only occasional personnel use is anticipated. In either case, the area will be kept locked and secured at all times with keys available only to licensed operators. In addition, the gauge's source rod is kept locked when not in use.
3. The room or cabinet both will be posted with appropriate radiation warning signs.
4. The building will be locked and secured during non-working hours.
5. The facility will be inspected by and meet with the approval of the Radiation Safety Officer.
6. The building superintendent (if applicable) will be given the name, address and phone number of the Radiation Safety Officer and his designated alternate who can be contacted in case of emergency.
7. The facility shall always be subject to inspection for compliance to these requirements.

### **C. Storage in Vehicle**

1. If the gauge is going to be stored overnight in vehicle the following conditions must be met:
  - a. Prior approval by the Radiation Safety Officer will be necessary.
  - b. Each portable gauge shall have a minimum of two independent physical controls that form tangible barriers to secure the portable gauge from unauthorized removal, whenever the portable gauge is not under the control and constant surveillance of the authorized user

- c. Vehicle must be kept at same location as where certified operator is staying. In addition, the vehicle must be parked in a well-lighted area for security reasons.
  - d. At no time shall the gauge be taken inside a private residence or a motel room overnight.
  - e. Storage in the vehicle will be in a locked cab or storage bed that is covered and can be locked.
2. If an accident occurs with vehicle follow conditions under Emergency Procedures.

#### **IV. UNAUTHORIZED USE OF GAUGE**

1. Only certified operators have keys for access to gauges.
2. The building is locked and secured during non-working hours.
3. The storage area, where gauges are located, is kept locked at all times.

#### **V. FIRE PROTECTION**

1. Storage room/facility is of non-combustible construction.
2. Fire extinguishers are mounted on nearby walls.
3. Building conforms to existing State regulations and Codes.

#### **VI. OPERATOR'S QUALIFICATIONS**

1. To become a certified operator, the individual must have satisfactorily completed the operator's course for the gauge they will be using. The operators will be trained on the following topics:
  - a. Nature of sources.
  - b. Operation of equipment.
  - c. Safety procedures for normal operation.
  - d. Emergency procedures.
  - e. Packaging and shipping of radiation.
  - f. Radiation exposure factors.
  - g. Occupational dose limits.
  - h. Radiation monitoring.
  - i. Film badge usage.
  - j. Reporting malfunction or problems.
  - k. Emergency procedures.
2. Individual must be an employee and be certified to operate the gauge.
3. a certificate of training upon completion of the appropriate course will be issued to gauge operator.

4. In addition to technical training, EnviroProbe employee's will have practical training as described in Appendix C from NUREG-1556 Volume 1, Revision 2 of the Consolidated Guidance About Materials License – Program-Specific Guidance About Portable Gauge Licenses

## **VII. EXPOSURE MONITORING PROCEDURES**

1. Each certified operator may be provided with a monitoring film badge or thermoluminescent dosimeter that require processing to determine the radiation dose will be processed and evaluated by a NVLAP-approved processor.
2. A record of exposure information is maintained and monitored by the Radiation Safety Officer.
3. Under average conditions, at a distance of 2 ft. (0.6 m) from gauge a full-time operator working a 40 hour week can expect to receive about 20 MREM's per week (gamma and neutron) or 260 MREM's (gamma and neutron) per 13 weeks for his whole body. As a NRC licensee, EnviroProbe is subject to the occupational limits referenced in 10 CFR 20 Subpart C.
4. Dose to general public is zero due to the following:
  - a. Only certified operators are allowed where gauge is stored.
  - b. Under field conditions no one except gauge operator is allowed within approximately 15 ft. (4.5 m) of gauge.

## **VIII. OPERATING AND EMERGENCY PROCEDURES**

### **A. Operating Procedures.**

1. If personal dosimetry is utilized, Operator(s) are required to wear them when using or transporting gauge.
2. Keep the source in the "safe" or stored position when not in use (this includes from one test location to another).
3. While exposure dose levels are well within limits for radiation workers, never expose yourself to the bare source without sufficient justification for the additional dose.
4. Keep all unauthorized persons out of operating area. Suggested distance 15 ft. (4.5 m).
5. Maintain security of the instrument at all times. The source lock shall be in place any time the gauge is not in use.
6. The gauge shall be kept in carrying case (shipping case – DOT 7A, Type A, Yellow II Label, 0.1 Transport Index) with source rod locked while in transit. It must be transported only by a certified operator in an approved vehicle.
7. The gauge while being transported in a vehicle shall be located in an area as far away from any person(s) as possible.
8. The vehicle, transporting the gauge, Each portable gauge shall have a minimum of two independent physical controls that form tangible barriers to secure the portable gauge from unauthorized removal, whenever the portable

gauge is not under the control and constant surveillance of the authorized user.

9. If an accident occurs with vehicle while transporting gauge, follow conditions under Emergency Procedures.

## **B. Emergency Procedures**

1. In the event of physical damage to the gauge, approximately 15 ft. (4.5 m) radius area will be secured by means of rope, stakes, signs or any other material that may be utilized to construct a boundary. This will be maintained until the extent of source damage (if any) is determined. If a vehicle is involved, it will be stopped and remained stopped until the extent of contamination hazard (if any) is determined. If any physical damage to the gauge is noted, the Radiation Safety Officer, appropriate authorities and/or Troxler Electronic Laboratories Inc., will be notified for further instruction.
2. Immediate telephone notification will be made to the following in the event of accident or the loss of a gauge, whether accidental or due to theft. Reporting requirements to the NRC in accordance with 10 CFR 20 Subpart M will be followed.
  - a. Radiation Safety Officer.
  - b. Local Law Enforcement.
  - c. Troxler Electronic Laboratories.
3. A utilization log book is kept with gauge at all times. On the inside cover are the phone numbers to call in the event of an accident.
4. In case of fire, the Radiation Safety Officer will be notified along with the local fire department.

## **IX. EQUIPMENT AND LICENSING INFORMATION NECESSARY FOR OPERATION**

### **A. Utilization Log Book – information recorded is as follows: (Log Books maintained at storage location)**

1. Important phone numbers in the event of malfunction or accident with gauge.
2. Model and serial number
3. Date and time of day gauge is removed from and returned to storage.
4. Name of operator.
5. Destination or job site location.
6. Signature of operator.

**B. Folder – information recorded is as follows:  
(Folders kept with the gauge)**

1. Copy of license issued with any amendments.
2. Personal identification.
3. Notices of radioactive materials (signs, stickers, placards, etc).
4. Gauge operator's manual
5. Emergency telephone numbers along with the RSO number
6. Emergency Procedures

**X. INVENTORY CONTROL**

1. A record is kept showing where gauges are located at all times.
2. Every 6 months, a thorough inventory is done (this coincides with leak testing schedule) to check gauges for usage and condition.

**XI. SERVICE**

1. All service to gauges will be done by Troxler Electronics Laboratories or any company licensed to provide the service.
2. At "no time" will any service be done by the operator

**XII. LEAK TEST**

1. The leak test is administered and monitored by the Radiation Safety Officer on an annual basis.
2. The testing is done using an approved kit or instrument that is supplied or approved by Troxler Electronics Laboratories, or any company licensed to provide the leak testing service.
3. The test paper is then placed in plastic envelopes on which the following information is recorded:
  - a. Company name.
  - b. Address.
  - c. Gauge Model.
  - d. Gauge Serial No.
  - e. Source Serial No.
  - f. Date of test.
4. The plastic envelope is placed in a shipping envelope along with leak test analysis form which also contains the above information which is then shipped to Troxler Electronic Laboratories, Inc. or to any company which is licensed to provide such services, for analysis.

### **XIII. DISPOSAL**

1. Any gauge which is no longer of any use to EnviroProbe Integrated Solutions, Inc. will be returned to the manufacturer for disposal.