

Friday, December 29, 2017

Nuclear Regulatory Commission, Region I

Attn.: Mr. Leo Wardrobe
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406-2713

Re.: License No.: 45-25416-01
Docket No: 03034591
Control No: 601929

Dear Mr. Wardrobe:

This letter is in regard to your email from December 27, 2017 requesting additional information for our NRC license renewal. Our current inventory of gauges is as follows, six Troxler model 3430 and one model 4640-B. None of the listed gauge contain Cf-252. Please see attached documents for updated "Nuclear Gauge Inventory" and "Training Provided to Other Users" sections.

Respectfully Submitted,
EnCon Consulting Services, Inc.



Saad F. Dorgham, MS, PE
Executive Manager

Enc.

NUCLEAR GAUGE INVENTORY:

SERIAL NO.	MAKE	MODEL	SOURCE/ ACTIVITY
T-858	TROXLER	4640-B	Cs-137/Am 241:Be 8mCi/40mCi
28203	TROXLER	3430	Cs-137/Am 241:Be 8mCi/40mCi
31808	TROXLER	3430	Cs-137/Am 241:Be 8mCi/40mCi
15672	TROXLER	3440	Cs-137/Am 241:Be 8mCi/40mCi
27307	TROXLER	3430	Cs-137/Am 241:Be 8mCi/40mCi
68975	TROXLER	3430	Cs-137/Am 241:Be 8mCi/40mCi
31807	TROXLER	3430	Cs-137/Am 241:Be 8mCi/40mCi

Item 5-- RADIOACTIVE MATERIAL

<u>Radionuclide</u>	<u>Sealed Source</u>	<u>Max. Activity/Source</u>
Cs-137	Troxler A-102112	9 mCi
Am-241:Be	Troxler A-102451	44 mCi

Data on Registration Certification:

<u>Manufacturer/Distributor</u>	<u>Registry No.</u>	<u>Model No.</u>
Troxler Electronics Labs	NC-646-D-130-S	3400 Series
Troxler Electronics Labs	NC-646-D-131-S	4600 Series

Possession Limit Commitment:

We will confine our possession of licensed material to quantities such that we will not exceed the applicable limits in 10 CFR 30.35.

Item 6 --PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED

- a. For use in Troxler Model 3400 and 4600 series gauges to measure the density of soils, aggregates and construction materials.
- b. For use in Troxler Model 3400 and 4600 series gauges measuring hydrogen with relation to moisture content of construction/building materials.

Item 7 -- INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE

- a. Saad F. Dorgham is the designated RSO
- b. Mr. Dorgham is a professional engineer with a Master of Science degree in Geotechnical/Structural Engineering. He has over nineteen years of hands-on experience including training personnel for the use and safety of nuclear testing equipments. Mr. Dorgham is certified by the Health Physics Services, Inc. and ATEC Associates, Inc. and CTL Engineering, Inc. for Nuclear Safety and Gauge Usage, including two eight-hour courses and written tests.
- c. The management of EnCon Consulting Services, Inc. authorizes the RSO to stop unsafe operation and committed to ensure that the RSO has sufficient time to perform duties and responsibilities as required by the NRC.

Item 8 --TRAINING PROVIDED TO OTHER USERS

Before using licensed materials, authorized users will have successfully completed one of the training courses described under "Criteria" in the section titled "Training for Individuals Working in or Frequenting Restricted Areas" in NUREG-1556, Volume 1 Revision 2, 'Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Portable Gauge Licenses'. The individual will receive copies of training in gauge operating and emergency procedures and have written designation from the RSO as an authorized gauge user. Copies of each individual's training certificate, the written RSO designation will be maintained for 3 years after the individual terminates employment.

Item 9 --FACILITIES AND EQUIPMENT

- 1. Status The permanent facility will be at:
 3601 Stonecroft Blvd. Lot 11
 Chantilly, VA 20151
- 2. General location The permanent facility is located in an Office Trailer and the second

location is a warehouse part of an office building.

3. Storage diagram The gauges will be stored in locked metal storage containers.
4. Security Outside door to facility will remain locked after working hours and the gauge storage container will remain locked at all times when equipment is inside. Keys to the storage closet will be controlled by the RSO and authorized users.
5. Security(transport) Gauge and case will be locked and secured in trunk of car, or chained and locked in open bed truck.
- 6.Security(temporary) During breaks or lunch the gauge will be returned to the transport case and the case will be secured in the transport vehicle or temporary storage location. Constant surveillance will be maintained when the gauge is removed from the transport vehicle or temporary storage facility.

Item 10 --RADIATION SAFETY PROGRAM

10.1 Personnel Monitoring Program

All gauge users will be monitored with TLD badges when operating gauges.

- a. Supplier: Troxler Radiation Monitoring Services
Division of Troxler Electronic Labs. Inc.
PO Box 12057
Research Triangle Park, NC 27709
- b. Type: Thermoluminescent Dosimeter (TLD)
Beta, Gamma, X-Ray, and neutron measurement
- c. Exchange Frequency: Quarterly

10.2 Radiation Detection Instruments

1. There will be a survey instrument available capable of measuring between 0-100 mrem/hr (0-1000 :Sv/hr).
2. Calibration Frequency: Annually by manufacturer
3.

<u>Type of Instrument</u>	<u>Radiation Detected</u>	<u>Sensitivity Range</u>	<u>Window Thick.</u>
GM Survey Instrument	alpha, beta, gamma and X-Ray	0 - 100 mR/hr	1.4 mg/cm ²
4. Prior to operation of the gauge the response of the survey meter will be checked using the gauge sources.

10.3 Leak Tests

1. Leak tests will be performed at intervals not to exceed 6 months.
2. A Troxler Leak Test Kit 3880 or equivalent will be used and the suppliers instructions will be followed when collecting the sample.

Troxler Electronic Labs. Inc.

PO Box 12057

Research Triangle Park, NC 27709

10.4 Inventories

An inventory of all sealed sources and devices possessed under this license will be conducted at intervals not to exceed 6 months, and the record of inventory maintained for 3 years from date of the inventory. Inventory records should include the radionuclide, amount or activity, and the manufacturer's name, model number, and serial number.

10.5 Maintenance

1. All maintenance will be performed with the radioactive source in the safe shielded position in accordance with the manufacturer's directions included in the operator manual.
2. Extensive maintenance which source rod removal will be performed by the gauge manufacturer.

10.6 Transportation of Devices to Field Locations

1. EnCon will maintain current DOT (49CFR) regulations and will develop and implement procedures for complying with applicable DOT regulations.
2. Current applicable regulations will be ordered and/or updated from the Government printing office order desk at (202) 512-1800.

10.7 Operating and Emergency Procedures

1. Organization will implement the Operating and Emergency Procedures as stated in this correspondence
2. A copy of these procedures will be distributed to gauge users before initial use of equipment.
3. A copy of these procedures will be on file separate from the gauge.
4. These procedures will be appended if equipment is to be used at depths greater than 3 feet.

STANDARD OPERATING AND EMERGENCY PROCEDURES

Operating Procedures

1. Before removing the gauge from its place of storage, check to make sure that the gauge source rod is in the shielded, locked position, and lock the transport case,

2. Sign the gauge out in a log book stating the dates of use, names of the authorized users who will be responsible for the gauge, and the temporary job sites where the gauge will be used.
3. Equipment outside the transport vehicle or storage site should ever be left unattended.
4. Follow all applicable Department of Transportation (DOT) requirements when transporting the gauge.
5. Do not touch the end of the source rod below the base of the gauge with your fingers, hands, or any part of your body, and always make sure the source is in the shielded position after each measurement is made.
6. Always wear your assigned thermoluminescent dosimeter (TLD) or film badge when using the gauge.
7. Never wear another person's TLD or film badge.
8. Never store your TLD or film badge near the gauge.
9. Always keep unauthorized persons away from the area where the gauge is to be used.
10. Always maintain constant surveillance and immediate control of the gauge when it is not in storage or secured in the transport vehicle.
11. Ensure gauge and operator are visible to heavy equipment operators.
12. Never look under the gauge when the source rod is being lowered into the ground.
13. When the gauge is not in use at a temporary job site, place the gauge in a secured storage location (e.g., locked in the trunk of a car or locked in a storage shed).
14. Return the gauge to a proper storage location at the end of the work shift.
15. When returning the gauge to the permanent storage facility, so indicate in the source log.
16. When using the equipment at a temporary jobsite with no storage facility, and the operator is living in temporary lodging (Hotel or motel), the gauge should be stored inside the transport vehicle in an inconspicuous manner that would deter theft and limit the exposure to the general public.
17. Pregnant Equipment Operators may declare their pregnancy to the RSO in writing.

Emergency Procedures

If the source fails to return to the shielded position (e.g., as a result of being damaged) or if any other emergency or unusual situation arises (e.g., the gauge is struck by a moving vehicle, or is in a vehicle involved in an accident):

1. Immediately secure the area around the gauge. (An area 15 feet in diameter should limit exposure to general public.) If the source has been separated from the unit secure the area around the source as above.
2. Prevent unauthorized personnel from entering the secured area.
3. If a vehicle or heavy equipment is involved, detain the equipment until it is determined there is no contamination present.
4. Notify licensee management of the situation, calling company personnel in the order listed below.

<u>Name</u>	<u>Work Phone Number</u>	<u>24-hour Phone Number</u>
Saad F. Dorgham	(703) 766-5215	(703) 898-2928

5. Follow the directions provided by the person contacted in step 4.

6. LICENSEE MANAGEMENT MUST:

- 6.1 Arrange for a survey to be conducted as soon as possible by a knowledgeable person using appropriate radiation detection instrumentation. (This person could be a licensee employee using a survey meter located at the jobsite or consultant.)
- 6.2 Make necessary notifications to local authorities; notify the NRC or Agreement as appropriate.
- 6.3 Consider the timeliness of reports to the NRC.
- 6.4 Review the reporting requirements, which are found in 10 CFR 20.2201-2203 and 10 CFR 30.50.

10.8 Annual Audit

- 1. Mr. Dorgham (EnCon's RSO) will conduct audit (include list of qualifications)
- 2. Scope: Meet the minimum criteria detailed in Appendix I of NRC Draft Regulatory Guide DG-0008.
- 3. Audit will be conducted at intervals not to exceed 12 months, and the records of the audit will be maintained for 3 years.

10.9 Financial Assurance and Record keeping for Decommissioning

- 1. Financial Assurance
 - EnCon will continue its possession of licensed material to quantities such that we will not exceed the applicable limits in 10 CFR 30.35(d).
- 2. Recordkeeping
 - a. Records will be maintained detailing any instance related to leaking sources, spills or contamination important to decommissioning.
 - b. Record location will be:
 - 3601 Stonecroft Blvd. Lot 11
 - Chantilly, VA 20151

Item 11 -- WASTE MANAGEMENT

Disposal will be by transfer of the radioactive material to a person who is specifically licensed to receive and possess it.