

NRC Form 313 I (12-81) 10 CFR 30  U.S. NUCLEAR REGULATORY COMMISSION  APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL  See attached instructions for details.  Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.		1. APPLICATION FOR: (Check and/or complete as appropriate)  <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">           a. NEW LICENSE             b. AMENDMENT TO:            LICENSE NUMBER            30 - 20693         </div> <div style="width: 45%;">           c. RENEWAL OF:            LICENSE NUMBER            X L 18205         </div> </div>		
2. APPLICANT'S NAME (Institution, firm, person, etc.) Geo-Tech Associates/Geo-Tech Laboratories 43 South Avenue, Fanwood, N.J. 07023 TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 201-232-2008		3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION Carmin J. De Vito 03120 TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 201-232-2008		
4. APPLICANT'S MAILING ADDRESS (Include Zip Code) (Address to which NRC correspondence, notices, bulletins, etc., should be sent.)  43 South Avenue Fanwood, New Jersey 07023		5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code)  43 South Avenue Fanwood, New Jersey 07023		
(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)				
6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL (See Items 16 and 17 for required training and experience of each individual named below)				
FULL NAME a. Carmin J. De Vito b. c.		TITLE Date... 1/23/84 Log... Jan 2 I By... Brown Orig To... President Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.		
7. RADIATION PROTECTION OFFICER  Harry Van Fleet Action Compl. 1/25/84		8. LICENSED MATERIAL		
LINE NO.	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
(1)	Radium 226	8847	Nuclear-Chicago Model P21	5 millicuries Radium-beryllium Sealed Source
(2)	Cesium 137	55133	Nuclear-Chicago Model P22	3- .05 Millicuries Furnished installed
(3)	Cs-137/AM-241:Be		Troxler electronics Model 3400	8/50-10% MCI per Source Sealed Source
(4)	8801220563 870804 REG1 LIC30 29-18205-02 PDR E LICENSED MATERIAL			
(1)	For use in a Nuclear-Chicago Model P21 Surface Moisture GAUGE, Source is provided installed			
(2)	For use in a Nuclear-Chicago Model P22 Surface density gauge, Source is provided installed.			
(3)	For use in a Troxler Model 3400 Series COMPAC Surface moisture density gauge.			
(4)				

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## 9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED.	NAME OF MANUFACTURER	MODEL NUMBER
	A.	B.	C.
(1)	Radium 226 in Nuclear Chicago Surface Moisture Gauge	Nuclear-Chicago	P-21
(2)	Cesium 137 in Nuclear Chicago Surface Density Gauge	Nuclear-Chicago	P-22
(3)	Cs-137/AM-241:Be in Troxler Surface Moisture Density Gauge	Troxler	3400
(4)			

## 10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT	MANUFACTURER'S NAME	MODEL NUMBER	NUMBER AVAILABLE	RADIATION DETECTED (alpha, beta, gamma, neutron)	SENSITIVITY RANGE (milliroentgens/hour or counts/minute)
	A	B	C	D	E	F
(1)	N.A.					
(2)						
(3)						
(4)						

## 11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

Calibration performed by Troxler Electronics

☐ b. CALIBRATED BY APPLICANT

Attach a separate sheet describing method, frequency and standards used for calibrating instruments.

N.A.

## 12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.)	SUPPLIER (Service Company)	EXCHANGE FREQUENCY
A	B	C
<input checked="" type="checkbox"/> (1) FILM BADGE <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) <input type="checkbox"/> (3) OTHER (Specify): _____	R. S. Laudauer, Jr. Co. Glenwood Science Park Glenwood, Illinois 60425	<input checked="" type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> OTHER (Specify): _____

## 13. FACILITIES AND EQUIPMENT (Check where appropriate and attach annotated sketch(es) and description(s).)

- ☐ a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC.  
☒ b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC.  
☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.  
☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

## 14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

N.A.

67-6d 11 700 68.

b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE

Sealed Source will return to the Manufacturer for disposal

# INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

15. RADIATION PROTECTION PROGRAM. Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures (if needed), day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.
16. FORMAL TRAINING IN RADIATION SAFETY. Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.
  - a. Principles and practices of radiation protection.
  - b. Radioactivity measurement standardization and monitoring techniques and instruments.
  - c. Mathematics and calculations basic to the use and measurement of radioactivity.
  - d. Biological effects of radiation.
17. EXPERIENCE. Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

## 18. CERTIFICATE

(This item must be completed by applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

WARNING. -18 U.S.C., Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

a. LICENSE FEE REQUIRED  
(See Section 170.31, 10 CFR 170)

b. CERTIFYING OFFICIAL (Signature)

c. NAME (Type or print)

Carmin J. De Vito, P.E.

(1) LICENSE FEE CATEGORY:

d. TITLE

President

(2) LICENSE FEE ENCLOSED: \$ 110.00

e. DATE

1/6/84

# TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

HARRY VAN FLEET

of

GEO-TECH ASSOCIATES

HAS SUCCESSFULLY COMPLETED THE TROXLER ELECTRONIC LABORATORIES, INC.  
TRAINING COURSE FOR THE USE OF NUCLEAR TESTING EQUIPMENT.

SUBJECTS INCLUDED IN THIS COURSE WERE AS FOLLOWS:

## Radiological Safety

1. Principles and practices of radiation protection.
2. Leak testing procedures.
3. Mathematics and calculations basic to the use and measurement of radioactivity.
4. Biological effects of radiation.
5. Radioactivity measurement standardization and monitoring techniques and instruments.
6. Accident and incident procedures.
7. Procedures for nuclear gauge storage and transportation.
8. General safety precautions.

## Gauge Operation

1. Instrument theory
2. Operating procedures
3. Maintenance
4. Field application
5. Gauge calibration

  
INSTRUCTOR

1/7-8/80  
DATE

WILLIAM T. TROXLER  
PRESIDENT

Attachment to Form AEC-313 (2-73) 10 CFR 30  
APPLICATION FOR BYPRODUCT MATERIAL LICENSE

- Item 13. Equipment will be stored in our lower below ground level storage room, in a locked cabinet, with the entrance door to the room locked. This room receives minimal storage of soils engineering laboratory equipment and is approximately two hundred and fourteen square feet (214 ft.<sup>2</sup>). The entrance door bears the radiation symbol with the words "CAUTION: RADIO-ACTIVE MATERIALS". See sketch plan appended to this application.

Equipment will not be stored at temporary construction job sites. It will be transported to construction job sites by locked company vehicles.

At all times, whether the gauge is being transported or operated, the handler will be wearing a film badge.

Item 14. A. HANDLING PROCEDURES

1. Only authorized persons will operate the equipment.
2. The source will be fully retracted in the "SAFE" or stored position when not in use.
3. Film badges will be worn when using or transporting the equipment.
4. A person will never expose himself to the bare source.
5. All unauthorized people will be kept back a minimum distance of 5 meters.
6. The gauge will have leak test measurements at time intervals not to exceed six months and will be performed by the radiation protection officer, Patrick L. Ilsley, who was trained by the TROXLER ELECTRONIC LABS., INC. at their standard two-day training course. An initial leak test will be performed before operating the gauges. Leak tests will be performed by using the Troxler Type RK-1 or 38-80 Test Kit. No service will be performed to our gauge by our staff. Service will be performed by the manufacturer.

B. SECURITY

1. Locked cabinet referred to in our sketch plan, is a cabinet exclusively used for radiation equipment, and will bear the radiation symbol with the words "CAUTION: RADIO-ACTIVE MATERIALS". The key to this cabinet will be possessed by the radiation officer and a copy of the key will be locked in the company safe.



#### C. RECORDS AND REPORTS

1. A quarterly physical inventory to account for all sealed sources received and possessed. This record shall be maintained for inspection.
2. Record of leaks shall be maintained for inspection.
3. Film badge service shall be maintained for inspection.
4. When an individual terminates employment, a record of his total received dose will be made available to him.

#### D. INCIDENTS

1. In case of theft or loss or damage of licensed material, a telephone message will be placed to the appropriate agency, including the appropriate State agency, to inform them of the particulars of the incident. Within 30 days after the incident, a written report will be filed with the U.S.N.R.C. giving detailed descriptions, circumstances, possible radiation exposures, hazards, etc., and actions taken. Procedures that will prevent a recurrence of the incident will be included.
2. A report of any over exposure of an operator will be made and sent to the U.S.N.R.C. stating circumstances of the exposure and possible injury

#### E. HANDLING AND EMERGENCY PROCEDURES

1. No personnel will transport or use the nuclear gauge without the approval of the radiation safety officer.
2. Each user will demonstrate their competency to correctly and safely use the nuclear gauge.
3. At the termination of each field use, the nuclear gauge will be transferred to its storage area as indicated on the sketch plan appended to this application.
4. In the event of physical damage to the gauge, a two meter radius exclusion area will be maintained until the extent of source damage (if any) is determined. If a vehicle is involved, it will be stopped and remain stopped until the extent of contamination hazard (if any) is determined. If visual examination of the instrument and source rod indicates damage to the source rod tip, including fracture of the tip or weld, there will be notification to the Department of Health and to the manufacturer and personnel will be kept clear of the instrument. The instrument will be removed from the site by using a shovel or other long handled instrument and placed in a suitable container such as a metal drum. There will be provision made to have the site surveyed after the removal of the instrument to determine if a breakage has occurred. Disposition by the factory, as covered later, will be arranged after a leak test has been performed to determine the integrity of the source before transporting back to the factory.

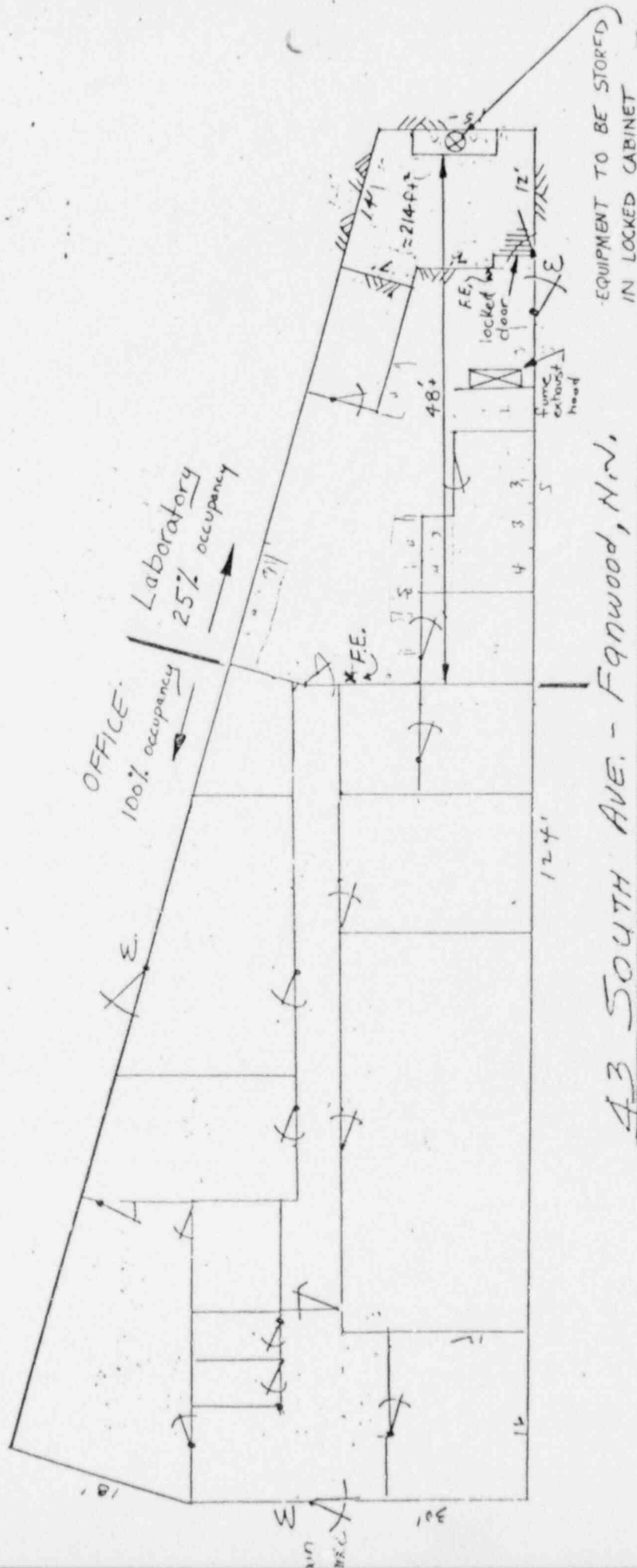
5. Immediate telephone notification will be made to the following in the event of accident (4 above) or the loss of a sealed source, whether accidental or due to theft.

- A. Company Radiological Safety Officer
- B. NRC Regional Office if applicable
- C. State Health Department  
Radiological protection division if applicable
- D. Local Authorities  
Fire dept., sheriff, police, state highway patrol,  
if necessary
- E. The manufacturer

F. TRANSPORT BY PRIVATE MOTOR VEHICLE

1. The source rod lock will be in place and the vehicle locked at all times.
2. The equipment will not be stored less than 1 meter from passengers.

Item 15. Source will be returned to the TROXLER ELECTRONIC LABORATORIES, INC., Cornwallis Road, Research Triangle Park, North Carolina, 27709 for disposal.



43 SOUTH AVE. - Farnwood, N.W.

SKETCH PLAN  
Partitions, Doors and Exits  
Scale  $\frac{3}{32} = 1'-0''$

Legend

E - exit to outside  
FE. - fire extinguisher