

FORM NRC-313 I  
(1-79)  
10 CFR 30

U.S. NUCLEAR REGULATORY COMMISSION

1. APPLICATION FOR:  
(Check and/or complete as appropriate)

APPLICATION FOR BYPRODUCT MATERIAL LICENSE  
INDUSTRIAL

X a. NEW LICENSE

b. AMENDMENT TO:  
LICENSE NUMBER

c. RENEWAL OF:  
LICENSE NUMBER

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.

2. APPLICANT'S NAME (Institution, firm, person, etc.)

B. G. Danis Company  
(513) 228-1225

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

Patrick D. Mullen  
(513) 228-1225 Ext 135

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

4. APPLICANT'S MAILING ADDRESS (Include Zip Code)

P.O. Box 1722  
Dayton, Ohio 45401

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED  
(Include Zip Code)

Route #8  
P.O. Box 390  
South Charleston, W.Va. 25309

(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	TITLE
a. George Smalley	Project Manager
b. Robert Sattler	Technician
c. Patrick Mullen	Operations Engineer

RECEIVED BY LFMB

Date: JAN 8 1980

Log: Jan 8 2 4 N.L.

By: Brown

Orig. To: Brown

7. RADIATION PROTECTION OFFICER

George Smalley

Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under item 15.

8. LICENSED MATERIAL

L I N E  NO.	ELEMENT AND MASS NUMBER  A	CHEMICAL AND/OR PHYSICAL FORM  B	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)  C	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME  D
(1)	Cesium 137	Sealed Source	Troxler-Drwg. No. 102112	No Source to Exceed 9 mci
(2)	Americium 241: Beryllium	Sealed Source	Troxler Drwg. No. 102451	No source to exceed 40 mci
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL

(1) Use Troxler Model No. 3411B to measure density and moisture of soils on construction site.

(2) 20458/10 (x)  
argue.  
Brown

(3) 8062610352

(4) 10pp

## 9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	Moisture-Density Gauge	Troxler	3411B
(2)			
(3)			
(4)			

## 10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT A.	MANUFACTURER'S NAME B.	MODEL NUMBER C.	NUMBER AVAILABLE D.	RADIATION DETECTED (alpha, beta, gamma, neutron) E.	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F.
(1)	None					
(2)						
(3)						
(4)						

## 11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

None

☐ b. CALIBRATED BY APPLICANT

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

## 12. PERSONNEL MONITORING DEVICES

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

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

# 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)

\$110.00

b. CERTIFYING OFFICIAL (Signature)

c. NAME (Type or print)

WARD L. JOHNSON

d. TITLE

VICE PRESIDENT

e. DATE

12-28-79

(1) LICENSE FEE CATEGORY: 3.L

(2) LICENSE FEE ENCLOSED: \$

110.00

APPLICATION FOR BY PRODUCT MATERIAL LICENSE INDUSTRIAL

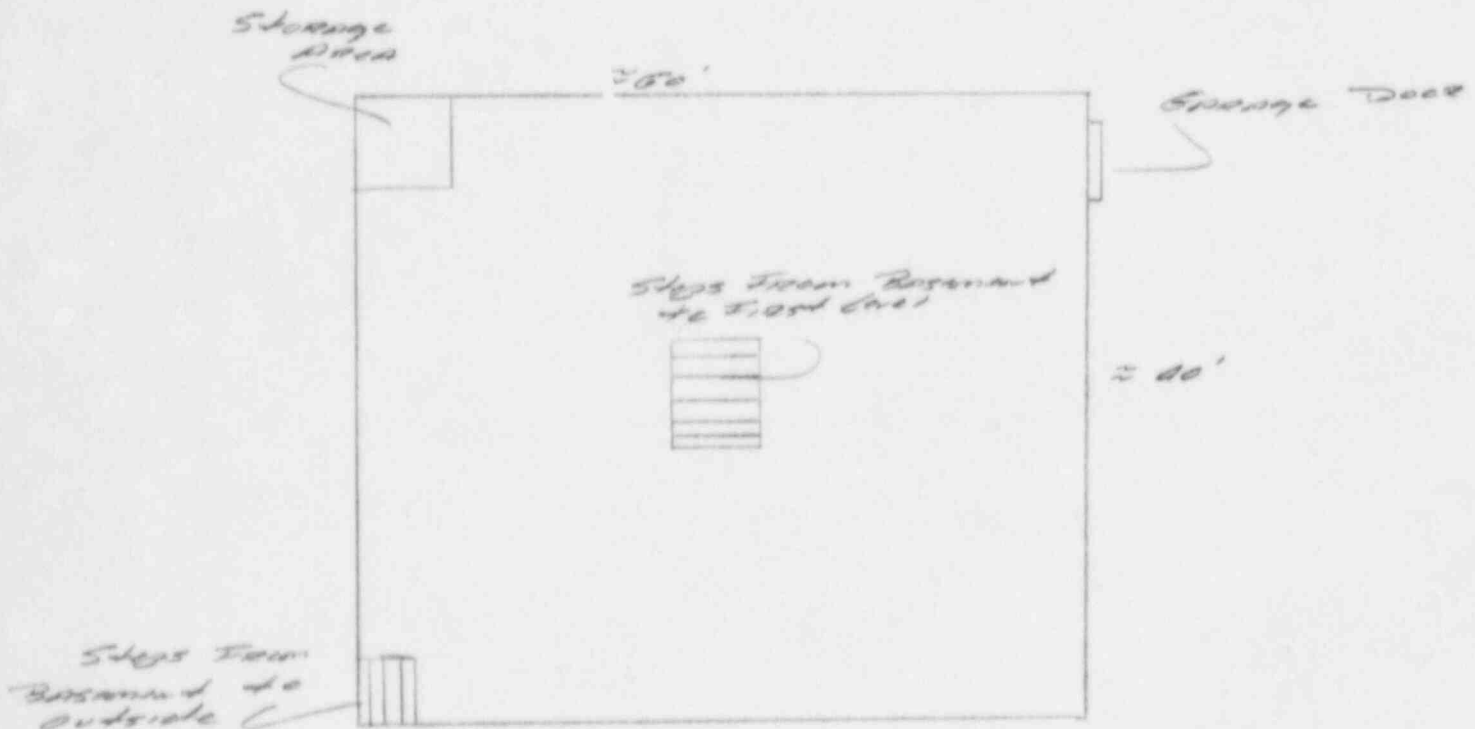
6.) Individual(s) who will use or directly supervise the use of  
licensed material (cont'd).

d. Mike Treon                      Project Manager

13) Facilities and Equipment

The Troxler Model No. 3411B Moisture - Density Gauge will be stored in an existing structure. This structure is a cinder block building. The Moisture-Density Gauge will be kept in the basement which is underground. The door to the basement will be kept locked at all times when the gauge is being stored. All remaining doors will be locked at the close of each work day.

No personnel will be working in the basement. All personnel will be working on the level above the storage area.



*Sketch of Basement showing storage location*

## 15.) Radiation Protection Program

It is the responsibility of the Radiation Protection Officer to insure that the Radiation Protection Program, listed below, is maintained.

### A.) Handling Procedures

- 1) Insure that no one operates the nuclear gauge unless authorized to do so.
- 2) Keep the radioactive source in the stored position when not in use.
- 3) All personnel operating or transporting the nuclear gauge must wear a film badge.
- 4) Never expose employees to the bare source without sufficient reason for justification of the additional dose.
- 5) People, who are unauthorized, shall be kept at a minimum of fifteen (15) feet from an operating gauge. Take all precautions necessary to prevent the general public from being exposed.
- 6) Maintain security of the instrument at all times. The source shall be in a stored or locked position when not in use and shall be kept in a locked vehicle when being transported. When stored in the designated storage area, it shall be secured by a lock.
- 7) The standard operating procedures will be followed. Report any actions that appear as misuse or unsafe conduct by the operator.
- 8) Perform the leak test on the nuclear gauge at the proper intervals as required by the Nuclear Regulatory Commission. The leak test will be performed by a qualified individual under the procedures as outlined by Troxler. The leak test kit used will be a Troxler Model No. 3880.
  - a.) Instruct all operators that any questions that may arise concerning the use of the nuclear gauge should be directed to the Radiation Protection Officer.

### B.) Security

All storage containers shall be physically secured to prevent tampering or removal by unauthorized personnel. Locks will be maintained at all times on the instrument to prevent accidental exposure of the source. Only authorized personnel shall operate the nuclear gauge.

### C.) Personnel Maintaining

Only authorized personnel shall be permitted to use the nuclear gauge. All users must wear a film badge or other types of dosimetry.



D.) Records and Reports

- 1) Conduct quarterly an inventory to account for all sealed sources received and processed under the license. Maintain a record of this inventory on file for inspection.
- 2) Test each sealed source for a leak test at the intervals required by the Nuclear Regulatory Commission. If the source should be transferred in the absence of a leak test certificate, the source shall not be put into use until leak tested.
- 3) Maintain the records from the film badge service on file for inspection.
- 4) Whenever an individual named on the radioactive material license terminates employment, a record of his total received dosage must be made available to the individual.

E.) Incidents

- 1) Report immediately any theft or loss of licensed material by telephone or telegram to the appropriate agency. A written report must be filed within thirty (30) days, detailing the description of the radioactive source, circumstances of the loss, statement of disposition, possible radiation exposures or hazards, actions taken to recover the source, and procedures that will be implemented to prevent a recurrence of the loss or theft.
- 2) In the event that an operator may be overexposed, as stated in No. 10, Part 20 of the Nuclear Regulatory Commission, report immediately the circumstances and possible injuries.

F.) Handling and Emergency Procedures

- 1) No personnel may transport or use the nuclear gauge unless authorized to do so by the Radiation Protection Officer.
- 2) Each operator must demonstrate their ability to correctly and safely operate the nuclear gauge.
- 3) The nuclear gauge will be transported to its regular storage area at the end of field use.
- 4) In the event of physical damage to a gauge, a ten (10) foot radius exclusion area will be maintained until the extent of source damage is determined. If a vehicle is involved, the vehicle must be stopped until the extent of damage is known. If inspection reveals that the source has been damaged or the weld was broken the appropriate authorities and the manufacturer will be notified. The instrument will be moved by using a long handled instrument and placed in a suitable container

such as a metal drum. After the source is removed, the area will be checked for possible contamination. Disposition will be arranged after a leak test has been performed to determine the integrity of the source before shipment back to the manufacturer.

- 5) The following authorities must be notified in the event of an accident or theft.

- a) Company Radiation Protection Officer
- b) Nuclear Regulatory Commission regional office.
- c) State Health Department
- d) Local Authorities
- e) Troxler Electronic Laboratories.

G.) Transport by Private Motor Vehicle

- 1) The equipment, in its containers, may be transported by motor vehicle under the yellow II label without placarding the vehicle. The lock shall be in place and the container placed in a locked portion of the vehicle. The container shall not be stored less than thirty (30) centimeters from passengers in the vehicle.

H.) Disposal

If the instrument is damaged beyond repair, the source shall be transferred to an approved burial facility or returned to the manufacturer.



16) Formal Training in Radiation Safety

- a.) George Smalley will be attending the Troxler Training Course to be held January 28 & 29, 1980 in Cincinnati, Ohio.
- b.) Robert Sattler will be attending the Troxler Training Course to be held January 28 & 29, 1980 in Cincinnati, Ohio.
- c.) Patrick Mullen will be attending the Troxler Training Course to be held January 28, & 29, 1980 in Cincinnati, Ohio.
- d.) Mike Treon will be attending the Troxler Training Course to be held January 28 and 29, 1980 in Cincinnati, Ohio.

17) Experience

- a.) George Smalley will have attended the Troxler Training Course that was held January 28 and 29, 1980 in Cincinnati.
- b.) Robert Sattler will have attended the Troxler Training Course that was held January 28 and 29, 1980 in Cincinnati.
- c.) Patrick Mullen will have attended the Troxler Training Course that was held January 28 and 29, 1980 in Cincinnati.
- d.) Mike Treon will have attended the Troxler Training Course that was held January 28 and 29, 1980 in Cincinnati.

The Certificates of Completion of the Troxler Training Course will be forwarded to the Nuclear Regulatory Commission for proof of attendance.