

# APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

## FEDERAL AGENCIES FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION  
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS  
WASHINGTON, DC 20555

## ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND,  
MASSACHUSETTS, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND,  
OR VERMONT, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
NUCLEAR MATERIAL SECTION B  
631 PARK AVENUE  
KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA,  
PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR  
WEST VIRGINIA, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION II  
MATERIAL RADIATION PROTECTION SECTION  
101 MARIETTA STREET, SUITE 2900  
ATLANTA, GA 30323

## IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR  
WISCONSIN, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
MATERIALS LICENSING SECTION  
799 ROOSEVELT ROAD  
GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA,  
NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH,  
OR WYOMING, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
MATERIAL RADIATION PROTECTION SECTION  
611 RYAN PLAZA DRIVE, SUITE 101  
ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON,  
AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS  
TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V  
MATERIAL RADIATION PROTECTION SECTION  
1450 MARIA LANE, SUITE 210  
WALNUT CREEK, CA 94596

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

## 1. THIS IS AN APPLICATION FOR (Check appropriate item)

- ☒ A. NEW LICENSE  
☐ B. AMENDMENT TO LICENSE NUMBER \_\_\_\_\_  
☐ C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

## 2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code)

Shappert Engineering Company  
P.O. Box 157  
Belvidere, Illinois 61008

## 3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Temporary jobsites in Illinois, Wisconsin, Iowa, and Minnesota. Storage between jobs will be at Shappert Engineering Company, Blaine Street, Belvidere, Illinois

## 4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Richard Drewek

## TELEPHONE NUMBER

815-547-5481

SUBMIT ITEMS 5 THROUGH 11 ON 8 1/2 x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

## 5. RADIOACTIVE MATERIAL

a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.

## 7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE

## 9. FACILITIES AND

8506210153 850531  
REG3 LIC30  
12-24513-01 PDR

## 11. WASTE MANAGEMENT

## 6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED

## 8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS

## 10. RADIATION SAFETY PROGRAM

## 12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY Byproduct  
Material License AMOUNT ENCLOSED \$230.00

## 13. CERTIFICATION (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN, IS TRUE AND CORRECT TO THE BEST OF THEIR 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.

## SIGNATURE—CERTIFYING OFFICER

## TYPED/PRINTED NAME

## TITLE

## DATE

Frank M. Shappert

President

5-21-85

## 14. VOLUNTARY ECONOMIC DATA

### a. ANNUAL RECEIPTS

<\$250K	\$1M-3.5M
\$250K-500K	\$3.5M-7M
\$500K-750K	\$7M-10M
\$750K-1M	>\$10M

### b. NUMBER OF EMPLOYEES (Total for entire facility excluding outside contractors)

### c. NUMBER OF BEDS

d. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Dollar and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOUR FACILITY? (NRC regulations permit it to protect confidential commercial or financial—proprietary—information furnished to the agency in confidence)

YES

## FOR NRC USE ONLY

## TYPE OF FEE

## FEE LOG

## FEE CATEGORY

## COMMENTS

## AMOUNT RECEIVED

## CHECK NUMBER

\$230

08444

CONTROL NO. 790075/85

## PRIVACY ACT STATEMENT

Pursuant to 5 U.S.C. 552a(e)(3), enacted into law by section 3 of the Privacy Act of 1974 (Public Law 93-579), the following statement is furnished to individuals who supply information to the Nuclear Regulatory Commission on NRC Form 313. This information is maintained in a system of records designated as NRC-3 and described at 40 Federal Register 45334 (October 1, 1975).

1. **AUTHORITY:** Sections 81 and 161(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2111 and 2201(b)).
2. **PRINCIPAL PURPOSE(S):** The information is evaluated by the NRC staff pursuant to the criteria set forth in 10 CFR Parts 30, 32, 33, 34, 35 and 40 to determine whether the application meets the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations, for the issuance of a radioactive material license or amendment thereof.
3. **ROUTINE USES:** The information may be (a) provided to State health departments for their information and use; and (b) provided to Federal, State, and local health officials and other persons in the event of incident or exposure, for their information, investigation, and protection of the public health and safety. The information may also be disclosed to appropriate Federal, State, and local agencies in the event that the information indicates a violation or potential violation of law and in the course of an administrative or judicial proceeding. In addition, this information may be transferred to an appropriate Federal, State, or local agency to the extent relevant and necessary for an NRC decision or to an appropriate Federal agency to the extent relevant and necessary for that agency's decision about you.
4. **WHETHER DISCLOSURE IS MANDATORY OR VOLUNTARY AND EFFECT ON INDIVIDUAL OF NOT PROVIDING INFORMATION:** Disclosure of the requested information is voluntary. If the requested information is not furnished, however, the application for radioactive material license, or amendment thereof, will not be processed. A request that information be held from public inspection must be in accordance with the provisions of 10 CFR 2.790. Withholding from public inspection shall not affect the right, if any, of persons properly and directly concerned need to inspect the document.
5. **SYSTEM MANAGER(S) AND ADDRESS:** U.S. Nuclear Regulatory Commission  
Director, Division of Fuel Cycle and Material Safety  
Office of Nuclear Material Safety and Safeguards  
Washington, D.C. 20555

RECEIVED  
JAN 11 1976  
NRC-3

## 5. Radioactive Material

<u>Element and Mass Number</u>	<u>Chemical and/or Physical Form</u>	<u>Manufacturer and Model Number</u>	<u>Maximum Activity</u>
CS 137	Sealed Source	Troxler Drawing #102112 Model 3411B	No source to exceed 9 millicuries
AM241: Be	Sealed Source	Troxler Drawing #102451 Model 3411B	No source to exceed 40 millicuries

## 6. Purpose for which material will be used

For use in Troxler 3400 series Moisture - Density gauge to measure properties of construction materials.

## 7. Individuals responsible for radiation safety program and their training and experience

Richard J. Drewek, the designated Radiation Protection Officer, will report to management on radiation safety matters and will supervise and coordinate the following:

- 1) The safe use of the gauges.
- 2) Assure compliance with the requirements of Title 10 CFR Parts 19, 20, 30 or applicable state regulations, and all applicable US DOT regulations.
- 3) Assure byproduct materials possessed under the license are in conformity to materials listed on the license.
- 4) Assure that use of devices (particularly in the field) is only by persons named as users under the license or persons who have completed acceptable training.
- 5) Assure all users wear personnel monitoring (when required) while using gauges.
- 6) Assure gauges are properly secured against unauthorized removal at all times.
- 7) To serve as point of contact and give assistance in case of emergency - to insure all proper authorities are notified promptly in case of accident.
- 8) Assure that terms of license are met such as:
  - a) Periodic leak tests are performed;
  - b) All required records are kept and reviewed periodically for compliance with regulations - these include source certificate, leak test records, personnel exposure records, and transfer of radioactive materials.

Mr. Drewek also serves as Manager of Quality Assurance for safety-related and Class I construction in accordance with the requirements of Appendix B to 10 CFR 50, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants.

Mr. Drewek completed Troxler Electronic Laboratories training program on January 25, 1980, under the instruction of Mr. Greg Hicks of the Troxler Lab. The "Training Course for the Use of Nuclear Testing Equipment" dealt with radiological safety principles and practices, regulatory requirements and instructions and practice in using the device.

#### 8. Training provided to other users.

Employees using the nuclear moisture-density meter will have completed Troxler's training program. A list of employees who have successfully completed the training course is on file in our Belvidere office.

#### 9. Facilities and Equipment

Permanent storage will be in our home office in Belvidere, Illinois. The gauge will be kept in our basement, which is unoccupied, in a record storage room which is constructed of concrete block against a reinforced concrete outside wall. This room is fireproof and is kept locked at all times. A night watchman patrols the property during non-working hours.

The standard radiation symbol will be posted on the outside face of the locked storage room door and another sign will be posted on the inside wall above the stored gauge.

At temporary jobsites in Iowa, Illinois, Wisconsin, and Minnesota, the temporary storage facilities will be locked and posted in a manner similar to the permanent storage facilities.

#### 10. Radiation Safety Program:

##### A. HANDLING PROCEDURES - COMPANY SAFETY PROGRAM

The Troxler instruments were designed with operator safety as a prime consideration; however, as with any piece of potentially hazardous equipment, some general precautions should be observed.

1. Do not operate or attempt to operate the instrument unless you have been authorized to do so.
2. Keep the source position in the "SAFE" or stored position when not in use.

3. Wear a film badge or other dose measurement device when using or transporting the instrument.
4. While exposure dose levels are well within limits for radiation workers, never expose yourself to the bare source without sufficient reason for justification or the additional dose.
5. Keep all unauthorized persons out of the operating area. A suggested distance is 5 meters or 15 feet. The general public must not be unnecessarily exposed to radiation.
6. Maintain security of the instrument at all times. The source lock should be in place when not in use and the instrument should be kept in a locked vehicle when transported. When stored, the area should be locked. Not only is it an expensive piece of equipment but, if stolen, could be abandoned under conditions which could be hazardous.
7. Every user organization has standard operating procedures; the operator should follow those procedures and report any that he feels are unsafe.
8. Insure that the gauge has had leak tests performed at the intervals required by your Radioactive Materials License.
9. If you have any doubts about use of the instrument, ASK. Your Radiological Safety Officer either has the answer or can obtain one.

#### B. SECURITY

Regulations require that locks be maintained on radiographic equipment to prevent accidental exposure of a sealed source when not under the direct supervision of approved personnel. In addition, storage containers shall be physically secured to prevent tampering or removal by unauthorized personnel.

#### C. PERSONNEL MONITORING

The licensee should not permit any person to use this equipment unless at all times the user is in the possession of a film badge or other form of dosimetry.

#### D. RECORDS AND REPORTS

1. Each licensee should conduct a quarterly physical inventory to account for all sealed sources received and possessed under his license. The inventory record should be maintained for inspection.
2. Each licensee should have all sealed sources leak tested at the interval required by the license. The leak test will be performed at 6-month intervals using a Troxler Type 3880 Leak Test Kit



(part number 102868). Samples will be taken by individuals specified under Item 8 of this application.

3. Reports from film badge service must be maintained for inspection.
4. When an individual terminates employment with a licensee, a record of his total received dose must be made available to the employee.

#### E. INCIDENTS

1. The licensee must report any theft or loss of licensed material by telephone or telegram to the appropriate agency, including the appropriate State agency. Within 30 days after the loss, a written report must be filed giving detailed descriptions of the source, circumstances of the loss, statement of disposition, possible radiation exposures or hazard, actions taken to recover the source, and procedures which will be implemented to prevent a recurrence of the loss or theft.
2. The licensee must report any overexposure of operators which exceeds the limits given in 10 CFT part 20, detailed circumstances of the exposure and possible injury.

#### F. HANDLING AND EMERGENCY PROCEDURES

1. No personnel may transport or use the nuclear gauges unless the individual has been approved by the radiological safety officer and the requirements of these procedures are met.
2. Each user must demonstrate their ability to correctly and safely use the nuclear gauge.
3. At the termination of each field use, the nuclear gauge will be transferred to its regular storage area.
4. In the event of physical damage to a gauge, a six (6) foot radiation exclusion area should be maintained until the extent of source damage (if any) is determined. If a vehicle is involved, it must be stopped and remain stopped until the extent of contamination hazard (if any) is determined. If visual examination of the instrument and source indicates damage to the source, including fracture of the weld, the appropriate authorities and Troxler Electronic Laboratories, Inc. should be notified. The instrument may 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. Provisions should be made to have the site surveyed for possible contamination after the instrument is removed. Disposition by the factory, as covered later, could be arranged after a leak test had been performed to determine the integrity of the source before shipment back to the factory.

5. Immediate telephone notification must 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 Department, Sheriff, Police, State Highway Patrol,  
if necessary;
- e. Troxler Electronic Laboratories, if necessary.

G. TRANSPORT BY PRIVATE MOTOR VEHICLE

The equipment, in its container, may be transported by motor vehicle under the "YELLOW II" label without placarding the vehicle as required by 49 CFR 177.823.

The lock should be in place and the container placed in a portion of the vehicle which can be locked. When not in transit, the equipment should be stored in a secured area.

Since the container has a Transport Index of 0.1 or greater, it may not be stored less than 30 centimeters from passengers per 49 CFR 174.586.

The requirements for package labeling are as specified in Subpart E of 49 CFR Part 172 of the DOT regulations. The general requirements for shipping and packaging radioactive material are as listed in Subpart I of 49 CFR Part 173 of the DOT regulations.

11. Waste Management

If necessary, disposal will be made by transferring the radioactive material to Troxler Industries, the original supplier of the device.