

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.)

City of Kirksville

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION  
665-7792 816 44

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

Robert Hitt

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION  
665-7792 816 44

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

City Engineer  
City of Kirksville  
201 South Franklin Street  
Kirksville, MO 63501

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

At address listed in item #4 and at temporary jobsites anywhere NRC maintains jurisdiction.

(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. Robert S. Hitt	City Engineer
b. William V. Frogge	Assistant City Engineer
c. Lionel C. Bland	Engineering Technician

7. RADIATION PROTECTION OFFICER To

Lionel C. Bland

Action Compl. 7/2/80

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

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
A	B	C	D	
(1)	Cs 137	Sealed Source	Troxler Drawing #102112	No Source to exceed 9 mCi
(2)	Am241:Be	Sealed Source	Troxler Drawing #102451	No Source to exceed 40 mCi
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL  
E

- (1) For used in Troxler 3400 series Moisture-Density gauge to measure properties of  
(2) construction materials.

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INSPECTION AND ENFORCEMENT

FEE EXEMPT

170-11(a)(1)

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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. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	Moisture Density Gauge	Troxler Electronics	3400 series
(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

N/A

☐ 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 Suggested badge P1 <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) <input type="checkbox"/> (3) OTHER (Specify): _____ _____ _____	R.S. Landauer, Jr. Co. Glenwood Science Park Glenwood, Illinois 60425 (312) 755-7000	<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. Attach sketch showing  
☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC. distance between gauge and nearest fulltime work-  
☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC. ing area.

## 14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

Sources will be returned to manufacturer.

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:

SEE ATTACHED SHEETS

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.
 

Troxler Electronic Labs, Inc.

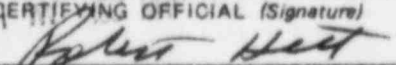
  - a. Principles and practices of radiation protection. two day training or enter any acceptable Radiological Training.
  - b. Radioactivity measurement standardization and monitoring techniques and instruments.
  - c. Mathematics and calculations basic to the use and measurement of radioactivity.
  - 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.

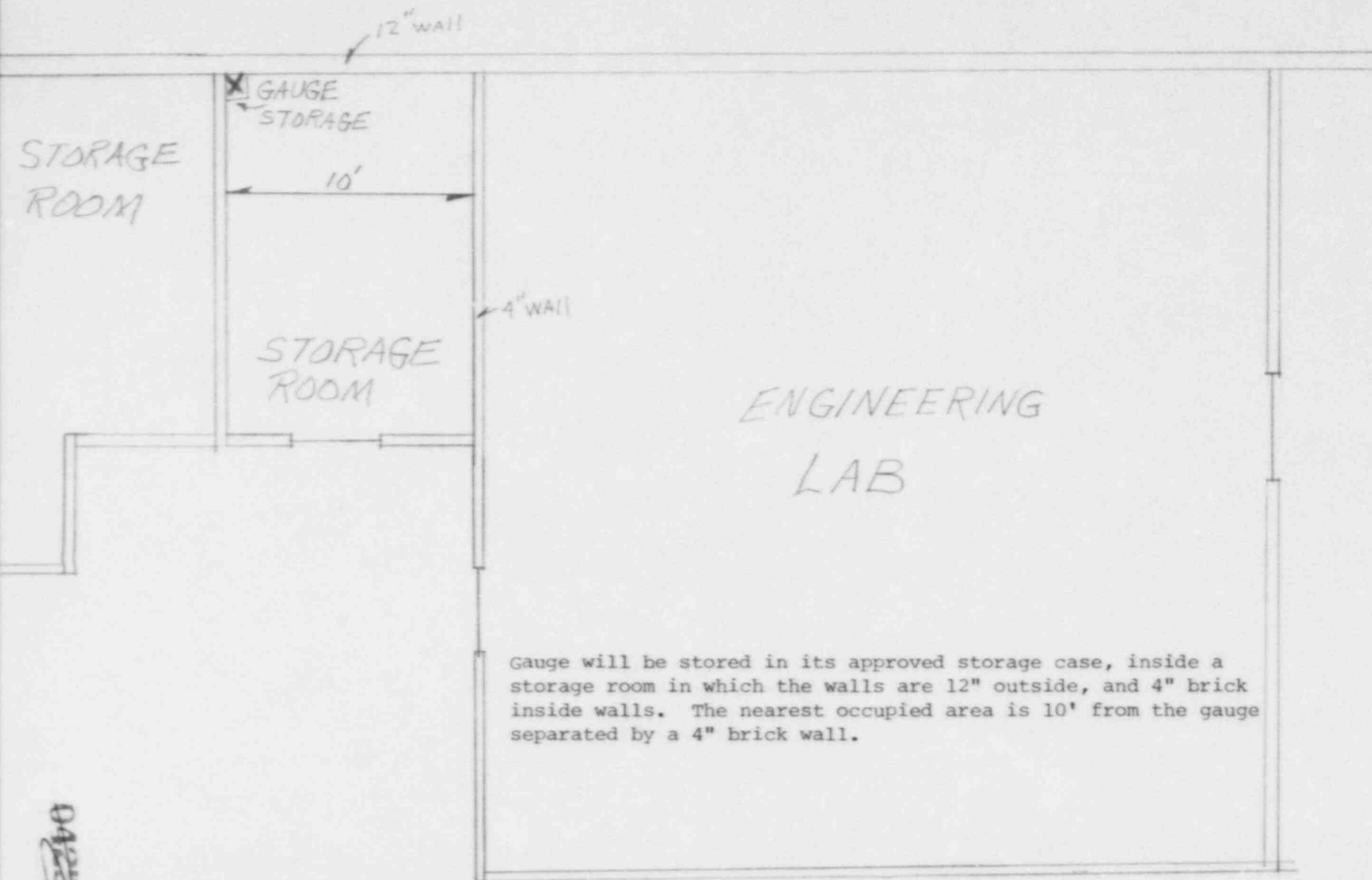
## 18. CERTIFICATE

*(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.

<b>a. LICENSE FEE REQUIRED</b> <i>(See Section 170.31, 10 CFR 170)</i> Application: \$110.00 N/A Renewal: \$110.00 Amendment: \$ 40.00	<b>b. CERTIFYING OFFICIAL (Signature)</b>  <b>c. NAME (Type or print)</b> RECEIVED Robert Hitt
<b>(1) LICENSE FEE CATEGORY:</b> Category 3.L N/A	<b>d. TITLE</b> City Engineer
<b>(2) LICENSE FEE ENCLOSED: \$ 110.00</b>	<b>e. DATE</b> 5/20/80



04/20/75

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Item 15:

RADIATION PROTECTION OFFICER

The named individual, reporting to management on radiation safety matters, will coordinate:

1. The safe use of the gauges.
2. Assure compliance with the requirements of Title 10 CRF Parts 19, 20, 30 or applicable state regulations, and all applicable US DOT regulations.
3. Assure by product 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 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 accidents.
8. Assure that terms conditions 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.

HANDLING PROCEDURES

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 of 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 will 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 will be kept in a locked vehicle when transported. When stored, the area will be locked. Not only is it an expensive piece of equipment but, if stolen, could be abandoned under conditions which could be hazardous.
7. Insure that the gauge has had leak tests performed at the intervals required by our Radioactive Materials License.
8. If you have any doubts about use of the instrument, ASK. Your Radiological Safety Officer either has the answer or can obtain one.
9. Operator should report any procedures or conditions which he feels are unsafe.

PERSONNEL MONITORING

1. In our operation we will be using a film badge type of monitoring device, checked on a monthly basis. Radiation Officer will be responsible for all personnel monitoring records and enforce mandatory wearing of badges by personnel.

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2. Radiation Officer will report any overexposure of operators which exceeds the limits given in 10 CFR part 20, detailing circumstances of the exposure and possible injury.

#### EMERGENCY AND SECURITY PROCEDURES

1. No personnel may transport or use the nuclear gauge 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. (See attached Sheet)
4. In the event of physical damage to a gauge, a six (6) feet radius 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. will 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, 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 dept., sheriff, police, state highway patrol,  
if necessary
  - E. Troxler Electronic Laboratories, if necessary

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Item 16:

Robert S. Hitt

Troxler Electronic Labs, Inc.  
Two day Radiological Safety Training Course  
Currently being scheduled

William V. Frogge

Troxler Electronic Labs, Inc.  
Two day Radiological Safety Training Course  
Currently being scheduled

Lionel C. Bland

Troxler Electronic Labs, Inc.  
Two day Radiological Safety Training Course  
Currently being scheduled

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Item # 17:

Robert S. Hitt  
No previous experience

William V. Frogge  
No previous experience

Lionel C. Bland  
Worked as Radar operator with AN-MPQ-4A target location Radar, Training  
obtained at Fort Sill Oklahoma, Field Artillery Training School, 4 years  
experience in Missouri Army National Guard, Unit # 128 th BTRY. B, FA.TA