

6/3 Reg. & JCS.

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

02 license

b. AMENDMENT TO:
LICENSE NUMBER

c. RENEWAL OF:
LICENSE NUMBER

~~000000~~

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 OWOSSO

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

723-8844 517

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

RONALD BAKER

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

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

301 West Main Street
Owosso, Michigan 48867

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. Ronald Baker

City Engineer

b. Gary Burk

Utilities Engineer

7. RADIATION PROTECTION OFFICER

Ronald Baker

Attach 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)	Cs 137	Sealed Source	Troxler Drawing #102112	No Source to exceed 9mCi
(2)	Am241:Be	Sealed Source	Troxler Drawing #102451	No source to exceed 40mCi
(3)				
(4)				

License fee information

on Reverse Side

DESCRIBE USE OF LICENSED MATERIAL
E

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

FEE EXEMPT

FORM NRC-313 I (1-79)

COPIES SENT TO OFF. OF
INSPECTION AND ENFORCEMENT

8006130169

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

<input type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY N/A	<input type="checkbox"/> 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 G <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.
☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.
☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

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:

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)

RECEIVED BY LFMH	
Date	JUN 4 1980
Log	June PG 2 A.L.
By	Brown
Orig To	
Action Compl	6/4/80

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) <div style="float: right;">65 01 WY 6 APR 80</div> Application: \$110.00 Renewal: 110.00 Amendment: \$40	b. CERTIFYING OFFICIAL (Signature) <div style="text-align: right;">6/3 - Reg III notified in app assigned - 7/21/80</div>
(1) LICENSE FEE CATEGORY: Category 3.L	c. NAME (Type or print) Ronald Baker
(2) LICENSE FEE ENCLOSED: \$ \$110.00	d. TITLE City Engineer
	e. DATE April 28, 1980 (Signature) See 0384

RADIATION PROTECTION PROGRAM

A. HANDLING PRECEDURES:

1. Do not operate, attempt to operate or transport 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 (if required).
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 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. Insure that the gauge has had leak tests performed at the intervals required by your 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.

B. SECURITY:

Locks shall be maintained on the equipment to prevent accidental exposure of the 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. Be sure that use of devices (particularly in the field) is only by persons having authorization.

C. PERSONNEL MONITORING:

If personnel monitoring is required by the license, no person shall use equipment unless he is in possession of the appropriate form of dosimetry.

D. RECORDS AND REPORTS

1. A biannual physical inventory to account for all sealed sources received and possessed under the license shall be performed. The inventory record shall be maintained for inspection.
2. All sealed sources shall be leak tested at the interval required by the license. When transferred, in the absence of a leak test certificate, the source shall not be put into use until tested.

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

E. INCIDENTS:

1. Immediate telephone notification must be made to the following in the event of loss of a sealed source, whether accidental or due to theft:

- A. Company Radiological Safety Officer
- B. U. S. NRC Regional Office, if applicable
- C. State Health Department
Radiological Protection Division, if applicable
- D. Local Authorities
Police, Fire, sheriff, State Highway Patrol, if necessary
- E. Troxler Electronic Laboratories, if necessary

Within 30 days after the loss, a written report must be filed giving detailed description 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. Any overexposure of operators which exceeds the limits given in 10 CFR Part 20, shall be reported detailing circumstances of the exposure and possible injury.

F. EMERGENCY PROCEDURES:

1. In the event of physical damage to a gauge, a fifteen (15) 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. 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.
2. Provisions should be made to have the site surveyed for possible contamination after the instrument is removed. Disposition by the factory, as covered in Item 14 may be arranged after a leak test has been performed to determine the integrity of the source prior to shipment to the factory.

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

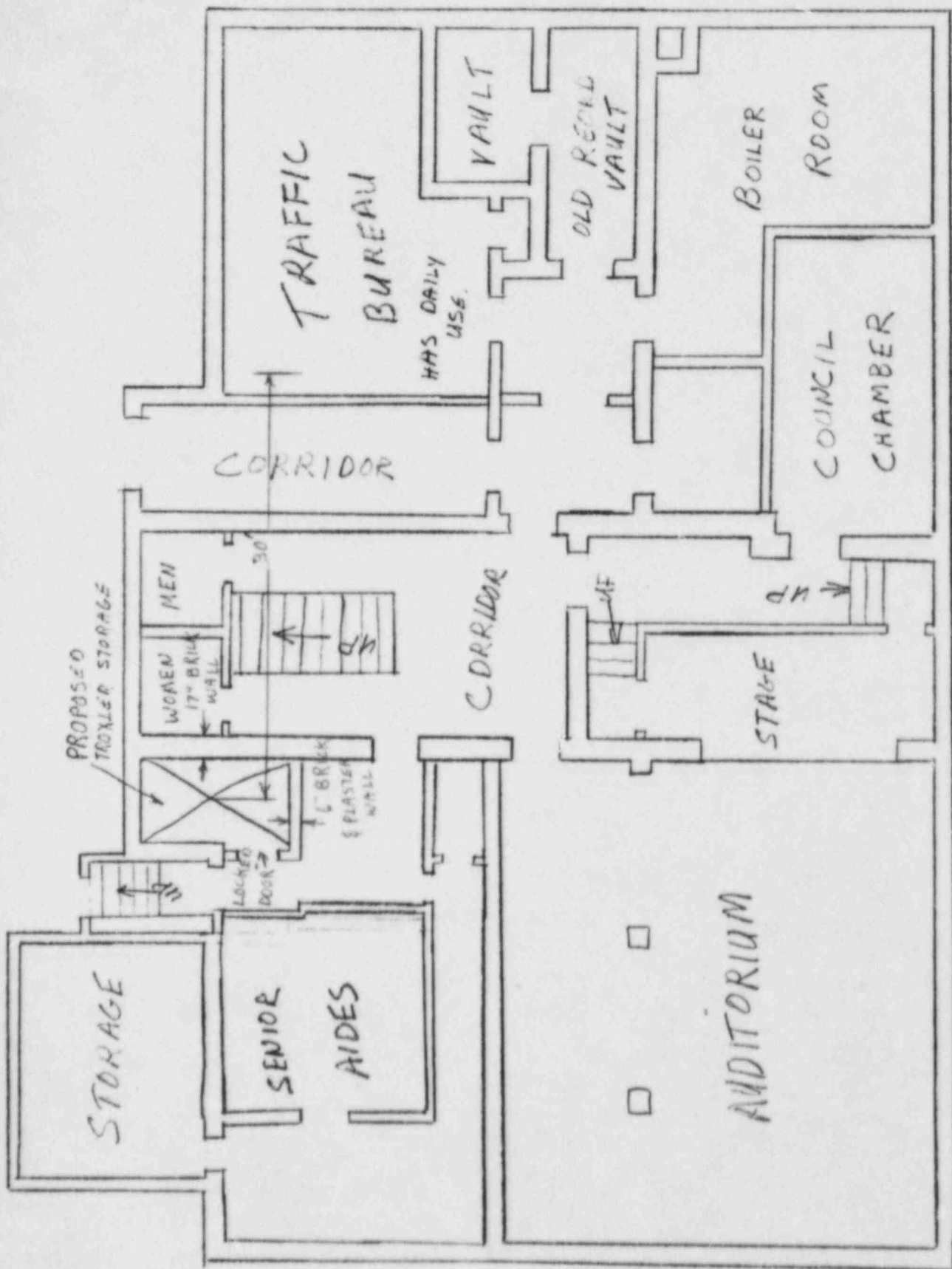
Since the container has a Transport Index of 0.1 or greater it may not be stored less than 30 centimeters from passengers per 49 CFR 174.586. It also can not be stored for more than 8 hours at less than 1 meter from undeveloped film.

TRAINING

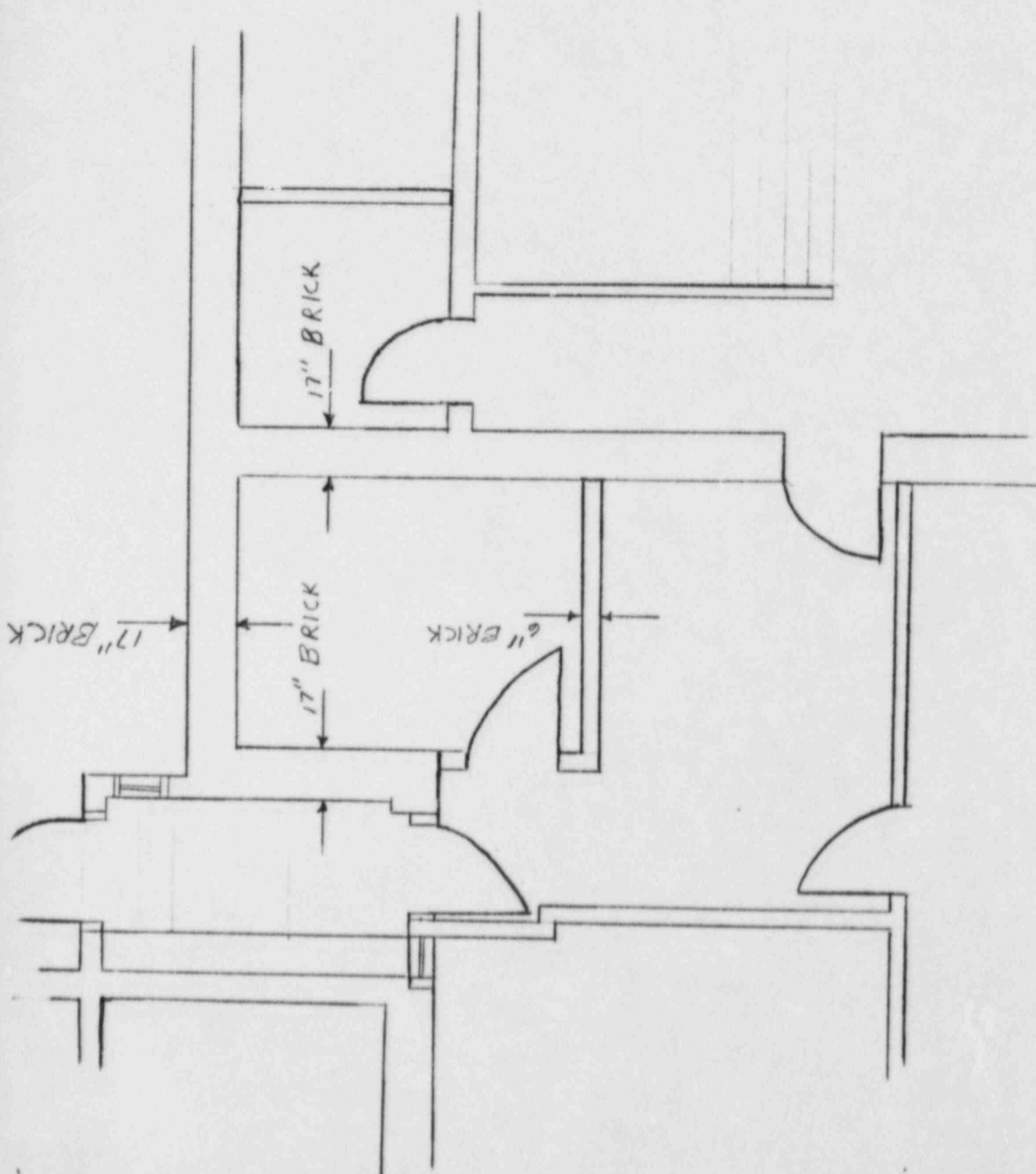
Troxler Electronic Laboratories, Inc. standard training course or other acceptable radiation safety training.

EXPERIENCE

Troxler Electronic Laboratories, Inc. standard training course and any additional training or experience with radioactive materials for each person listed under Item 6 and 7.



THE CITY ENGINEER AND UTILITIES ENGINEER
WILL HAVE THE ONLY KEYS TO THE STORAGE ROOM.



RESUME'

RONALD BAKER
CITY ENGINEER

- June 1973 B.S. Degree in Civil Engineering from Michigan State University.
- 1973 - 1978 Field Engineer for a road and sewer contractor. A nuclear moisture density meter was most often used by the Engineers and I became familiar with its use in checking soil.
- 1978 - 1979 Assistant City Engineer, City of Albion, Michigan. Responsible for city construction projects.
- 1979 - Present City Engineer, City of Owosso, Michigan. Responsible for utility construction and street construction.

RESUME'

GARY M. BURK
UTILITIES ENGINEER

EDUCATION: B.S. (Engineering) University of Michigan

M.S. (Civil-Water Resources Engineering) University of Michigan 1976.

RELATED WORK EXPERIENCE:

City of Owosso: performed various design and construction engineering tasks related to underground (water and sewer) and street construction. Specified backfill, embankment, and roadway compaction requirements. Performed limited compaction tests using a Reinhart and Speedy Moisture Tester. Have utilized independent testing consultants for most projects.