

030-14170

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				a. NEW LICENSE	
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 1217 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.				b. AMENDMENT TO: LICENSE NUMBER X 12-18787-01	
				c. RENEWAL OF: LICENSE NUMBER	
2. APPLICANT'S NAME (Institution, firm, person, etc.)  Central Illinois Light Company  TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 309-672-5271		3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION L.H. Haynes, Environmental Manager  TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 309-672-5477			
4. APPLICANT'S MAILING ADDRESS (Include Zip Code) 300 Liberty Street Peoria, Illinois 61602		5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code) Duck Creek Station RR #5 Canton, Illinois 61520			
(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. Mr. David Tomlinson			Instrument and Chemical Maintenance Supervisor		
b.					
c. (For item 16 & 17 see attached sheets)					
7. RADIATION PROTECTION OFFICER Mr. David Tomlinson			Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15. (see attached sheets for these 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)	Cesium - 137	sealed source	As per Troxler drawing #A-102112	No single source to exceed 9 m Ci	
(2)	Americium - 241: Beryllium	sealed source	As per Troxler drawing #A-102451	No single source to exceed 40 m Ci	
(3)					
(4)					
DESCRIBE USE OF LICENSED MATERIAL E					
(1)	To be used as a component of TROXLER surface moisture-density gauge				
(2)	Model 3411B to measure properties of construction materials				
(3)					
(4)					

CONTROL NO. 06342

## 9. STORAGE OF SEALED SOURCE

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)	Surface Moisture Density Gauge	TROXLER Electronic Lab., Inc.	3411B(quantity 1)
(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)	Portable Survey Meter	Victoreen Instrument Co.	meter model #493 probe model #493-50	4	gamma-beta	0-50 mR/hr
(2)						
(3)						
(4)						

## 11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☒ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY  
Victoreen Instrument Company  
10101 Woodland Avenue  
Cleveland, Ohio 44104

yearly

☐ 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 Type G	R. S. Landaur Jr. and Company Glenwood Science Park Glenwood, Illinois 60425 312/755-7000	<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 were 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.

See Attachment #1

## 14. WASTE DISPOSAL

## a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

Not Applicable

## 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.

No waste disposal is involved. In the event that the gauge is damaged or its use discontinued, we shall notify Troxler Electronic Laboratories, Inc. for removal and return the gauge for repair or disposal of the source material.

# 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 attachment #1

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.

<p>a. LICENSE FEE REQUIRED (See Section 170.31, 10 CFR 170)</p> <p>\$40.00</p>	<p>b. CERTIFYING OFFICIAL (Signature) <i>R. L. Rainson</i></p> <p>c. NAME (Type or print) R.L. Rainson</p>
<p>(1) LICENSE FEE CATEGORY: 3.L</p>	<p>d. TITLE Vice-President, Energy Supply</p>
<p>(2) LICENSE FEE ENCLOSED: \$ 40.00</p>	<p>e. DATE April 29, 1982</p>

13. The gauges shall be stored when not in use in Troxler Model 10210G Molded Transport case. The gauge and case shall be kept under lock when in storage. The storage area is located in a 22' long temporary trailer on the construction site. When authorized personnel are not at the storage area the storage area shall be securely locked to prevent unauthorized removal of the gauge. Construction personnel will be working in the trailer for approximately four (4) hours per day.
15. This addendum describes the procedures to be followed as part of our Radiation Safety Program.
  - I. Location of source in relation to other plant areas
  - II. Radiation Survey - Source housing maintenance
  - III. Control measures
  - IV. leak testing
  - V. procedures to be followed if source housing is damaged
  - VI. waste case personnel radiation exposure
  - VII. Transportation by private motor vehicle
- 15.I. See diagram 15.I A
- 15.II Our personnel will receive specific training at the time the instrument is received at the Duck Creek Station. This training will include construction features of the device, source integrity, beam geometry and intensity and operating details of the device. Any precautionary steps like the addition of shielding, signs or precautions to be taken will be covered at this time in accordance with Troxler operating procedures and training.
- 15.III.
  1. No one shall operate, attempt to operate, or transport the instrument unless you have been authorized to do so.
  2. The source shall be kept in a "safe" or stored position when not in use.
  3. 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.
  4. Keep all unauthorized persons out of the operating area. A suggested distance is 15 feet. The general public must not be unnecessarily exposed to radiation.
  5. At all times the gauge shall be secured against unauthorized removal.
  6. Locks shall be maintained on the equipment to prevent accidental exposure of the sealed source when not under the direct supervision of authorized personnel. In addition, storage containers shall be physically secured to prevent tampering or removal by unauthorized personnel.
  7. All users shall wear personnel monitoring (film badges) while using the gauge.

- 15.IV. Leak Tests on the Troxler moisture-density gauge source holders are accomplished by using Troxler Model 3800 Leak Test Kit. The Radiation Protection Officer will perform the leak test by following the Troxler leak test procedure. In addition, we wish to have our license worded to allow a 3 (three) year source wipe interval on the device listed. The Radiation Protection Officer will perform the leak test each 3 years.
- 15.V. Emergency procedure to be followed after damage to Troxler source holders:
1. This procedure applies to all instances where damage is incurred by the source holder due to such action as fire, etc.
  2. Immediately rope off the area around the source to a minimum of 15 feet in diameter.
  3. Inform by telephone or telegram the regional NRC office of the accident.
  4. Notify Troxler Electronic Laboratories, Inc. at (312)/587-7273 and await further instructions.
  5. Limit access to source head until a radiation survey and source wipe can be performed by the Radiation Protection Officer or a representative of Troxler Electronic Laboratories, Inc.
  6. If the rod containing the source becomes separated from the gauge, the rod will be picked up using pliers or tongs and inserted into the top of the instrument, thus providing shielding. The rod shall then be secured in place using tape to prevent accidental unshielding of the source.
- 15.VI. Based upon working conditions and physical accessibility, we estimate that one (1) person would routinely be using the instrument twenty (20) hours per week.
- 15.VII. 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 device shall be locked and its container placed in a portion of the vehicle which can be locked. When not in transit the equipment shall 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 40 CFR 174.586. It also shall not be stored for more than 8 hours at less than 1 meter from undeveloped film.



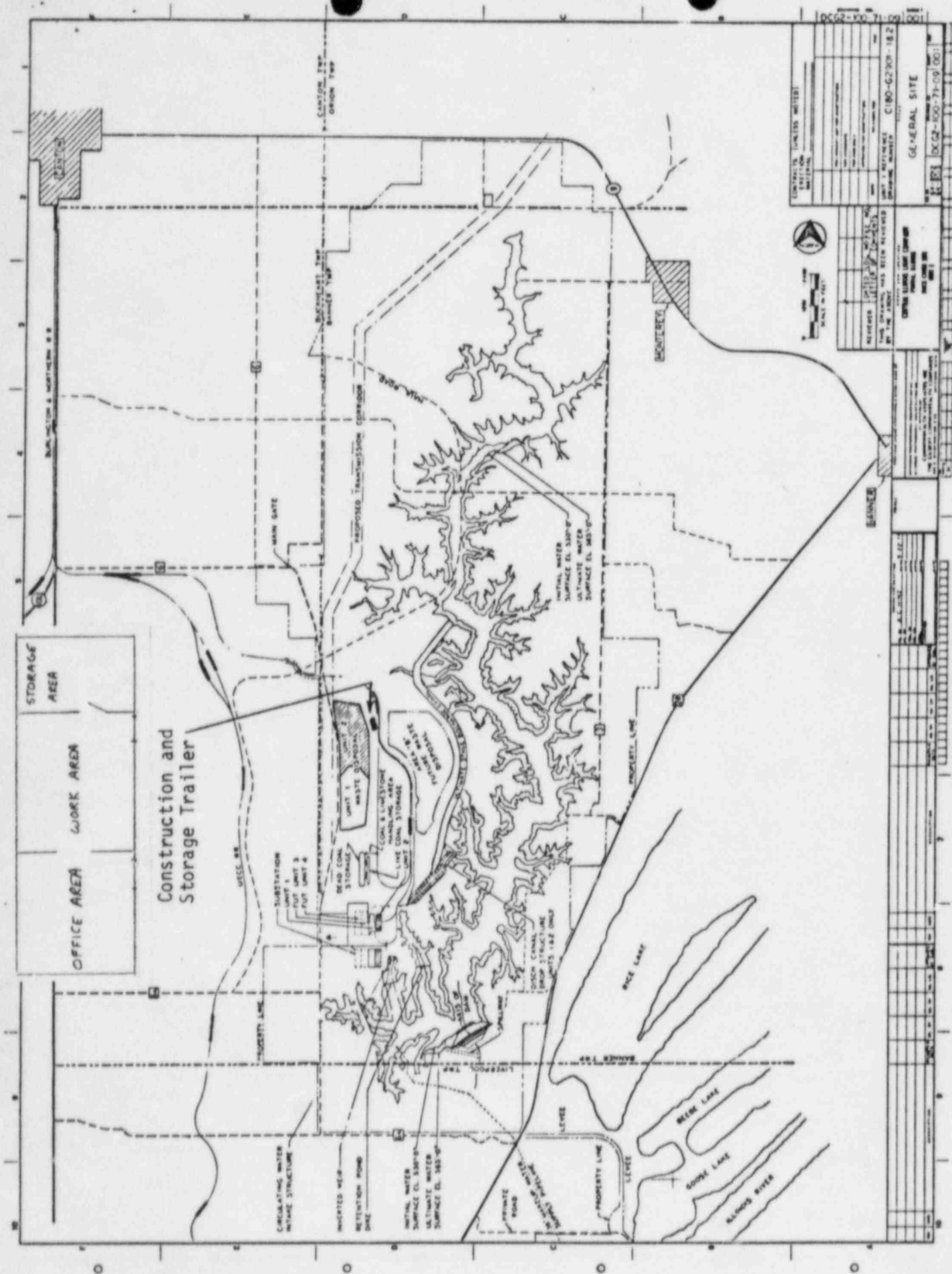


Diagram 15.1 A

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC HEALTH

APPLICATION FOR RADIOACTIVE MATERIALS LICENSE  
Supplement B - Training and Experience

TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEMS 4 AND 5 ON FORM IDPH.KLM.001

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CONTROL NO. 06542