

DCS  
NEW 242

FORM NRC-313 I (1-79) U.S. NUCLEAR REGULATORY COMMISSION  
10 CFR 20

1. APPLICATION FOR: (Check and/or complete as appropriate)  
21-20098-01  
030-17958

APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL

X a. NEW LICENSE

See attached instructions for details.

Completed as 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.

b. AMENDMENT TO: LICENSE NUMBER

c. RENEWAL OF: LICENSE NUMBER

2. APPLICANT'S NAME (Institution, firm, person, etc.)  
City of Kalamazoo  
TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION  
616-385-8147

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION  
Thomas E. Campbell  
TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION  
616-385-8155

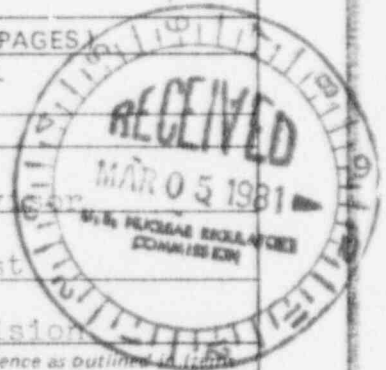
4. APPLICANT'S MAILING ADDRESS (Include Zip Code)  
City Manager's Office  
241 W. South Street  
Kalamazoo, MI 49007

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code)  
Kalamazoo City Utilities  
415 Stockbridge Ave.  
Kalamazoo, MI 49001

(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. Thomas Edward Campbell	Water Quality Supervisor
b. Robert Reiley McCulfor	Water Quality Analyst
c. Bruce Minsley	Manager, Supply Division



7. RADIATION PROTECTION OFFICER  
Robert Reiley McCulfor

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	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)	Nickel - 63	Deposited on	Perkin-Elmer	2, sealed sources
(2)		gold or platinum	Corp., Part No.	foil strength is
(3)	License Fee Information on reverse side		foil, sealed 0330-0199	10 millicuries. No
(4)		in detector cell		single source contains more than 15 millicurie

DESCRIBE USE OF LICENSED MATERIAL

(1) The sealed detector(s) containing nickel - 63 foil shall be used in a

(2) Perkin-Elmer model SIGMA 3 gas chromatograph with temperature protection

(3) circuitry which cuts off at 450°c.

(4)

FEE EXEMPT

**E. 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)	Gas chromatograph, Sigma 3B	Perkin Elmer Corp.	0331-9300
(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)	N.A.					
(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.
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**12. PERSONNEL MONITORING DEVICES**

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
<input type="checkbox"/> (1) FILM BADGE  <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD)  <input type="checkbox"/> (3) OTHER (Specify): N.A.		<input 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.

N.A.

**14. WASTE DISPOSAL**

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED  
 Nuclear Sources and Services, Inc or Nuclear Radiation Development Corp.

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.

check returned ET

Applicant: 1389  
 Class: 1110 (3L)  
 Amount of Fee: APPLICATION  
 Type of Fee: 2/23/81  
 Date Check: Tolom

18. CERTIFICATE  
 (This item must be completed by applicant)

RECEIVED BY LFMB  
 Date: 2/23/81  
 Log: 123 PG 10 III  
 By: Tolom  
 Orig. To: .....

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)	b. CERTIFYING OFFICIAL (Signature)
	c. NAME (Type in print) THOMAS E. CAMPBELL
(1) LICENSE FEE CATEGORY: I	d. TITLE WATER QUALITY SUPERVISOR
(2) LICENSE FEE ENCLOSED: \$	e. DATE FEBRUARY 6, 1981