

**APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL**

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.

a. NEW LICENSE

b. AMENDMENT TO:
LICENSE NUMBER

c. RENEWAL OF:
LICENSE NUMBER
12-15880-01

2. APPLICANT'S NAME (Institution, firm, person, etc.)

Cherry Electrical Products Corporation
TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

3. NAME AND TITLE OF PERSON TO BE CONTACTED
REGARDING THIS APPLICATION

Charles J. Neubauer - Radiation Officer
TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION
(312) 662-9200 Ext. 3082

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

(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)

3600 Sunset Avenue
Waukegan, IL 60087

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

3600 Sunset Avenue
Waukegan, IL 60087

(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. Charles J. Neubauer

Sr. Research Tech.

b. Jon Cokefair

Production Manager

c.

7. RADIATION PROTECTION OFFICER

Charles J. Neubauer

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)	Krypton 85	Gas		5000 millicuries
(2)				
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL
E

- (1) A Neon gas mixture containing Krypton 85 will be purchased from a commercial
- (2) source. Using glass tube filling techniques the gas mixture will be introduced
- (3) into the display products, which is then sealed hermetically. The plasma
- (4) display is designed for Electronic Readout of information.

License Fee Information
on Next Page

9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED.	NAME OF MANUFACTURER	MODEL NUMBER
	A.	B.	C.
(1)	Neon gas mixture with Ke 85 is stored in	AIRCO, INC.	
(2)	standard metal gas cylinder to protect		
(3)	the purity of the gas.		
(4)			

10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT	MANUFACTURER'S NAME	MODEL NUMBER	NUMBER AVAILABLE	RADIATION DETECTED (alpha, beta, gamma, neutron)	SENSITIVITY RANGE (milliroentgens/hour or counts/minute)
	A	B	C	D	E	F
(1)	Geiger Counter	EDN Corp.	PSM-760	1	gamma	0-50 MR/HR
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

<input checked="" type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY Semiannually by Health Physics Associates, 3304 Commercial Ave., Northbrook, IL.	<input type="checkbox"/> b. CALIBRATED BY APPLICANT <i>Attach a separate sheet describing method, frequency and standards used for calibrating instruments.</i>
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12. PERSONNEL MONITORING DEVICES

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

<input checked="" type="checkbox"/> a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC. <input type="checkbox"/> b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC. <input type="checkbox"/> c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC. <input type="checkbox"/> d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED None
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. *Indicate by LMB*

Applicant.....	3782	Date.....	3/14/84
Check No.	63782	Log.....	Mar 15
Amount For Category.....	\$460.34	By.....	[Signature]
Type of Fee.....	18. CERTIFICATE	Orig To.....	[Signature]
Date Check Recd.....	(This item must be completed by applicant)	Action.....	[Signature]
Received By.....	[Signature]		

*no refund
terms
after review*

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 or print)

(1) LICENSE FEE CATEGORY: 10 CFR 170.31.3A

d. TITLE

(2) LICENSE FEE ENCLOSED: \$ 460.00

e. DATE

14. WASTE DISPOSAL

Krypton 85 is an inert gas and will not combine with the materials in the display. All bad tubes without any gas are thrown in the garbage. All bad tubes with gas are broken - then thrown in the garbage. Discarded displays are checked with Geiger Counter and any reading above background cannot be detected.

15. RADIATION PROTECTION PROGRAM

When Kr 85 is being used, film badges will be placed in various spots around back fill equipment where the operator is working. Each badge is removed monthly and evaluated. Radiation levels are calculated as such. Typical monthly reading for badge at highest concentration is .041 Rem.

Monthly 24 hour reading reduced to 8 hour reading.

$.041 \text{ Rem/month} \div 3 = .014 \text{ Rem/month/shift.}$

7 day week reduced to 5 day week.

$.014 \times 5/7 = .010 \text{ Rem/month or } .040/\text{quarter.}$

Reading taken with Geiger Counter shows almost the same as natural background readings.

A survey will be taken once a week when there is Krypton 85 being used. The PSM760 will be used to take the survey and readings shall be recorded on a survey sheet.

See Attached Sheet.

All exhaust from vacuum pump is exhausted outside, well away from any air intake for the plant. The gas that is being exhausted is from residue gas left in the manifold of the equipment after the displays have been sealed and removed and the next group has been loaded onto the equipment.

16. See previous license.

17. See previous license.

A INPUT - INDUSTRIAL, MEDICAL, SOURCE/SPECIAL NUCLEAR

A. TYPE OF ACTION AND IDENTIFICATION CODES

<input type="checkbox"/>	NEW LICENSE AND NEW LICENSEE	<input checked="" type="checkbox"/> AMENDMENT TO RENEW LICENSE	<input type="checkbox"/> AMENDMENT TO TERMINATE	<input checked="" type="checkbox"/> VOID	DOCKET NUMBER	MAIL CONTROL NUMBER	CHANGE NAME/ADDRESS ("X" box)
		<input type="checkbox"/> OTHER AMENDMENT	<input type="checkbox"/> CLERICAL CHANGE NO AMENDMENT		030-00055	17196	<input type="checkbox"/>

B. INDICATIVE INFORMATION

INDIVIDUAL LICENSEES	NAME (Last, First, Middle)	NAME (Last, First, Middle)
	NAME (Last, First, Middle)	NAME (Last, First, Middle)
	NAME (Last, First, Middle)	NAME (Last, First, Middle)
ORGANI- ZATION	ORGANIZATION NAME (Alphabetic Sequence)	
LICENSEES	DEPARTMENT OR BUREAU	
ADDRESS	BUILDING, STREET	CITY
	3600 Sunset Avenue	Waukegan
	STATE	ZIP CODE
	IL	60087
6	TYPE OF APPLICANT	U.S. GOVERNMENT AGENCY
		INDIVIDUAL LICENSEE
		ORGANIZATIONAL LICENSEE
	DATE REQUEST RECEIVED	INSTITUTION CODE
	03/12/84	15300
	PENDING PROG. CODE	ACTUAL PROG. CODE
SECONDARY PROGRAM CODES (As required)		
#1	#2	#3
7	LICENSE NUMBER	DATE LICENSE ISSUED OR ACTION COMPLETED
	12-15000-01	
	EXPIRATION DATE	
	APPLICANT'S COMMUNICATION DATED	CLASSIFICATION
	ASSIGNED TO	RESULTING AMENDMENT NUMBER

ENCLOSURES

UNCLASSIFIED DESCRIPTION

DISTRIBUTION

OTHER REFERRALS

NAME	DATE	NAME	DATE

OVERSIZE DOCUMENT PAGE PULLED

SEE APERTURE CARDS

NUMBER OF PAGES: 1

ACCESSION NUMBER(S):

8512090558-01

APERTURE CARD/HARD COPY AVAILABLE FROM RECORD SERVICES BRANCH, TIDC
FTS 492-3989