

*Extra copy*

31-461-10

Form AEC-313 (2-57)	ATOMIC ENERGY COMMISSION <b>APPLICATION FOR BYPRODUCT MATERIAL LICENSE</b>	Form approved. Budget Bureau No. 38-R027.3.
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**INSTRUCTIONS.**—Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail two copies to: U. S. Atomic Energy Commission, P. O. Box E, Oak Ridge, Tenn. Attention: Isotopes Extension, Division of Civilian Application. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. An AEC Byproduct Material License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations, Part 30 and the licensee is subject to Title 10, Code of Federal Regulations, Part 20.

1. (a) NAME AND STREET ADDRESS OF APPLICANT. <i>(Institution, firm, hospital, person, etc.)</i>  <b>Eastman Kodak Company Kodak Park Works Rochester, New York</b>	(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. <i>(If different from 1 (a).)</i>  <b>Same</b>
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2. DEPARTMENT TO USE BYPRODUCT MATERIAL  <b>Any Eastman Kodak Company department or plant in United States or its territories.</b>	3. PREVIOUS LICENSE NUMBER(S). <i>(If this is an application for renewal of a license, please indicate and give number.)</i> <b>31-461-10</b> <b>This is an application for amendment of above license to include any plant and to include SAFEGLOW painted lucite engravings.</b>
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4. INDIVIDUAL USER(S). <i>(Name and title of individual(s) who will use or directly supervise use of byproduct material. Give training and experience in Items 8 and 9.)</i>  <b>Kodak Park Radiation Committee See previous applications on file for license Number 31-461-10</b>	5. RADIATION PROTECTION OFFICER <i>(Name of person designated as radiation protection officer if other than individual user. Attach resume of his training and experience as in Items 8 and 9.)</i>  <b>Dr. Julian H. Webb Dr. William L. Sutton See application for license No. 31-461-10</b>
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6. (a) BYPRODUCT MATERIAL. <i>(Elements and mass number of each.)</i>  <b>Tritium (H<sup>3</sup>)</b>	(b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM NUMBER OF MILLICURIES OF EACH CHEMICAL AND/OR PHYSICAL FORM THAT YOU WILL POSSESS AT ANY ONE TIME. <i>(If sealed source(s), also state name of manufacturer, model number, number of sources and maximum activity per source.)</i>  <b>Tritium is incorporated into an organic molecule and becomes a constituent of luminous paint trade name SAFEGLOW by New England Nuclear Corporation.</b>  <b>This application is for approval of this type of sealed source (See item 7) and extension of maximum millicuries allowed under license No. 31-461-10 to an additional 8 curies in 600 sources.</b>
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7. DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. *(If byproduct material is for "human use," supplement A (Form AEC-313a) must be completed in lieu of this item. If byproduct material is in the form of a sealed source, include the make and model number of the storage container and/or device in which the source will be stored and/or used.)*

**Lucite engravings to be painted with Tritium activated luminous paint and sealed with lucite cover cemented with acrylic resin (PS-18 - Rohm and Haas) by New England Nuclear Corporation. (These are basically similar to dark room locators licensed under amendment # 1 to 31-461-10.)**

**See attached drawings. Each engraving or label will contain from 4 to 30 millicuries of Tritium depending on number and size of letters. These are approximately 3.5 millicuries per 3/8" letter.**

*A/12*

**TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4** (Use supplemental sheets if necessary)

8. TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
a. Principles and practices of radiation protection .....	See application for 31-461-10		Yes No	Yes No
b. Radioactivity measurement standardization and monitoring techniques and instruments .....			Yes No	Yes No
c. Mathematics and calculations basic to the use and measurement of radioactivity ..			Yes No	Yes No
d. Biological effects of radiation .....			Yes No	Yes No

9. EXPERIENCE WITH RADIATION. (Actual use of radioisotopes or equivalent experience.)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
See Application for 31-461-10				

10. RADIATION DETECTION INSTRUMENTS. (Use supplemental sheets if necessary.)

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm <sup>2</sup> )	USE (Monitoring, surveying, measuring)
See application for 31-461-10					

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.  
See application for 31-461-10

12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)  
See application for 31-461-10

**INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS**

13. FACILITIES AND EQUIPMENT. Describe laboratory facilities and remote handling equipment, storage containers, shielding, fume hoods, etc. Explanatory sketch of facility is attached. (Circle answer) Yes No See application for 31-461-10
14. RADIATION PROTECTION PROGRAM. Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak tests, and arrangements for performing initial radiation survey, servicing, maintenance and repair of the source. See application for 31-461-10
15. WASTE DISPOSAL. If a commercial waste disposal service is employed, specify name of company. Otherwise, submit detailed description of methods which will be used for disposing of radioactive wastes and estimates of the type and amount of activity involved. See application for 31-461-10

**CERTIFICATE (This item must be completed by applicant)**

16. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, 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.

Date 12/9/57

By: Eustina Kodak Company  
Applicant named in item 1

By: L. C. Faulkberry

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Title of certifying official

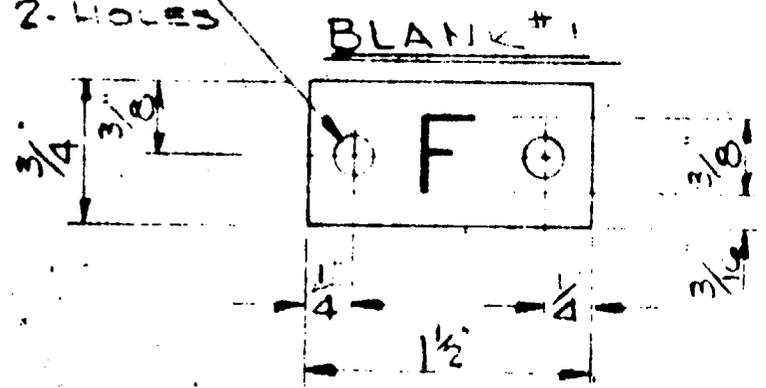
**WARNING.—**18 U. S. C., Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.



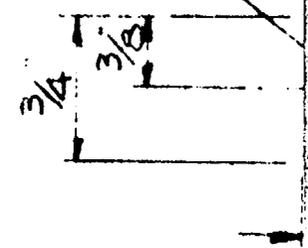
A. LEGEND  $\frac{1}{32}$  DR. IN FULL GOTHIC LETTERS. ENGRAVING MUST NOT COME CLOSER THAN  $\frac{1}{16}$ " TO HOLES. AFTER ENGRAVED SURFACE HAS BEEN FILLED, CEMENT PIECE OF LUCITE IN PLACE & DRILL HOLES.

Two pieces of clear lucite, one engraved.

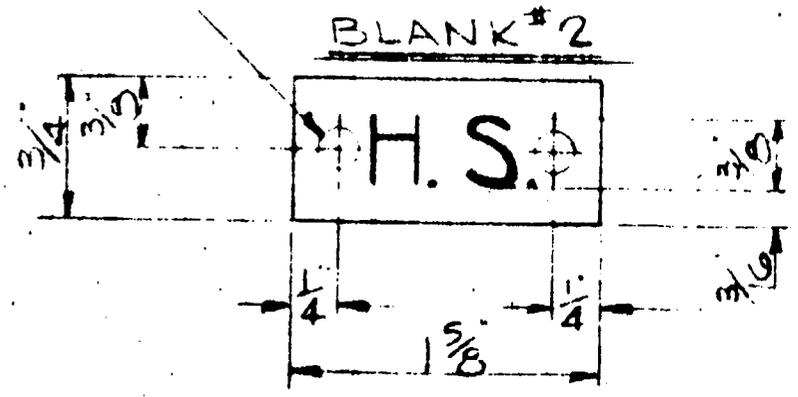
$\frac{1}{32}$  DRILL  
2 HOLES



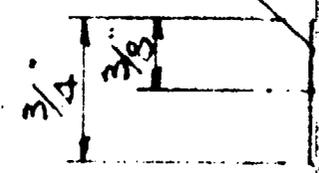
$\frac{1}{32}$  DRILL  
2 HOLES



$\frac{1}{32}$  DRILL  
2 HOLES



$\frac{1}{32}$  DRILL  
2 HOLES



91-197-16

(B)

ALL AROUND WITH  
 SEE AS SHOWN.  
 CEMENT TOGETHER  
 BY SPRAYING A THIN  
 SOLUTION OF MERRYL  
 METHANOLATE  
 DISSOLVED IN DIMER  
 TRY-LATE CHLORIDE  
 TO ALL EDGES AS  
 SHOWN.  
 CEMENT WITH PS-18  
 BETWEEN PLATE AS  
 WELL AS AT BECKI  
 CEMENT AT DRILL  
 HOLES

TRICAL  
 END VIEW



5/16  
 3/16  
 3/16

BLANK # 8

VAC. PUMP

3/4

3/16

BLANK # 9

EMUL. FLOW

3/16

4/16

4

BLANK # 10

IO SECT

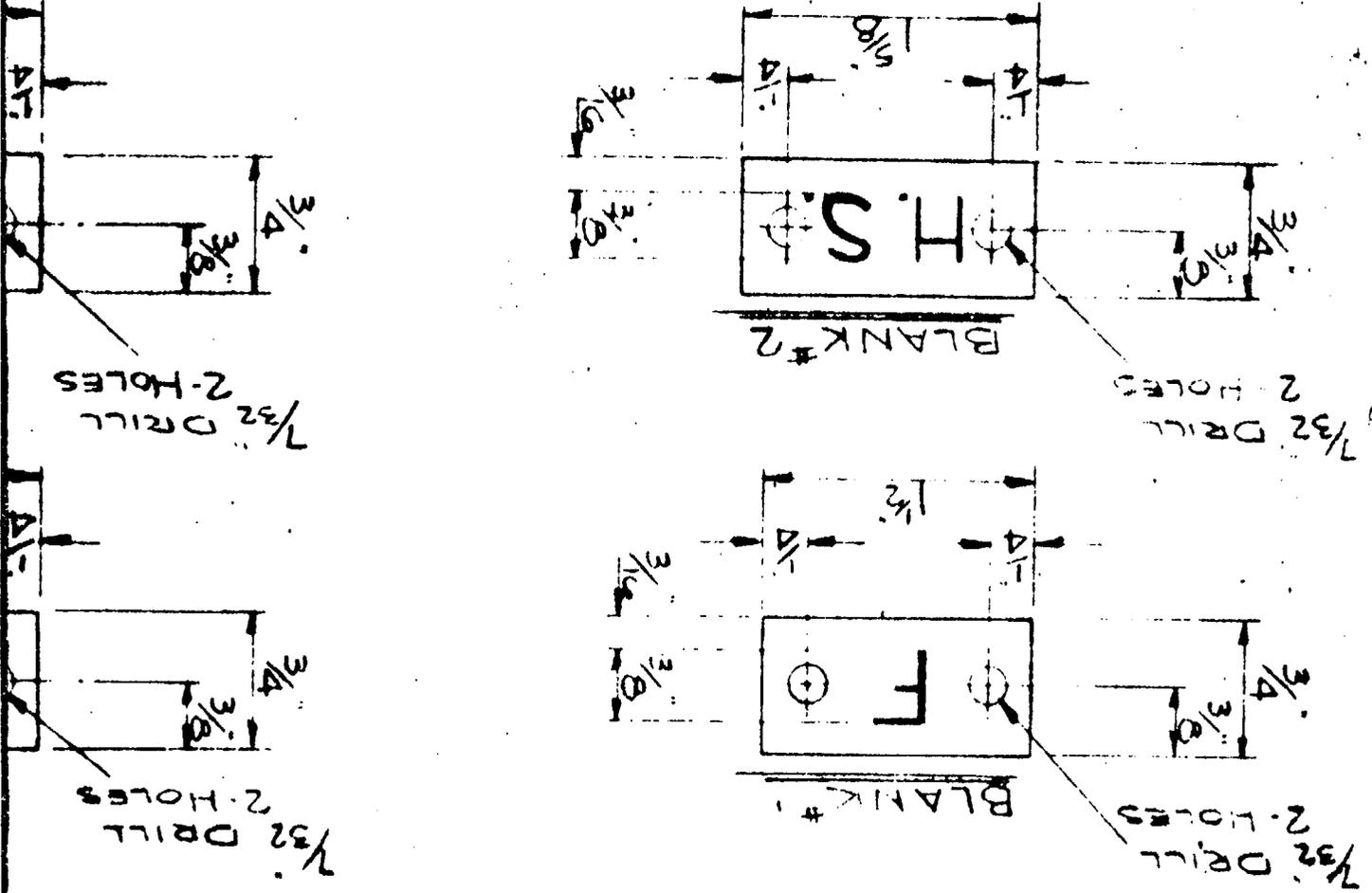
5/16

4/16

4 3/4

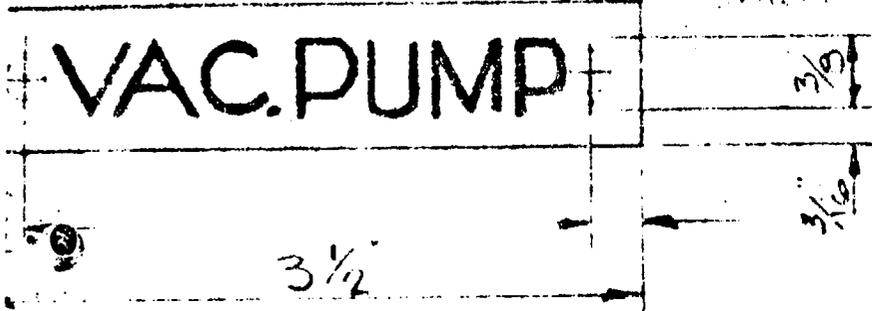
LEGEND  $\frac{1}{32}$  DR IN FULL GOTHIC LETTERS. ENGRAVING MUST NOT COME CLOSER THAN  $\frac{1}{16}$ " TO HOLES. AFTER ENGRAVING SURFACE HAS BEEN FILLED, CEMENT TO PIECE OF LUCITE IN PLACE & DRILL HOLES. Two pieces of clear lucite, one engraved.

31-461-70





BLANK # 8



ENLARGE  
DIA. OF THIS  
SURFACE

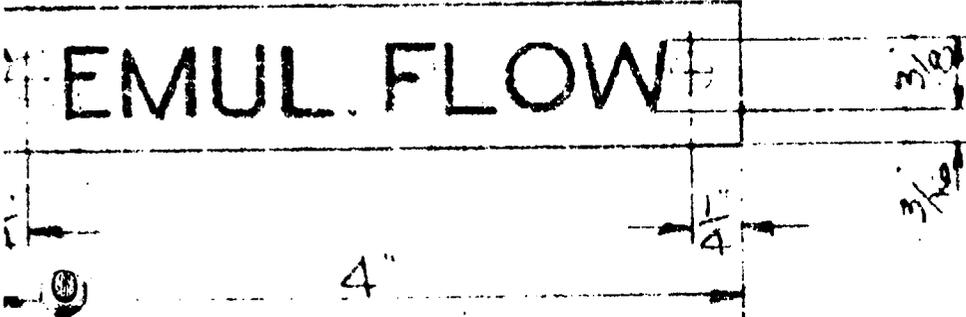


APPROX 1/8" X 45° CHAMF.  
ALL AROUND BOTH  
PCS AS SHOWN.

TYPICAL  
END VIEW

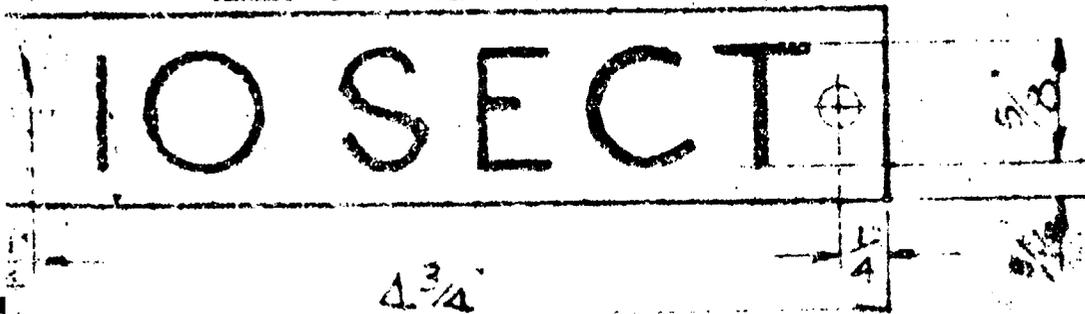
CEMENT TOGETHER  
BY APPLYING A THICK  
SOLUTION OF METHYL  
METHACRYLATE  
DISSOLVED IN DIMETHYL  
SULFATE CHLORIDE  
TO ALL EDGES AS  
SHOWN

BLANK # 9



CEMENT WITH PS-11  
between ducts as  
well as at duct  
CEMENT at duct  
holes

BLANK # 10



(B)