

APPLICATION FOR MATERIAL LICENSE

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

FEDERAL AGENCIES FILE APPLICATIONS WITH:

U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE AND MATERIAL SAFETY, NMSS
WASHINGTON, DC 20555

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS, IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION I
NUCLEAR MATERIAL SECTION B
631 PARK AVENUE
KING OF PRUSSIA, PA 19406

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III
MATERIAL RADIATION PROTECTION SECTION
101 MARIETTA STREET, SUITE 2900
ATLANTA, GA 30323

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION III
MATERIALS LICENSING SECTION
799 ROOSEVELT ROAD
GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
MATERIAL RADIATION PROTECTION SECTION
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TX 76011

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

U.S. NUCLEAR REGULATORY COMMISSION, REGION V
MATERIAL RADIATION PROTECTION SECTION
1450 MARIA LANE, SUITE 210
WALNUT CREEK, CA 94596

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTION.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

- A. NEW LICENSE
- B. AMENDMENT TO LICENSE NUMBER _____
- C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip Code)

OSRAM Corporation
Charles St.
Maybrook, New York 12543

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

See #2.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

J. Michael McGarry, III
Peter A. Bleasby

TELEPHONE NUMBER

202-857-9833
914-564-6300

SUBMIT ITEMS 5 THROUGH 11 ON 8 1/2 x 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL

a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time. See attachment

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED
See attachment

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE

N.A.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS

N.A.

9. FACILITIES AND EQUIPMENT

N.A.

10. RADIATION SAFETY PROGRAM

N.A.

11. WASTE MANAGEMENT

N.A.

12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY 3.I. AMOUNT ENCLOSED \$ 290.00

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948, 52 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.

SIGNATURE—CERTIFYING OFFICER

TYPED/PRINTED NAME

TITLE

DATE

Peter A. Bleasby Peter A. Bleasby

Manager -
Commercial Engineering

2/21/85

14. ANNUAL RECEIPTS

14. VOLUNTARY ECONOMIC DATA

< \$250K	\$1M - 3.5M
\$250K - 500K	\$3.5M - 7M
\$500K - 750K	\$7M - 10M
\$750K - 1M	> \$10M

d. NUMBER OF EMPLOYEES (Total for entire facility excluding outside contractors)

e. NUMBER OF BEDS

f. WOULD YOU BE WILLING TO FURNISH COST INFORMATION (Dollar and/or staff hours) ON THE ECONOMIC IMPACT OF CURRENT NRC REGULATIONS OR ANY FUTURE PROPOSED NRC REGULATIONS THAT MAY AFFECT YOU? (NRC regulations permit it to protect confidential commercial or financial—proprietary—information furnished to the agency in confidence)

YES

NO

FOR NRC USE ONLY

TYPE OF FEE <i>ADPL</i>	FEE LOG <i>Feb 11 I</i>	FEE CATEGORY <i>3I</i>	COMMENTS <i>8503130299 850222 NMSS LIC30 38-23515-01E PDR</i>	APPROVED BY <i>Francis Brown</i>
AMOUNT RECEIVED <i>290</i>	CHECK NUMBER <i>8683</i>			DATE <i>2/25/85</i>

OSRAM Corporation

Application for
Material License

Item 5

Radioactive Material

Krypton-85 -- used as a gas

Maximum activity per glow switch

25 nCi

Item 6a. Purpose for which licensed material will be used

The radioactive material krypton-85 is used as part of the filling gas of a glow-switch. The switches are incorporated into the base of compact fluorescent lamps as a starting device.

The radioactive glow switches are imported from Europe, from 2 suppliers. The design of the switch from each supplier is the same. It comprises a sealed glass bottle, inside of which are bi-metal switching contacts. The volume of each switch is 1.0cm³, with a maximum filling pressure of 22 mbar. The filling gas is 100% Argon (or 95% Argon and 5% Helium), mixed with less than 1 millicurie per litre of krypton 85. The krypton-85 is mixed with the filling gas in the gaseous phase.

b. Chemical and Physical form

The krypton-85 is mixed with the glass bottle filling gas in the gaseous phase. See (a) above.

c. Details of construction

Drawing of a typical switch bottle is attached.
Materials -

Glass: Lead glass
Dimensions: As shown in drawing.
Glass thickness 0.5-0.7 mm

Sealing is achieved by a simple annealing process - no other material is introduced.

d. Method of Containment

See item (c) above.

e. Testing

Life tests - Switches are required to operate for 5000 consecutive switchings on a cycle of 2 seconds on, 2 seconds off.

Leakage - Switches are random sampled for leakage. The maximum allowable leakage is 10⁻⁶ torr litre/sec.

- 3 -

Accidental Release to Environment - The switches are enclosed by the hard plastic base material for the finished lamp product, and are therefore protected from damage that would release the kr-85 to the environment.

f. Quality Control Procedures

Pre-assembly

Glass-bottles - Randomchecked in factory for dimensions and material thickness.

Filling-gas - Checked for content to assure that filling gas is Argon or Argon/Helium with less than 1 millicurie per litre of kr-85. A check on the bulk supply of gas combined with the volume of each switch insures that the activity does not exceed 20 nCi per switch

Finished Product

Finished product from either supplier is subjected to the following controls in the Isotope Department of OSRAM Germany. Testing is carried out on 100% of the product shipped to the USA.

Leakage - 10,000 switches are held in a sealed container for 10 hours. The resultant gas mixtrue is then analyzed. If any leakage is detected, the entire lot is rejected.

Radioactivity - A random 1% sample is taken to check that the radioactivity does not exceed 20 nCi per switch. (This is in addition to the control of the filling gas mixture in the pre-assembly stage.) The same samples are also checked to confirm that the radioactive material is krypton-85.

g. Labelling and Marking

Model Numbers (Type Number)

The following numbers are in use

<u>Manufacturer</u>	<u>Model Numbers</u> (type number)
OSRAM	GZ100 series
PHILIPS	PL series

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External Marking of Smallest Bulk Package of
Radioactive Glow Switches

Quantity of switches contained
Manufacturer
Model or Type number
Lot or batch number
Radioactivity of individual switch (20 nCi)
Radioactive element (Kr-85)
Quality control mark from the OSRAM Department
of Isotopes Engineering and Radiation Protection

h. Quality Control Documentation

A duplicate of the marking on the smallest bulk package is mailed separately by the consigner (OSRAM Germany) to the consignee (OSRAM Corporation), showing the lot or batch number, and the quality control mark.

Smallest bulk packages with the same lot or batch number will be covered by one quality control document.

i. Exposure RateExport Cartons

Export cartons contain a maximum of 120,000 switches.

The exposure rate on the surface area of an export carton is below 0.005 millirems per hour.

Individual Glow Switches

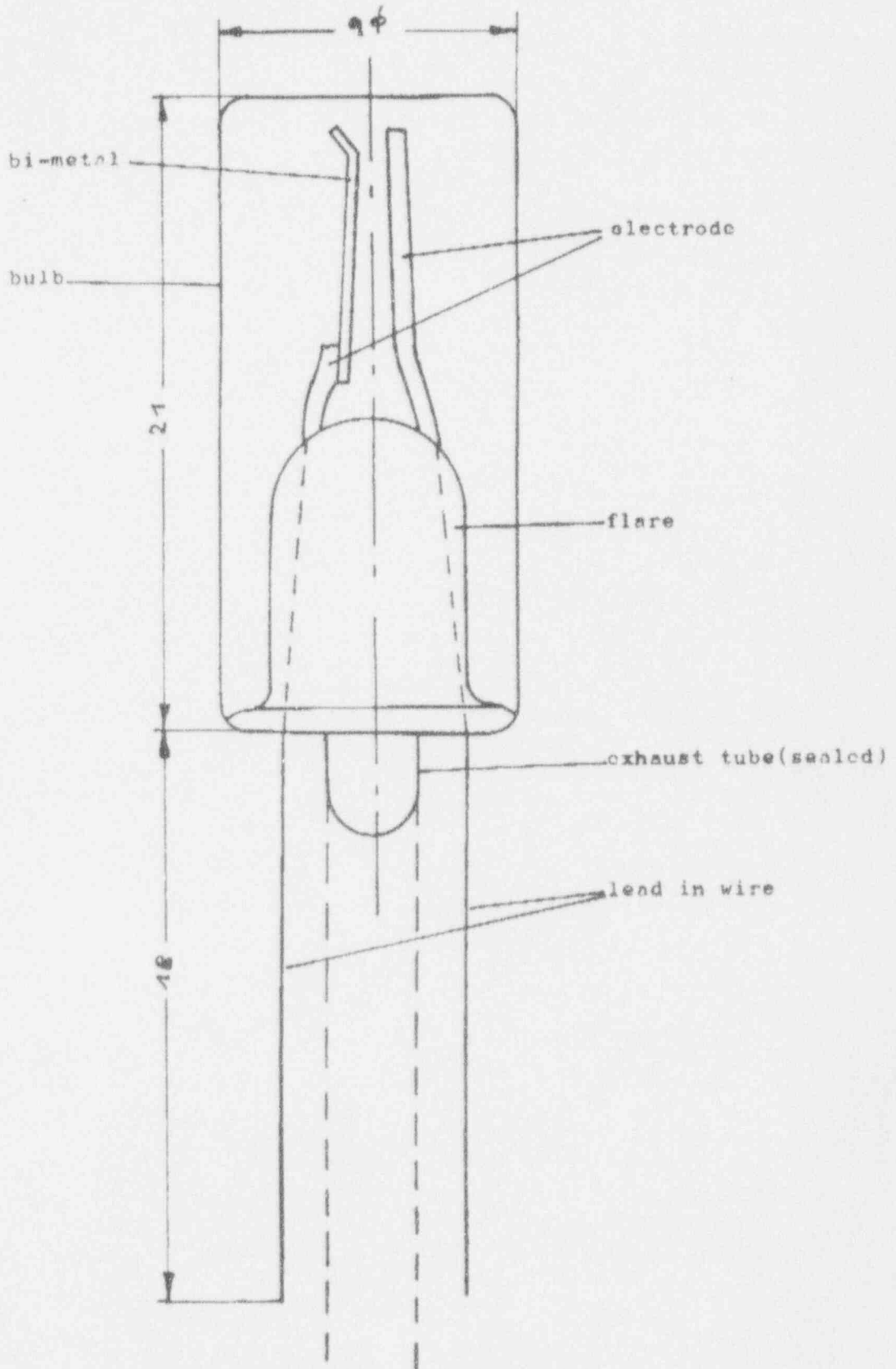
The calculated exposure rate for an individual switch per year at a distance of 1 metre is 0.00021 millirem.

The calculated exposure rate for an individual switch per year at a distance of 10 cms is 0.021 millirem.

glow-switch 154

Date: 2-20-65

Blatt: 1



Measurements in mm

18696

POSSESSION LIMIT INFORMATION

MATERIAL TYPE	_____	FORM CODE: _____	AGGREGATE CODE: _____
MODEL NUMBER	_____		
DESCRIPTION	_____		
TOTAL QUANTITY	_____	UNIT: _____	
OTHER	_____	# SOURCES: _____	
MATERIAL TYPE	_____	FORM CODE: _____	AGGREGATE CODE: _____
MODEL NUMBER	_____		
DESCRIPTION	_____		
TOTAL QUANTITY	_____	UNIT: _____	
OTHER	_____	# SOURCES: _____	
MATERIAL TYPE	_____	FORM CODE: _____	AGGREGATE CODE: _____
MODEL NUMBER	_____		
DESCRIPTION	_____		
TOTAL QUANTITY	_____	UNIT: _____	
OTHER	_____	# SOURCES: _____	
MATERIAL TYPE	_____	FORM CODE: _____	AGGREGATE CODE: _____
MODEL NUMBER	_____		
DESCRIPTION	_____		
TOTAL QUANTITY	_____	UNIT: _____	
OTHER	_____	# SOURCES: _____	
MATERIAL TYPE	_____	FORM CODE: _____	AGGREGATE CODE: _____
MODEL NUMBER	_____		
DESCRIPTION	_____		
TOTAL QUANTITY	_____	UNIT: _____	
OTHER	_____	# SOURCES: _____	

N/A

NAME

AUTHORIZATION

_____	_____
_____	_____
_____	_____

ADDRESS WHERE MATERIAL IS USED OR POSSESSED

BUILDING:	_____	_____
ROOM:	_____	_____
STREET:	_____	_____
CITY:	_____	_____
STATE:	_____	_____

BUILDING:	_____	_____
ROOM:	_____	_____
STREET:	_____	_____
CITY:	_____	_____
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BUILDING:	_____	_____
ROOM:	_____	_____
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ROOM:	_____	_____
STREET:	_____	_____
CITY:	_____	_____
STATE:	_____	_____

BUILDING:	_____	_____
ROOM:	_____	_____
STREET:	_____	_____
CITY:	_____	_____
STATE:	_____	_____

DECOMMISSIONING FINANCIAL ASSURANCE INFORMATION

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DOCKET: 03033162 LIC: _____ NAME: OSRAM SYLVANIA, INC.

PARTY ISSUING MECHANISM:	ASSUR TYPE :	(C=CERT D=DFP)
NAME :	MECH TYPE :	_____
ADDR1 :	MECH AMOUNT :	_____
ADDR2 :	APPROVED? :	DATE: _____
CITY :	EXPIRES ? :	DATE: _____
STATE :	ZIP :	_____

PARTY ISSUING MECHANISM:	ASSUR TYPE :	(C=CERT D=DFP)
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LICENS. DATA, CONTINUED

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===== DOCKET NO: 03033162 LICENSE NUMBER: _____
NAME : OSRAM SYLVANIA, INC. =====

MEDICAL QUALITY MANAGEMENT PROGRAM REQUIRED: N RECEIVED: _ APPROVED: _

DECOMMISSIONING FINANCIAL ASSURANCE REQUIRED: _ SUBMITTED: _

CONTINGENCY PLAN REQUIRED: _ APPROVED: _

===== DECAY-IN-STORAGE APPROVED: N HOLDING FOR < 10 HALF-LIVES APPROVED: _

T 1/2 > 65 DAYS, ISOTOPE(S): _____

INTERIM STORAGE UP TO 1996: N

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NOTE FOR: License 20-30024-02E

FROM: Glenda Jackson
License Fee and Debt Collection Branch, OC/DAF

The \$370 and fee paid on 3/13/93 is the correct
fee for the issuance of License 20-30024-02E in accordance with
C. James Holloway's March 27, 1987 Memorandum to Files. The new license
replaces License 31-23515-01E.

Glenda Jackson, Chief
Materials License Fee Section
License Fee and Debt Collection Branch
Division of Accounting and Finance, OC