

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES  
SAFETY EVALUATION OF A SEALED SOURCE  
(AMENDED IN ITS ENTIRETY)

No.: NR-0155-S-114-S

DATE: March 7, 2006

PAGE 1 OF 2

SOURCE TYPE: Radioluminous Lamp

MODEL: 11739179-1 or 11739179-2

MANUFACTURER/DISTRIBUTOR: Department of the Army  
U.S. Army TACOM Life Cycle  
Management Command  
AMSTA-CS-CZR  
(Previously U.S. Army Tank-  
Automotive & Armaments Command)  
Rock Island, IL 61299-7630

ISOTOPE:

MAXIMUM ACTIVITY:

Hydrogen-3

5.0 Curies (185 GBq) for 11739179-1

9.0 Curies (333 GBq) for 11739179-2

LEAK TEST FREQUENCY:

As specified in the user's materials  
license

PRINCIPAL USE:

(R) Gas Sources for use in the following  
device model numbers:

M58 (Green lamp-Model #11739179-1)

M59 (Orange lamp-Model #11739179-2) aiming post lights

CUSTOM SOURCE:  YES  NO

CUSTOM USER: U.S. Department of Defense

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DIAGRAM:

See Attachments 1 & 2.

REFERENCES:

The following supporting documents for the Model 11739179-1 and 11739179-2 radioluminous lamp are hereby incorporated by reference and are made a part of this registry document.

- Department of the Army letter dated March 20, 1995, requesting changes to specific certificates, and letters dated January 22, 2001, May 23, 2001, and March 24, 2004, with enclosures thereto.
- Department of the Army email received September 23, 2005, with enclosures thereto.
- Department of the Army facsimile dated December 12, 2005, with enclosures thereto.
- U.S. Department of the Army License No. 12-00722-06.

ISSUING AGENCY:

US Nuclear Regulatory Commission

Date: March 7, 2006

Reviewer: Tomas Herrera  
Tomas Herrera

Date: March 7, 2006

Concurrence: John P. Jankovich  
John P. Jankovich

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ATTACHMENT 1 OF 2

21. PERFORMED IN ACCORDANCE WITH 10 CFR 430.100.

**REQUIREMENTS:**

- A. DESIGN, LABELING AND SHIPPING OF PACKAGES AND CONTAINERS SHALL BE IN ACCORDANCE WITH 10 CFR 430.100 "RADIOACTIVE REQUIREMENTS IN THE END USER SYSTEM."
- B. THERE SHALL BE NO EVIDENCE OF PHYSICAL FAILURE SUCH AS FRACTURE OR LEAKAGE AFTER EXPOSURE TO LIGHT SOURCE TO -40°F AND +100°F FOR A PERIOD OF SEVEN HOURS AT EACH TEMPERATURE.
- C. INSTRUMENT TO MEASURE THE LIGHT SOURCE TO ENTER FOR FOUR HOURS AT EACH TEMPERATURE. RADIOACTIVE CONTENT OF THE WATER SHALL NOT EXCEED 100 MICROCURIES.
- D. TUBE TO BE FILLED IN PRODUCTION ORDER WITHIN 30 DAYS OF DATE OF MANUFACTURE, LESS THAN 12 MONTHS FROM DATE OF COMMENCEMENT TO BE INDICALLY MARKED. 2.5 GROSS WEIGHT PER SOURCE LAMP, 2.5 GROSS WEIGHT PER SOURCE LAMP.
- E. TUBE MATERIAL: GLASS, TYPE 1, CLASS A, SPEC 30-4-441.
- F. VACUUM-INITIAL PRESSURE OF 10-4 SHOULD NOT EXCEED 1.0 ATM.
- G. THE COLOR OF PHOSPHOR AND EMISSION ACCEPTABLE CRITERIA AS SPECIFIED IN 10 CFR 430.100.
- H. PRIOR TO SOURCE MANUFACTURE, LAMP SHALL BE ALLOWED TO CURE FOR A PERIOD OF 24 HOURS FROM MANUFACTURE.
- I. FOLLOWING THE MANUFACTURE PERIOD AND UP TO 24 HOURS FROM THE DATE OF MANUFACTURE, SOURCE MANUFACTURE SHALL NOT EXCEED A LOSS OF 10% OF THE WEIGHT OF THE PHOSPHOR AND EMISSION ACCEPTABLE CRITERIA SHALL MEET THE MINIMUM ACCEPTABLE BRIGHTNESS LEVEL SHOWN IN TABLE.

**3- MAP-100000 APPLIES.**

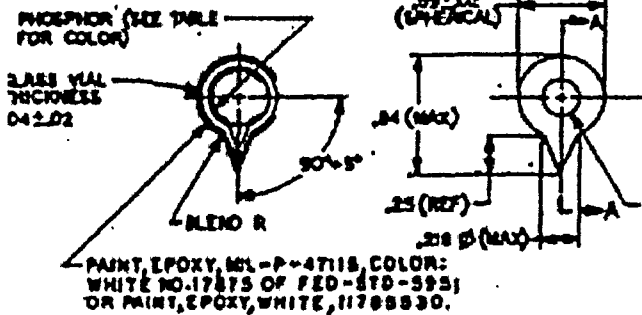
4. IDENTIFICATION OF THE "SUSPECTED SOURCE" OF SUPPLY WHICH IS NOT TO BE CONTINUED AS A SOURCE OF PHOSPHOR BE CONFIRMED AVAILABILITY AS A SOURCE OF SUPPLY FOR THE [PART].

**5- SUSPECTED SOURCE OF SUPPLY:**

NAME	YOUR PART NO.
SELF-POWERED LIGHTING LTD 8 WEST CHESTER PLACE CLAREMONT, NY 10917	NOT AVAILABLE
GERMANY DR. LTD. P.O. BOX 10 1410 EYBING BREMEN, GERMANY 215-070	NOT AVAILABLE
THOMSON-SON DEVELOPMENT LTD. 2115 NORTH ROAD NEVER CRICKLE THORPE SHEFF	NOT AVAILABLE
SWISS & SONTAG NUCLEAR, AG. POSTSTRASS 424 CH-8170-BICHSELBAHN SWITZERLAND	NOT AVAILABLE

6- PREPARE SURFACE OF GLASS AND WEL, APPLY AND CURE EPOXY PAINT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

REPLACES KEYD 10-0000	DO-000
NOR FB2008 10-0000	DO-000
NOR FB2008 10-0000	DO-000



PART NUMBER	PHOSPHOR COLOR	SPECTRAL PEAK	1/2 PEAK WIDTH	MINIMUM ACCEPTABLE BRIGHTNESS
M58	GREEN	5250Å ± 20Å	700Å ± 20Å	25000 L
M59	ORANGE	6350Å ± 20Å	700Å ± 20Å	20000 L

CLEAR APERTURE WINDOW TO BE FREE OF PHOSPHOR AND PAINT

**SPECIFICATION CONTROL DRAWING  
PART NO. SEE TABLE**

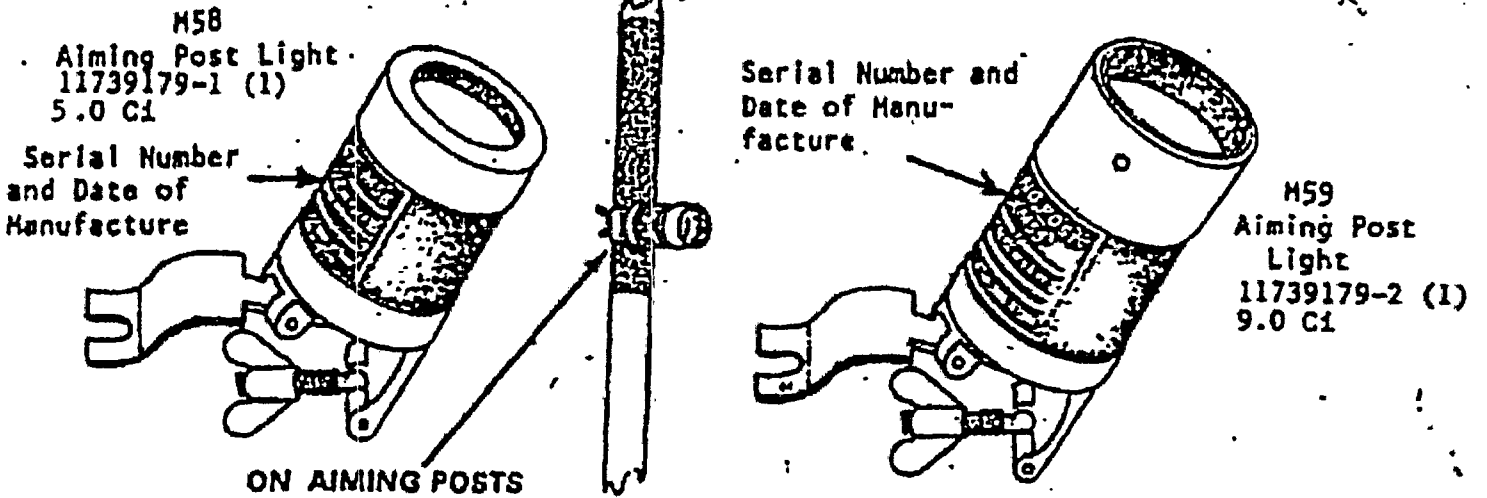
<b>SECTION A-A</b>		<table border="1"> <tr> <td>REVISION</td> <td>DATE</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>		REVISION	DATE							<table border="1"> <tr> <td>DATE OF ISSUE</td> <td>75-02-03</td> </tr> <tr> <td>ISSUED BY</td> <td> </td> </tr> <tr> <td>APPROVED BY</td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>		DATE OF ISSUE	75-02-03	ISSUED BY		APPROVED BY				<table border="1"> <tr> <td colspan="2">LAMP, RADIOLUMINOUS</td> </tr> <tr> <td>REV. C</td> <td>19200</td> </tr> <tr> <td> </td> <td>11739179</td> </tr> </table>		LAMP, RADIOLUMINOUS		REV. C	19200		11739179
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<p>SOURCE USED ON: M58 LIGHT, AIMING POST M59 LIGHT, AIMING POST</p>		<p>APPLICABLE</p>		<p> </p>																									

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ATTACHMENT 2 OF 2



M58 and M59 Aiming Post Lights

Total Activity	M58	5.0 Ci
	M59	9.0 Ci