

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

No.: NR-0155-S-111-S DATE: December 6, 2005 PAGE 1 OF 2

SOURCE TYPE: Radioluminous Lamp

MODEL: 11733737

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 1.2 Curies (44.4 GBq)

LEAK TEST FREQUENCY: Not Required*

*Users not using the sources under a master material license must have a license condition requiring that area contamination wipe tests are routinely taken of maintenance and storage areas, and whenever breakage of the source is suspected. The routine area contamination wipe tests must be performed at intervals no greater than 3 (three) months.

PRINCIPAL USE: (R) Gas Sources

For use in the Model M64 and M64A1 sight units

CUSTOM SOURCE: X YES NO

CUSTOM USER: U.S. Department of Defense

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SOURCE TYPE: Radioluminous Lamp

DIAGRAM:

See Attachments 1 & 2.

REFERENCES:

The following supporting documents for the Model 11733737 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.**
- U.S. Department of the Army License No. 12-00722-06.

ISSUING AGENCY:

US Nuclear Regulatory Commission

Date: December 6, 2005 Reviewer: /RA/
Tomas Herrera

Date: December 6, 2005 Concurrence: /RA/
Ujagar S. Bhachu

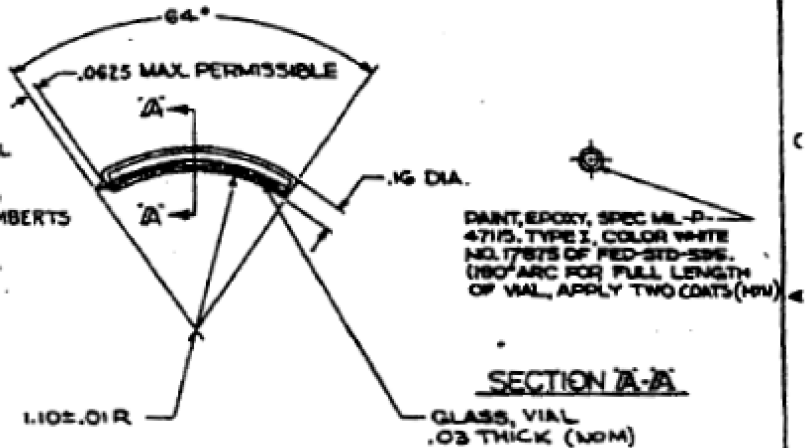
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REQUIREMENTS:

1. THERE SHALL BE NO EVIDENCE OF PHYSICAL FAILURE SUCH AS FRACTURING OR LIGHT LOSS DUE TO EXPOSING THE LAMP TO -80°F AND +160°F FOR A PERIOD OF 8 HOURS AT EACH TEMPERATURE.
2. AFTER SUBMERGING LAMP IN ROOM TEMPERATURE WATER FOR 4 HOURS RADIOACTIVE CONTENT OF THE WATER SHALL NOT EXCEED .005 MICROCURIE.
3. VIAL TO BE FILLED WITH TRITIUM (H₃) OF 94% - 96% PURITY, TOTAL 12 CURIES MAXIMUM.
4. PRIOR TO MAKING BRIGHTNESS MEASUREMENTS, LAMPS SHALL BE ALLOWED TO STABILIZE FOR A PERIOD OF 25 DAYS FROM MANUFACTURE.
5. FOLLOWING THE STABILIZATION PERIOD AND UP TO 120 DAYS FROM DATE OF MANUFACTURE, BRIGHTNESS MEASUREMENTS SHALL NOT SHOW A DECAY IN EXCESS OF 2.5% WHEN MEASURED OVER ANY CONSECUTIVE 30 DAY PERIOD. FURTHER, THE FINAL BRIGHTNESS MEASUREMENT AT TIME OF ACCEPTANCE SHALL BE 600 MICROLAMBERTS MIN.
6. INTERNAL PRESSURE 2.50 ATMOSPHERES (NOMINAL) AT +70°F.
7. A COLOR OF PHOSPHOR: GREEN SPECTRAL PEAK 5250Å ± 50Å, ½ PEAK WIDTH 700Å ± 50Å.

REV	DESCRIPTION	DATE	APPROVED
1	REPLACES REV 10 WITH CHANGE ECP FBA3042, 790109	11-12-90	W. J. J.
2	REPLACES REV 11 WITH CHANGE ECP FBA3042, 790109	11-12-90	W. J. J.
A	NOR F012505, 800212 (ECP FBA3042, 790109) (ECP F012505, 800212)	800530	W. J. J.
B	NOR F012505, 800212 (ECP F012505, 80-02-20)	80-06-08	W. J. J.
C	NOR F012505, 800212 (ECP F012505, 800212)	86071	W. J. J.
D	NOR M813005/880422	880222	W. J. J.



SUGGESTED SOURCE(S) OF SUPPLY	
VENDOR	VENDOR PART NO.
SELF POWERED LIGHTING LTD CODE IDENT NO. 29218 8 WESTCHESTER PLAZA ELMSFORD, N.Y. 10523	NOT AVAILABLE
SAUNDERS-ROE DEVELOPMENTS LTD. MILLINGTON ROAD HAYES MIDDLESEX UB3 4HD ENGLAND BRANDHURST CO. LTD. P.O. BOX 70 HIGH WYCOMBE BUCKINGHAMSHIRE HP12-3PS ENGLAND	NOT AVAILABLE
M.B. MICROTEC AG FREIBURGSTRASSE 624 CH-5172-MEDERNGEN SWITZERLAND	NOT AVAILABLE

SOURCE USED ON:
M64 SIGHTUNIT
M64A1 SIGHTUNIT

APPLICABLE DOCUMENTS
SQAP 11733737

SPECIFICATION CONTROL DRAWING

CURRENT SOURCE ACTIVITY: 11733737
REVISIONS: 11733737
PART No. 11733737

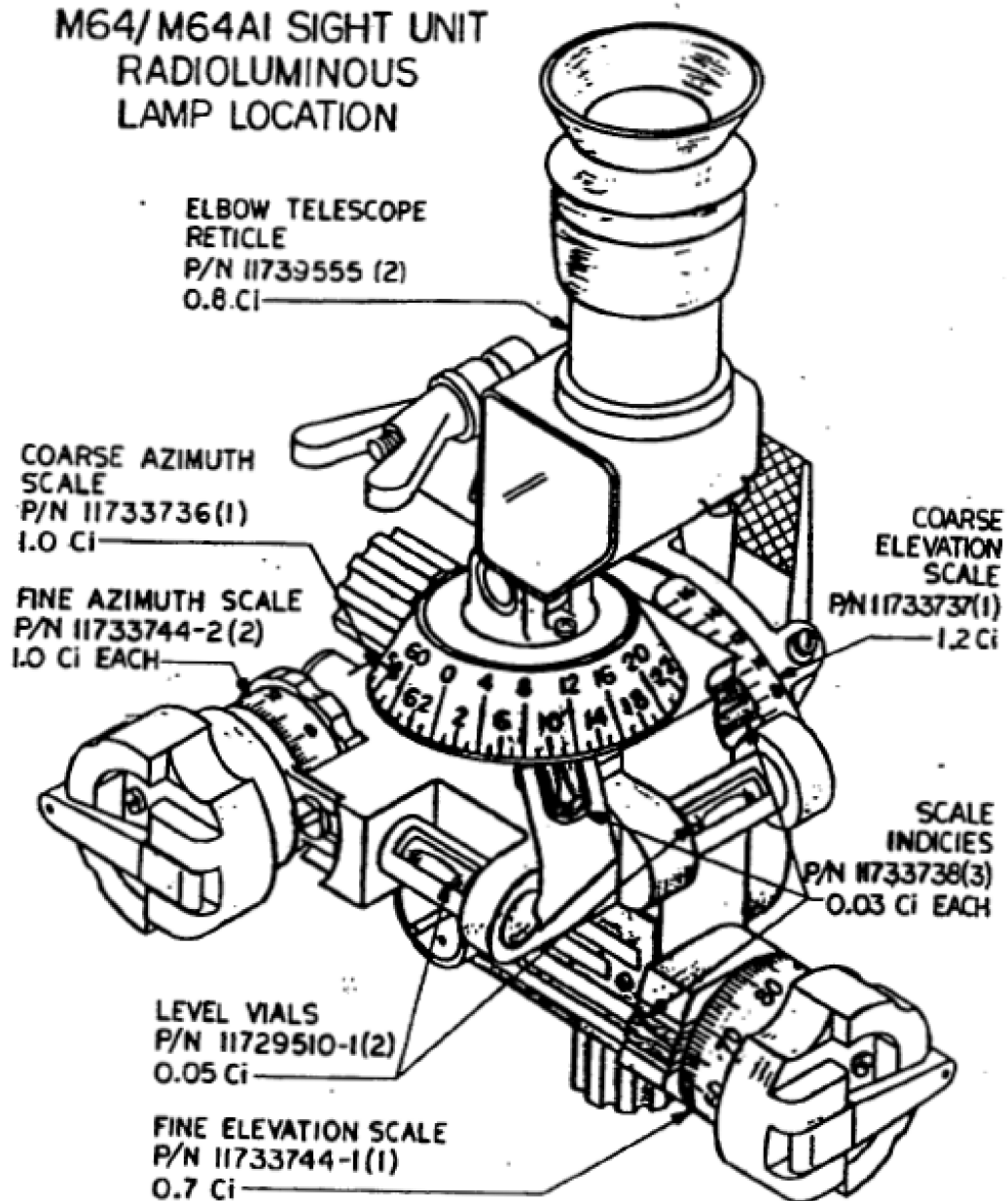
REV	DESCRIPTION	DATE	APPROVED
1	74 LAMP II	11-12-90	W. J. J.
2	74 LAMP II	11-12-90	W. J. J.
3	74 LAMP II	11-12-90	W. J. J.
4	74 LAMP II	11-12-90	W. J. J.
5	74 LAMP II	11-12-90	W. J. J.
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7	74 LAMP II	11-12-90	W. J. J.
8	74 LAMP II	11-12-90	W. J. J.
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81	74 LAMP II	11-12-90	W. J. J.
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83	74 LAMP II	11-12-90	W. J. J.
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85	74 LAMP II	11-12-90	W. J. J.
86	74 LAMP II	11-12-90	W. J. J.
87	74 LAMP II	11-12-90	W. J. J.
88	74 LAMP II	11-12-90	W. J. J.
89	74 LAMP II	11-12-90	W. J. J.
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91	74 LAMP II	11-12-90	W. J. J.
92	74 LAMP II	11-12-90	W. J. J.
93	74 LAMP II	11-12-90	W. J. J.
94	74 LAMP II	11-12-90	W. J. J.
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96	74 LAMP II	11-12-90	W. J. J.
97	74 LAMP II	11-12-90	W. J. J.
98	74 LAMP II	11-12-90	W. J. J.
99	74 LAMP II	11-12-90	W. J. J.
100	74 LAMP II	11-12-90	W. J. J.

LAMP,
RADIOLUMINOUS

C 19200 11733737

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TOTAL TRITIUM PER SIGHT UNIT 6.69 CURIES