

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

No.: NR-0155-S-110-S

DATE: March 7, 2006

PAGE 1 OF 2

SOURCE TYPE: Radioluminous Lamp

MODEL: 11733736

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:

Hydrogen-3

MAXIMUM ACTIVITY:

1.0 Curie (37 Gbq)

LEAK TEST FREQUENCY:

As specified in the user's materials  
license

PRINCIPAL USE: (R) Gas Sources

For use in the Model M64 and M64A1 sight units

CUSTOM SOURCE:  YES  NO

CUSTOM USER: U.S. Department of Defense

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

No.: NR-0155-S-110-S

DATE: March 7, 2006

PAGE 2 OF 2

SOURCE TYPE: Radioluminous Lamp

DIAGRAM:

See Attachments 1 & 2.

REFERENCES:

The following supporting documents for the Model 11733736 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

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

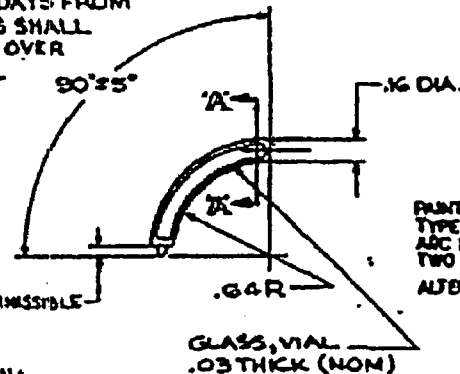
No.: NR-0155-S-110-S DATE: March 7, 2006

ATTACHMENT 1 OF 2

REQUIREMENTS:

2. THERE SHALL BE NO EVIDENCE OF PHYSICAL FAILURE SUCH AS FRACTURING OR LIGHT LOSS DUE TO EXPOSING THE LAMP TO -60°F AND +160°F FOR A PERIOD OF 8 HOURS AT EACH TEMPERATURE.
3. AFTER SUBMERGING THE LAMP IN ROOM TEMPERATURE WATER FOR 4 HOURS, RADIOACTIVE CONTENT OF THE WATER SHALL NOT EXCEED .006 MICROCURIE.
4. VIAL TO BE FILLED WITH TRITIUM (H<sup>3</sup>) OF 34% 36% PURITY TOTAL 10 CUNES MAXIMUM.
5. PRIOR TO MAKING BRIGHTNESS MEASUREMENTS, LAMPS SHALL BE ALLOWED TO STABILIZE FOR A PERIOD OF 25 DAYS FROM MANUFACTURE.
6. 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' MINIMUM. INTERNAL PRESSURE 2.50 ATMOSPHERES (NOMINAL) AT +70°F.
8. COLOR OF PHOSPHOR: GREEN SPECTRAL PEAK 5250Å ± 50Å, 1/2 PEAK WIDTH 700Å ± 50Å.

NO.	DESCRIPTION	DATE	INITIALS
XI	REPLACES REV. NO WITH CHANGE, PER FRANK COBO	7-1-56	[Signature]
A	NOR PA15041, 770107	800310	[Signature]
B	NOR PA12815, 79-11-08 (TCP FOJ2501, 80-02-20)	800806	[Signature]
C	NOR PA1000/800350 (ED PA1000/800311)	86078	[Signature]
D	NOR MRJ3003/800422	880222	[Signature]
E	NOR D2.R2007/920901	92106	[Signature]



PAINT, EPOXY, MIL-C-22750, TYPE 1, COLOR 17875 (180 DEGREES ARC FOR FULL LENGTH OF VIAL) APPLY TWO COATS (MIN OF FED-STD-265).  
ALTERNATIVE COATING: DRAWING NO. 11785530.

SUGGESTED SOURCE(S) OF SUPPLY	
VENDOR	VENDOR PART NO.
SELF POWERED LIGHTING LTD CODE IDENT NO. 23218 8 WESTCHESTER PLAZA ELMSFORD, N.Y. 10523	NOT AVAILABLE
SAUNDERS-ROE DEVELOPMENTS LTD. MILLINGTON ROAD HAYES MIDDLESEX UB3 4NB ENGLAND	NOT AVAILABLE
BRANCHURST CO. LTD. P.O. BOX 70 HIGH WYCOMBE BUCKINGHAMSHIRE HP12-3PS ENGLAND	NOT AVAILABLE
M.B. MICROTEC AG FREIBURGERSTRASSE 624 CH-3172-NIEDERWANGEN SWITZERLAND	NOT AVAILABLE

SOURCE USED ON:  
M64 SIGHTUNIT  
M64A1 SIGHTUNIT

APPLICABLE DOCUMENTS  
SQAP 11733736

SPECIFICATION CONTROL DRAWING  
PART No. 11733736

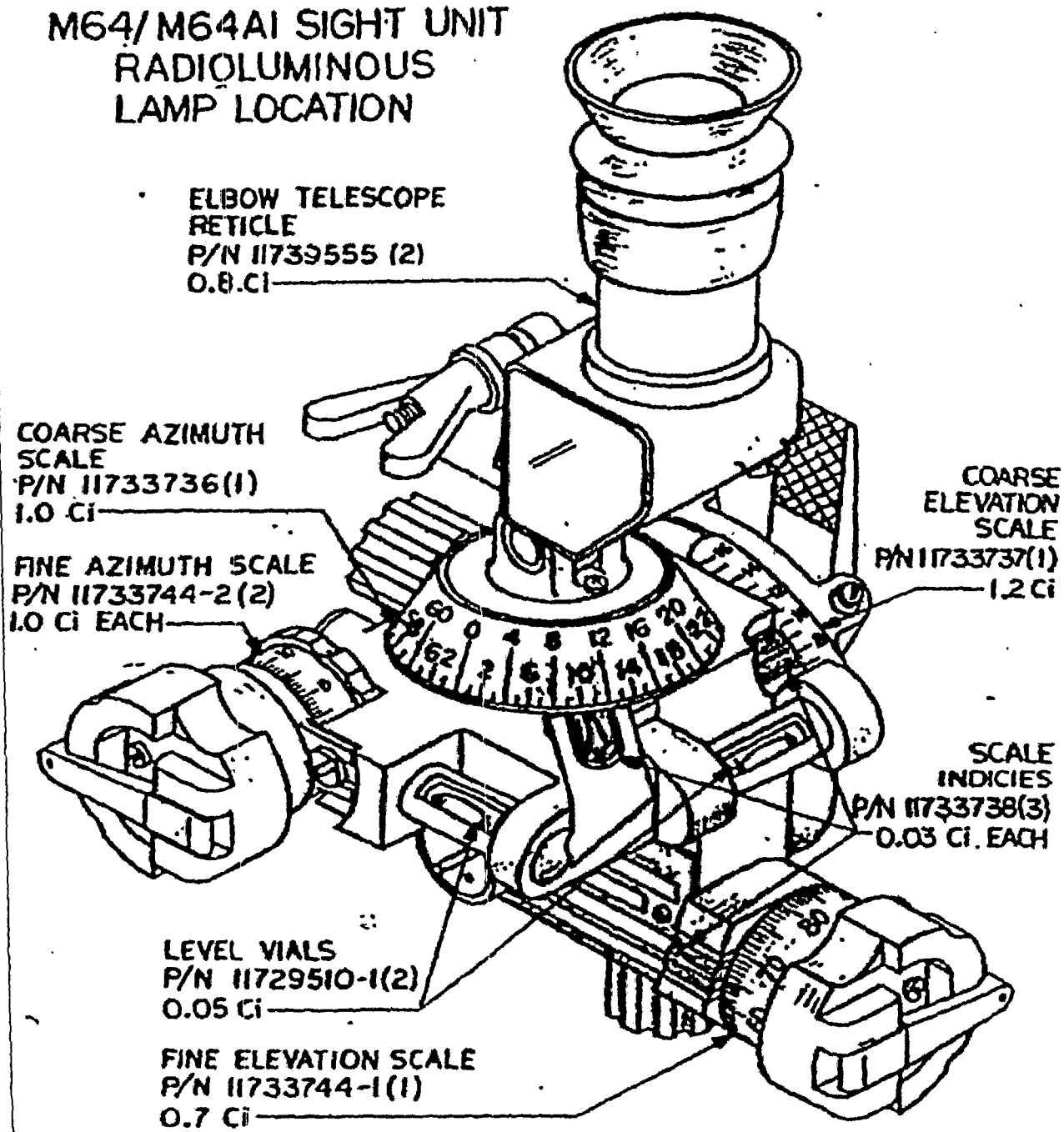
<table border="1"> <tr> <td>NO.</td> <td>REV.</td> <td>DATE</td> <td>DESCRIPTION</td> </tr> <tr> <td>1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td></td> <td></td> </tr> <tr> <td>7</td> <td></td> <td></td> <td></td> </tr> <tr> <td>8</td> <td></td> <td></td> <td></td> </tr> <tr> <td>9</td> <td></td> <td></td> <td></td> </tr> <tr> <td>10</td> <td></td> <td></td> <td></td> </tr> </table>	NO.	REV.	DATE	DESCRIPTION	1				2				3				4				5				6				7				8				9				10				<table border="1"> <tr> <td>DATE</td> <td>74 MAR 11</td> </tr> <tr> <td>BY</td> <td>LC</td> </tr> <tr> <td>CHECKED</td> <td>[Signature]</td> </tr> <tr> <td>APPROVED</td> <td>[Signature]</td> </tr> </table>	DATE	74 MAR 11	BY	LC	CHECKED	[Signature]	APPROVED	[Signature]	<table border="1"> <tr> <td>U.S. ARMY PROPERTY SYMBOL FURNISHED BY SYMBOL</td> </tr> <tr> <td>LAMP, RADIOLUMINOUS</td> </tr> <tr> <td>FIG. NO. 18200</td> </tr> <tr> <td>PART NO. 11733736</td> </tr> </table>	U.S. ARMY PROPERTY SYMBOL FURNISHED BY SYMBOL	LAMP, RADIOLUMINOUS	FIG. NO. 18200	PART NO. 11733736
NO.	REV.	DATE	DESCRIPTION																																																							
1																																																										
2																																																										
3																																																										
4																																																										
5																																																										
6																																																										
7																																																										
8																																																										
9																																																										
10																																																										
DATE	74 MAR 11																																																									
BY	LC																																																									
CHECKED	[Signature]																																																									
APPROVED	[Signature]																																																									
U.S. ARMY PROPERTY SYMBOL FURNISHED BY SYMBOL																																																										
LAMP, RADIOLUMINOUS																																																										
FIG. NO. 18200																																																										
PART NO. 11733736																																																										

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

No.: NR-0155-S-110-S DATE: March 7, 2006

ATTACHMENT 2 OF 2

M64/M64AI SIGHT UNIT  
RADIOLUMINOUS  
LAMP LOCATION



TOTAL TRITIUM PER SIGHT UNIT 6.69 CURIES