

August 9, 1996

Mr. Brian G. Pullen, President
SRB Technologies, Inc.
2596 Landmark Drive
Winston-Salem, NC 27103

Dear Mr. Pullen:

Based on the information and test data submitted in your amendment request dated July 24, 1996, with enclosures thereto, we conclude that the "MH" Series Illuminated sights are acceptable for licensing purposes in accordance with the conditions of the enclosed amended registration certificate (NR-585-D-104-E).

Please be advised that you must manufacture and distribute the product in accordance with the statements and representations contained in your application and subsequent letters, with enclosures thereto, and the information set out in your registration certificate. As a general rule, you must request and obtain an amendment to the certificate before you make changes or modifications to the information submitted to obtain the certificate.

Please read over the registration certificate in its entirety and notify us immediately of any errors or omissions.

You are obligated to notify us promptly in writing should you decide to no longer manufacture or offer service support for the product.

Please be aware that, as a holder of an NRC registration, you may be subject to the NRC's licensing and inspection fees in accordance with 10 CFR Part 170, and annual fees in accordance with 10 CFR Part 171. If you have any questions concerning the fee requirements, please contact the License Fee and Debt Collection Branch at (301) 415-7544.

If you have any questions, please contact me at (301) 415-7893 or Mr. Steven Baggett at (301) 415-7273.

Sincerely,

TSI

Thomas W. Rich, Mechanical Engineer
Medical, Academic, and
Commercial Use Safety Branch
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

9702240494 960809
PDR RC * PDR
SSD

Enclosure: As stated
cc w/encl: SKimberley, LFDCB

Distribution:

SSSS Staff
Sbaggett

IMAB r/f
NR-585-D-104-E

(NEO1)

SSD 94-72

DOCUMENT NAME:

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	IMAB								
NAME	Trich <i>T.W.R.</i>								
DATE	08/9/96								

REQUEST FOR A SEALED SOURCE OR
DEVICE EVALUATION

INSTRUCTIONS: Send this request AND a copy of all related letters/applications and drawings to: The Sealed Source Safety Section, ATTN: Chief, OWFN Mail Stop 6 H3. Change the License Tracking System milestone to 19 and assign to reviewer code I-5.
NOTE: Retain a copy of this request with the application and background files.

REQUESTER SRBT		REGION/LOCATION: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V <input type="checkbox"/> HQ <input type="checkbox"/> LFDCB	
TELEPHONE NUMBER 910 659-2610	DATE	TYPE OF ACTION REQUESTED (Check as appropriate)	
APPLICANT'S NAME SRBT		<input type="checkbox"/> SOURCE REVIEW	<input type="checkbox"/> AMENDMENT OF REGISTRATION SHEET NUMBER(S)
MAIL CONTROL NUMBER(S)		<input type="checkbox"/> DEVICE REVIEW	
LETTER/APPLICATION DATE 7/24/96	LICENSE NUMBER(S)	<input type="checkbox"/> CUSTOM REVIEW	

COMMENTS:

FOR SSSS USE ONLY

REVIEWER	MODEL NUMBERS Self-Luminous light	NUMBER ASSIGNED 96-67
DATE RECEIVED 7/29/96	DATE ASSIGNED	DATE TO FEES 7/31/96

TYPE OF ACTION (Indicate the number of each type)

COMMERCIAL DISTRIBUTION (FORMAL)		USE BY A SINGLE APPLICANT (CUSTOM)	
SOURCE (9C)	DEVICE (9A)	SOURCE (9D)	DEVICE (9B)
<input type="checkbox"/> NEW <input type="checkbox"/> AMENDMENT	<input type="checkbox"/> NEW <input checked="" type="checkbox"/> AMENDMENT	<input type="checkbox"/> NEW <input type="checkbox"/> AMENDMENT	<input type="checkbox"/> NEW <input type="checkbox"/> AMENDMENT
<input checked="" type="checkbox"/> NO SAFETY EVALUATION REQUIRED NO FEES REQUIRED		<input type="checkbox"/> LICENSING ACTION REQUIRED IF KNOWN	
<input type="checkbox"/> OTHER (Specify)		YES NO	

TOTAL NUMBER OF REVIEW HOURS	NOTES
NUMBER OF DEFICIENCY LETTERS	
NUMBER OF DEFICIENCY CALLS	

FOR BILLING PURPOSES ONLY

<input type="checkbox"/> NAME CHANGE	<input type="checkbox"/> ADDRESS CHANGE	<input type="checkbox"/> NEW REGISTRATION -- ADD TO BILLING	<input type="checkbox"/> PRODUCT INACTIVE -- REMOVE FROM BILLING
--------------------------------------	---	--	---

FOR FEE USE ONLY

TYPE OF FEE n/a	FEE CATEGORY <input type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C <input type="checkbox"/> 9D
AMOUNT RECEIVED Admin Charge	CHECK NUMBER
DATE OF CHECK No Fee Required	LOG Aug 96
APPROVED BY M	DATE RETURN 8/5/96

COMMENTS:

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 PAGE 1 OF 7

DEVICE TYPE: Illuminated Sight Assembly

MODEL: RLP Series, RHP series, FB Series, FP Series,
SG Series, RBW Series and FBW Series

MANUFACTURER/DISTRIBUTOR: SRB Technologies, Inc.
2597 Landmark Drive
Winston-Salem, NC 27103

SEALED SOURCE MODEL DESIGNATION: SRB Technologies (Canada) Inc.
Betelight type: "MH"
Part Numbers
2500G0350150A
2510350G0250A
2520350G0250A

ISOTOPE: MAXIMUM ACTIVITY:
Hydrogen-3 (tritium) 30 mCi (1.1 GBq)
 (Max. 3 sources per gun or bow)

LEAK TEST FREQUENCY: Not required for tritium

PRINCIPAL USE: (R) Gas source (tritium)

CUSTOM DEVICE: _____ YES X NO

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 PAGE 2 OF 7

DEVICE TYPE: Illuminated Sight Assembly

DESCRIPTION:

Model RLP Series, RHP series, FB Series, FP Series, SG Series, RBW Series and FBW Series all contain the Model Betalight "MH" light source. The betalight "MH" is a source consisting of a small cylindrical borosilicate glass vial containing tritium and a fluorescent substance which emits light. These sources are mounted into the metal gun or bow sights. When they are mounted so as to expose the end of the cylinder, they produce a round "dot" of light. When they are mounted so as to expose part of the side of the cylinder, they produce a short "line" of light. Typically, for gun sights there is a single "dot" source on the front sight. The rear sight may have either two "dot" sources, or two "line" sources located end-to-end.

The glass vials may be surrounded by a thin layer of plastic to cushion it inside the metal gun sight structure. They are held in the metal sight by a press fit and an adhesive (Loctite-Black Max). Side areas which are exposed to emit light are sharply convex surfaces which are strong and resist puncture. End areas which are exposed to emit light may have a protective glass sapphire window or sharply convex surfaces which are strong and resist puncture. The devices are designed to withstand the vigorous vibrations from firing the gun on which they are mounted, as well as expected drops from heights as much as 6.5 feet (2 meters) in any direction. All series of sights have a minimum protective wall thickness of 0.016" (0.4 mm) to the light source.

Different sets of sights are distributed which will fit on several kinds of guns and bows. The sights are designated by the following series and drawing numbers:

- RLP, dwg. no. TL-1005, rear sight with low profile
- RHP, dwg. no. TL-1006, rear sight with high profile
- FB, dwg. no. TL-1007, front blade sight
- FP, dwg. no. TL-1008, front post sight
- RBW, dwg. no. TL-1009, rear bow sight
- FBW, dwg. no. TL-1010, front bow sight
- SG, dwg. no. TL-1013, for shot guns and long barrels

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 PAGE 3 OF 7

DEVICE TYPE: Illuminated Sight Assembly

LABELING:

All sights will be permanently stamped or etched with "H3" and the licensee's name "SRBT."

DIAGRAM:

See Attachments 1 through 5

CONDITIONS OF NORMAL USE

The illuminated gun sight units are inserted in metal gun sights and attached to the barrels of various kinds of guns and bows. Gun sights will be subjected to an intense shock each time the gun is fired, and to other shocks when the gun is accidentally dropped during field use.

PROTOTYPE TESTING

The manufacturer reports that testing for these devices was performed according to the requirements in draft NRC/SSSS "Standard Requirements for Tritium Illuminated Gun Sights Containing Tritium Gas Sealed in Glass Vials." The following tests required by this document were made:

- 3.2.1 - Chemical
- 3.2.2 - Temperature
- 3.2.3 - Temperature shock
- 3.2.4 - Vibration
- 3.2.5 - Pressure
- 3.2.6 - Penetration
- 3.2.7 - Mechanical Shock
- 3.2.8 - Firing
- 3.2.9 - Evaluation

The firing test for the illuminated gun sight assemblies was conducted on an Army M-14 rifle, which was judged to subject them to larger shocks than any other weapon on which they are likely to be used.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 PAGE 4 OF 7

DEVICE TYPE: Illuminated Sight Assembly

PROTOTYPE TESTING: (con't)

The manufacturer reported there was no apparent damage to the devices or loss of containment or shielding following any of the tests. They passed the evaluation tests based on an allowable loss of tritium into the rinse water used in the test.

EXTERNAL RADIATION LEVELS

Since tritium is a soft beta emitter, its radiation is not very penetrating. The sources are contained in glass vials, which are in turn encased in thin plastic. These are in turn surrounded by metal except for one end, or a slim line on one side to allow the light to be emitted. Hence, it is concluded that any radiation emitted from the gun sight assemblies will be so near background levels as to be undetectable.

QUALITY ASSURANCE AND CONTROL

The quality assurance program for the assembly of the sights by Saunders-Roe Displays, Inc. has been reviewed, and found to be acceptable to NRC for producing devices for distribution by SRB Technologies, Inc.

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE

- These devices may be distributed to any person who is exempt from the requirements for a license in accordance with Section 30.19 of 10 CFR Part 30.
- This registration sheet and the information contained within the references shall not be changed without the written consent of the NRC.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 PAGE 5 OF 7

DEVICE TYPE: Illuminated Sight Assembly

SAFETY ANALYSIS SUMMARY:

Based on our review of the information and test data cited below, we conclude that the product is designed and manufactured so that:

- In normal use and disposal of a single exempt unit, it is unlikely that the external radiation dose in any one year, or the dose commitment resulting from the intake of radioactive material in any one year, to a suitable sample of the group of individuals expected to be most highly exposed to radiation or radioactive material from the product will exceed the dose to the appropriate organ as specified in Column I of the following table.
- In normal handling and storage of the quantities of exempt units likely to accumulate in one location during marketing, distribution, installation, and servicing of the product, it is unlikely that the external radiation dose in any one year, or the dose commitment resulting from the intake of radioactive material in any one year, to a suitable sample of the group of individuals expected to be most highly exposed to radiation or radioactive material from the product will exceed the dose to the appropriate organ as specified in Column II of the following table.
- It is unlikely that there will be a significant reduction in the effectiveness of containment, shielding, or other safety features of the product from wear and abuse likely to occur in normal handling and use of the product during its useful life.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 PAGE 6 OF 7

DEVICE TYPE: Illuminated Sight Assembly

SAFETY ANALYSIS SUMMARY (continued):

- In use and disposal of a single exempt unit, or in handling and storage of the quantities of exempt units likely to accumulate in one location during marketing, distribution, installation, and servicing of the product, the probability is low that the containment, shielding, or other safety features of the product would fail under such circumstances that a person would receive an external radiation dose or dose commitment in excess of the dose to the appropriate organ as specified in Column III of the table below, and the probability is negligible that a person would receive an external radiation dose or dose commitment in excess of the dose to the appropriate organ as specified in Column IV of the table below.

TABLE OF ORGAN DOSES (Rem)

<u>Part of the body</u>	<u>Col. I</u>	<u>Col. II</u>	<u>Col. III</u>	<u>Col. IV</u>
WB, head, trunk, gonads, eyes	0.001	0.01	0.5	15
Extremities, skin	0.015	0.15	7.5	200
Other organs	0.003	0.03	1.5	50

Based on the information and test data cited in the references listed below, we continue to conclude that these device designs are acceptable for exempt licensing purposes.

Furthermore, we continue to conclude that these devices would be expected to maintain their containment integrity for normal conditions of use and accidental conditions which might occur during uses specified in this certificate.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 PAGE 7 OF 7

DEVICE TYPE: Illuminated Sight Assembly

REFERENCES:

The following supporting documents for the series of sights listed on page one of this certificate are hereby incorporated by reference, and are made a part of this registry document:

- SRB Technologies letters dated July 24, 1996, July 21, 1995, June 12, 1995, May 22, 1995, and March 1, 1995, with enclosures thereto.
- SRB Technologies letter of October 28, 1994, with enclosed application for an Exempt Materials License for gun sights

ISSUING AGENCY:

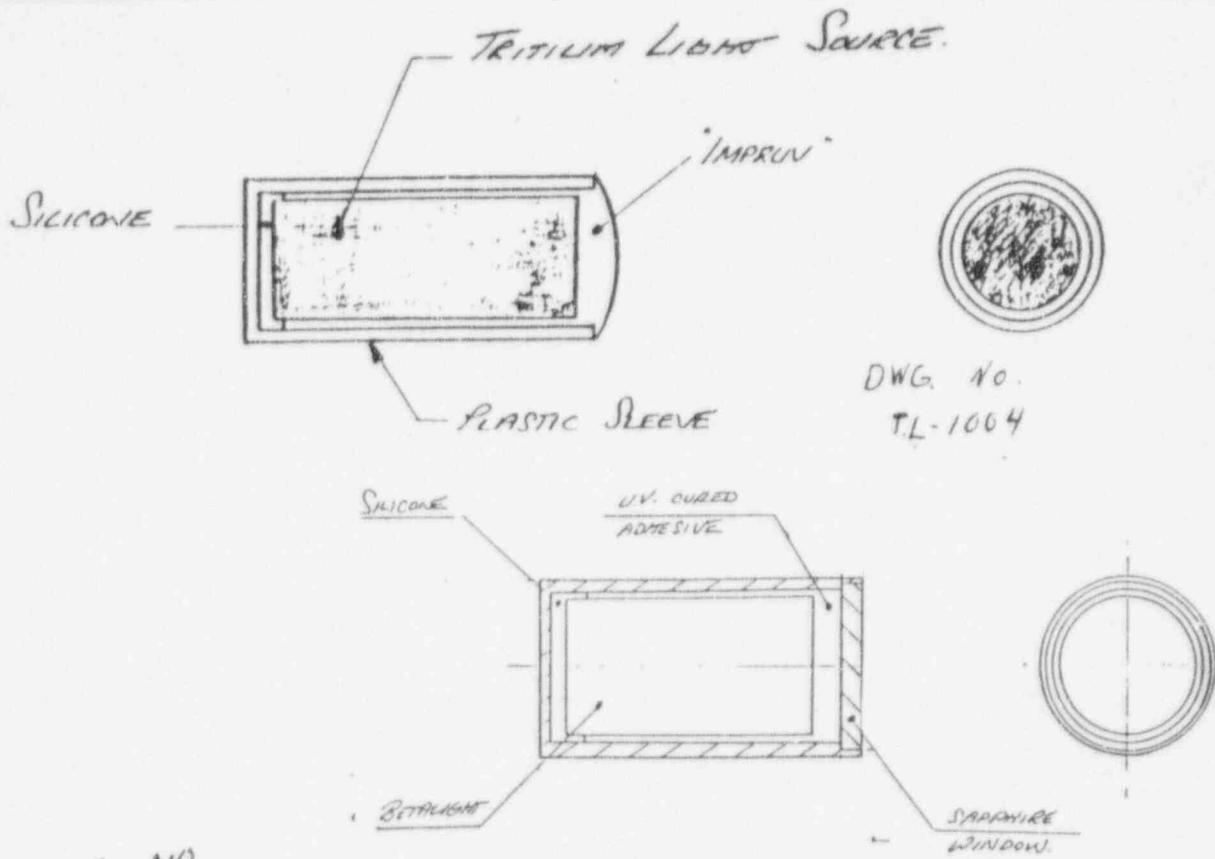
U.S. Nuclear Regulatory Commission

Date: August 9, 1996 Reviewer: Thomas W. Rich
Thomas W. Rich

Date: August 9, 1996 Concurrence: Steven L. Baggett
Steven L. Baggett

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 ATTACHMENT 1



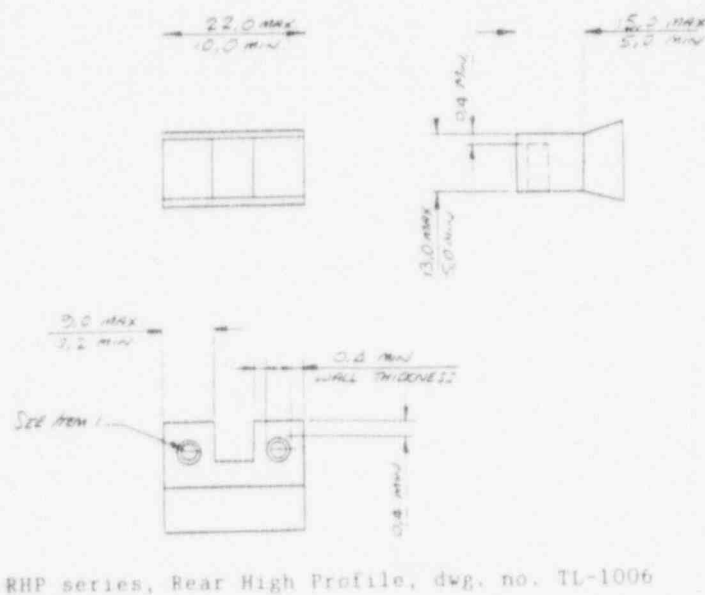
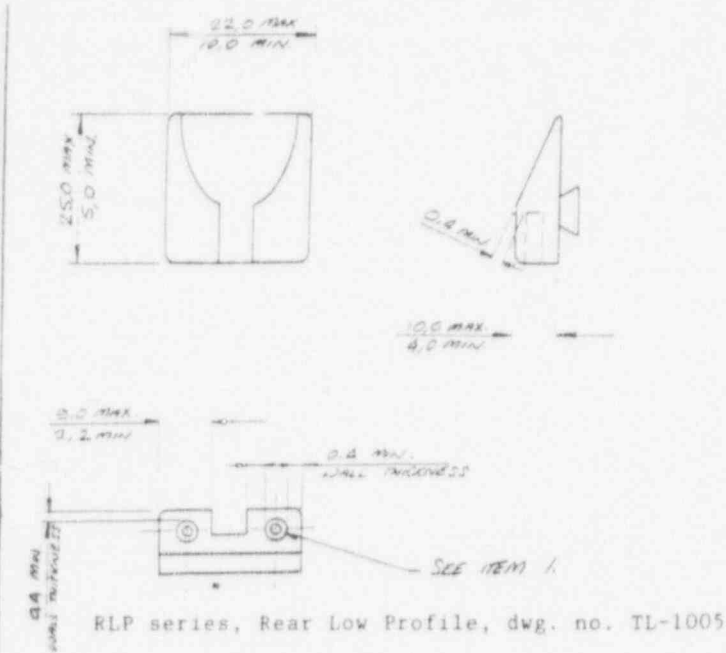
DWG NO.
T.L.-1016

Type "MH" Betalight insert assembly (ITEM 1)

SRBT	H3	DRG. No. TL-1015
TITLE LABELLING DETAILS		

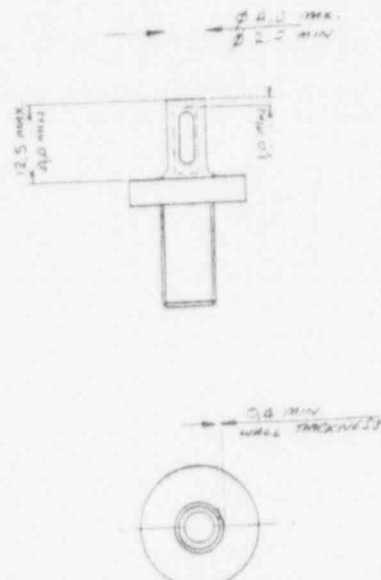
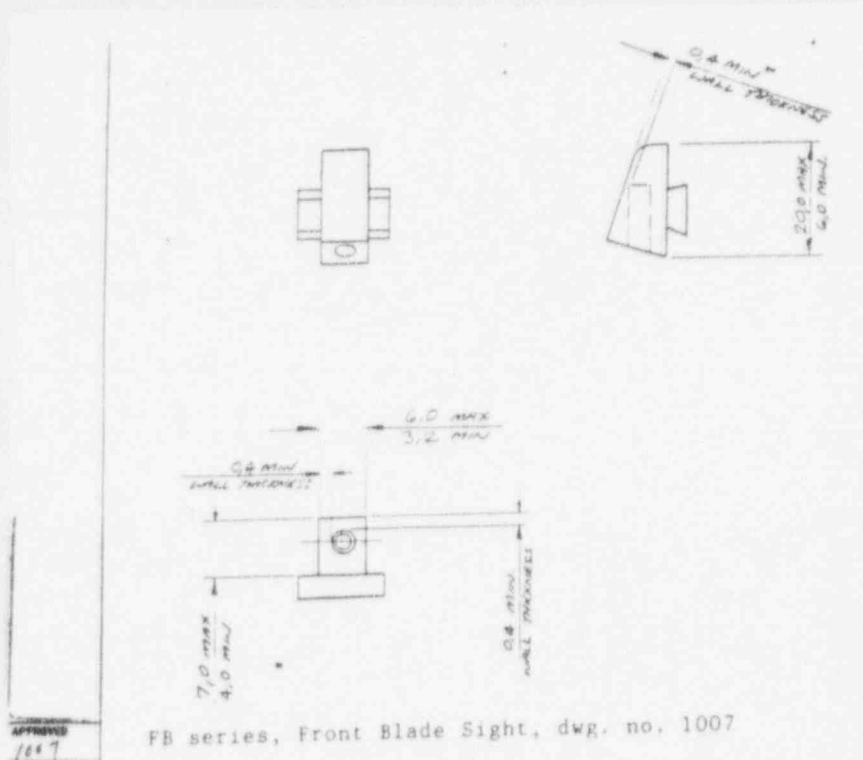
REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 ATTACHMENT 2



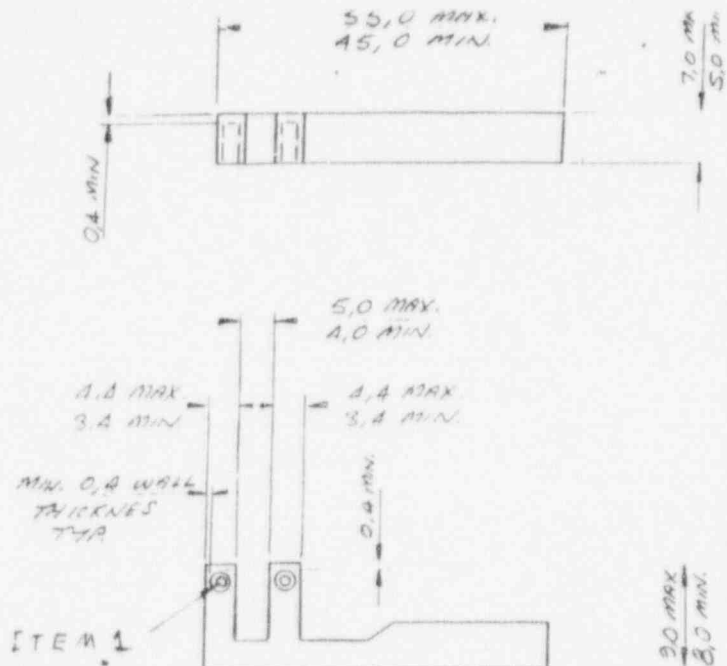
REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 ATTACHMENT 3

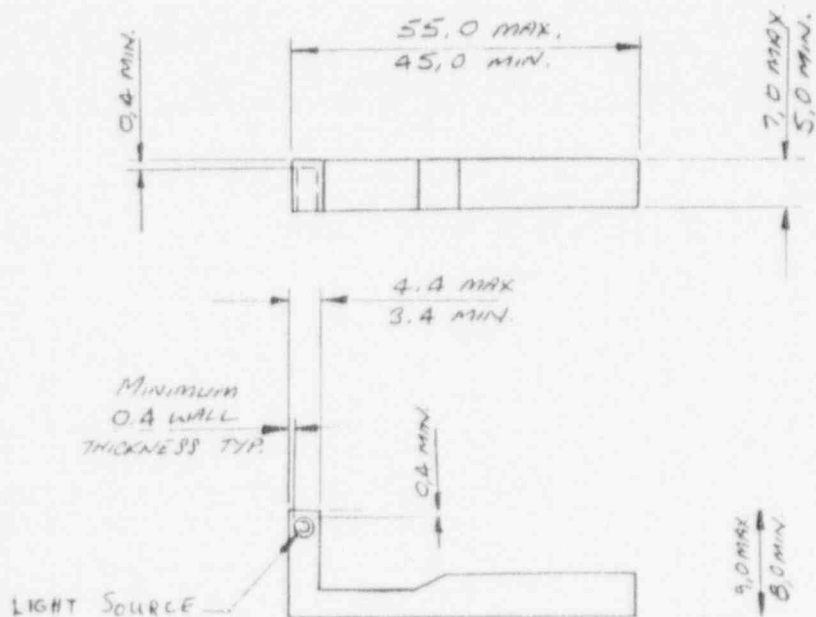


REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 ATTACHMENT 4



RBW series, Rear Bow Sight, d... IL-1009

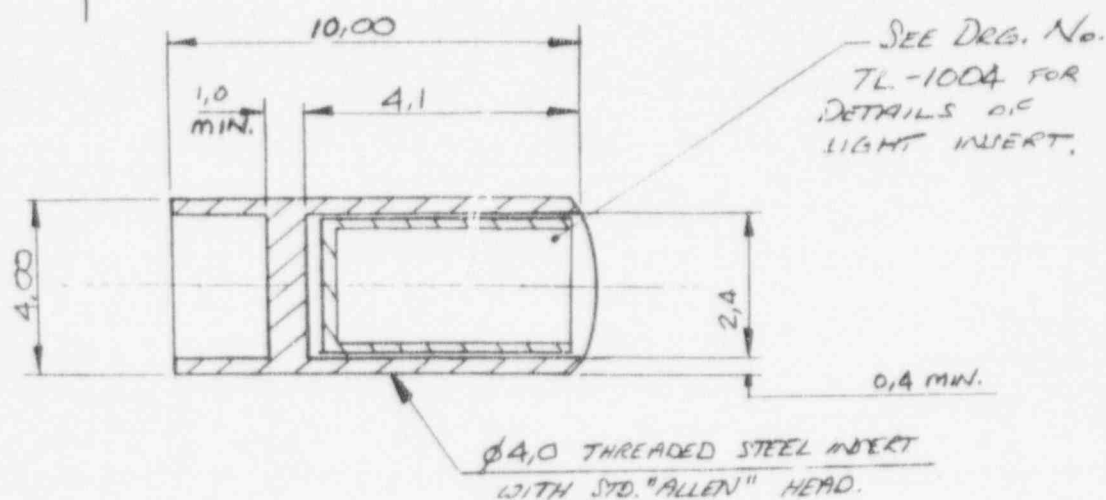
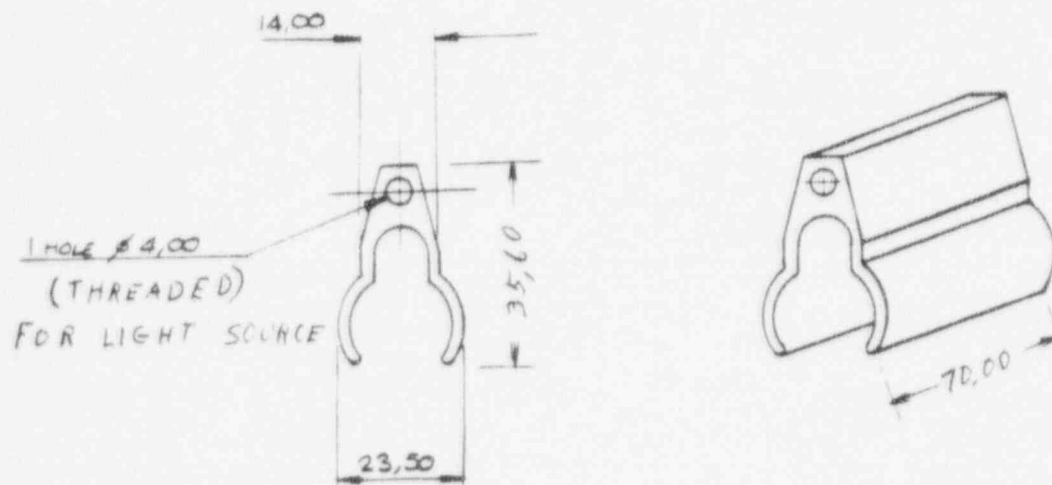


FBW series, Front Bow Sight, dwg. no. TL-1010

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
(AMENDED PAGE - AUGUST 9, 1996)

NO.: NR-0585-D-104-E DATE: September 21, 1995 ATTACHMENT 5

SG series, Shotgun Sight, dwg. no. TL-1013



Dwg. No. TL-1014 - Threaded Insert for shotgun



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

July 26, 1995

MEMORANDUM FOR: Susan L. Greene, License Reviewer
Commercial Section
Medical, Academic, and Commercial
Use Safety Branch

FROM: Thomas W. Rich, Mechanical Engineer *TWR*
Sealed Source Safety Section
Source Containment and
Devices Branch

SUBJECT: SSD TECHNICAL ASSISTANCE REQUEST:
SRB TECHNOLOGIES, INC.
CONTROL NO. - 021696

In response to a Technical Assistance Request dated November 8, 1994, for the need of a SSD review associated with SRB Technologies, Inc. license application (New) we have completed the SSD review. Please find attached a copy of registration certificate NR-0585-D-104-E.

If you have any questions, please contact me at 415-7893 or Mr. Steven Baggett at 415-7273.

Attachment: As stated

cc: SKimberley, LFDCB

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE

NO.: NR-0585-D-104-E

DATE: July 25, 1995

PAGE 1 OF 6

DEVICE TYPE: Illuminated Sight Assembly

MODEL: "MH" Series

MANUFACTURER/DISTRIBUTOR:

SRB Technologies, Inc.
2597 Landmark Drive
Winston-Salem, NC 27103

SEALED SOURCE MODEL DESIGNATION:

SRB Technologies (Canada) Inc.
Betelight type: "MH"
Part Numbers
2500G0350150A
2510350G0250A
2520350G0250A

ISOTOPE:

Hydrogen-3 (tritium)

MAXIMUM ACTIVITY:

30 mCi (1.1 GBq)
(Max. 3 sources per gun or bow)

LEAK TEST FREQUENCY:

Not required for tritium

PRINCIPAL USE: (X) Gas source (tritium)

CUSTOM DEVICE: _____ YES _____ X _____ NO

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE

NO.: NR-0585-D-104-E

DATE: July 25, 1995

PAGE 2 OF 6

DEVICE TYPE: Illuminated Sight Assembly

DESCRIPTION:

The betalight "MH" Series is a source consisting of a small cylindrical borosilicate glass vial containing tritium and a fluorescent substance which emits light. These sources are mounted into the metal gun or bow sights. When they are mounted so as to expose the end of the cylinder, they produce a round "dot" of light. When they are mounted so as to expose part of the side of the cylinder, they produce a short "line" of light. Typically, for gun sights there is a single "dot" source on the front sight. The rear sight may have either two "dot" sources, or two "line" sources located end-to-end.

^{the} Each glass vial ^{may be} is surrounded by a thin layer of plastic to cushion it inside the metal gun sight structure. They are held in the metal sight by a press fit and an adhesive (Loctite-Black Max). Both the end and the side areas which are exposed to emit light are sharply convex surfaces which are strong and resist puncture. The devices are designed to withstand the vigorous vibrations from firing the gun on which they are mounted, as well as expected drops from heights as much as 6.5 feet (2 meters) in any direction. All series of sights have a minimum protective wall thickness of 0.016" (0.4 mm) to the light source.

Different sets of sights are distributed which will fit on several kinds of guns and bows. The sights are designated by the following series and drawing numbers:

RLP, dwg. no. TL-1005, rear sight with low profile
RHP, dwg. no. TL-1006, rear sight with high profile
FB, dwg. no. TL-1007, front blade sight
FP, dwg. no. TL-1008, front post sight
RBW, dwg. no. TL-1009, rear bow sight
FBW, dwg. no. TL-1010, front bow sight
SG, dwg. no. TL-1013, for shot guns and long barrels

LABELING:

All sights will be permanently stamped or etched with "H3" and the licensee's name "SRBT."

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE

NO.: NR-0585-D-104-E

DATE: July 25, 1995

PAGE 3 OF 6

DEVICE TYPE: Illuminated Sight Assembly

DIAGRAM:

See Attachments 1 through 5

CONDITIONS OF NORMAL USE

The illuminated gun sight units are inserted in metal gun sights and attached to the barrels of various kinds of guns and bows. Gun sights will be subjected to an intense shock each time the gun is fired, and to other shocks when the gun is accidentally dropped during field use.

PROTOTYPE TESTING

The manufacturer reports that testing for these devices was performed according to the requirements in draft NRC/SSSS "Standard Requirements for Tritium Illuminated Gun Sights Containing Tritium Gas Sealed in Glass Vials." The following tests required by this document were made:

- 3.2.1 - Chemical
- 3.2.2 - Temperature
- 3.2.3 - Temperature shock
- 3.2.4 - Vibration
- 3.2.5 - Pressure
- 3.2.6 - Penetration
- 3.2.7 - Mechanical Shock
- 3.2.8 - Firing
- 3.2.9 - Evaluation

The firing test for the illuminated gun sight assemblies was conducted on an Army M-14 rifle, which was judged to subject them to larger shocks than any other weapon on which they are likely to be used.

The manufacturer reported there was no apparent damage to the devices or loss of containment or shielding following any of the tests. They passed the evaluation tests based on an allowable loss of tritium into the rinse water used in the test.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE

NO.: NR-0585-D-104-E

DATE: July 25, 1995

PAGE 4 OF 6

DEVICE TYPE: Illuminated Sight Assembly

EXTERNAL RADIATION LEVELS

Since tritium is a soft beta emitter, its radiation is not very penetrating. The sources are contained in glass vials, which are in turn encased in thin plastic. These are in turn surrounded by metal except for one end, or a slim line on one side to allow the light to be emitted. Hence, it is concluded that any radiation emitted from the gun sight assemblies will be so near background levels as to be undetectable.

QUALITY ASSURANCE AND CONTROL

The quality assurance program for the assembly of the sights by Saunders-Roe Displays, Inc. has been reviewed, and found to be acceptable to NRC for producing devices for distribution by SRB Technologies, Inc.

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE

- The Betalight type MH devices may be distributed to any person who is exempt from the requirements for a license in accordance with Section 30.19 of 10 CFR Part 30.
- This registration sheet and the information contained within the references shall not be changed without the written consent of the NRC.

SAFETY ANALYSIS SUMMARY:

Based on our review of the information and test data cited below, we conclude that the product is designed and manufactured so that:

- In normal use and disposal of a single exempt unit, it is unlikely that the external radiation dose in any one year, or the dose commitment resulting from the intake of radioactive material in any one year, to a suitable sample of the group of individuals expected to be most highly exposed to radiation or radioactive material from the product will exceed the dose to the appropriate organ as specified in Column I of the following table.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE

NO.: NR-0585-D-104-E

DATE: July 25, 1995

PAGE 5 OF 6

DEVICE TYPE: Illuminated Sight Assembly

SAFETY ANALYSIS SUMMARY (continued):

- In normal handling and storage of the quantities of exempt units likely to accumulate in one location during marketing, distribution, installation, and servicing of the product, it is unlikely that the external radiation dose in any one year, or the dose commitment resulting from the intake of radioactive material in any one year, to a suitable sample of the group of individuals expected to be most highly exposed to radiation or radioactive material from the product will exceed the dose to the appropriate organ as specified in Column II of the following table.
- It is unlikely that there will be a significant reduction in the effectiveness of containment, shielding, or other safety features of the product from wear and abuse likely to occur in normal handling and use of the product during its useful life.
- In use and disposal of a single exempt unit, or in handling and storage of the quantities of exempt units likely to accumulate in one location during marketing, distribution, installation, and servicing of the product, the probability is low that the containment, shielding, or other safety features of the product would fail under such circumstances that a person would receive an external radiation dose or dose commitment in excess of the dose to the appropriate organ as specified in Column III of the table below, and the probability is negligible that a person would receive an external radiation dose or dose commitment in excess of the dose to the appropriate organ as specified in Column IV of the table below.

TABLE OF ORGAN DOSES (Rem)

<u>Part of the body</u>	<u>Col. I</u>	<u>Col. II</u>	<u>Col. III</u>	<u>Col. IV</u>
WB, head, trunk, gonads, eyes	0.001	0.01	0.5	15
Extremities, skin	0.015	0.15	7.5	200
Other organs	0.003	0.03	1.5	50

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF A DEVICE

NO.: NR-0585-D-104-E

DATE: July 25, 1995

PAGE 6 OF 6

DEVICE TYPE: Illuminated Sight Assembly

SAFETY ANALYSIS SUMMARY (continued):

Based on the information and test data cited in the references listed below, we deem that these device designs are acceptable for exempt licensing purposes.

Furthermore, we conclude that these devices would be expected to maintain their containment integrity for normal conditions of use and accidental conditions which might occur during uses specified in this certificate.

REFERENCES:

The following supporting documents for the Betalight Type "MH" are hereby incorporated by reference, and are made a part of this registry document:

- SRB Technologies letters dated July 21, 1995, June 12, 1995, May 22, 1995, and March 1, 1995, with enclosures thereto.
- SRB Technologies letter of October 28, 1994, with enclosed application for an Exempt Materials License for gunfights

ISSUING AGENCY:

U.S. Nuclear Regulatory Commission

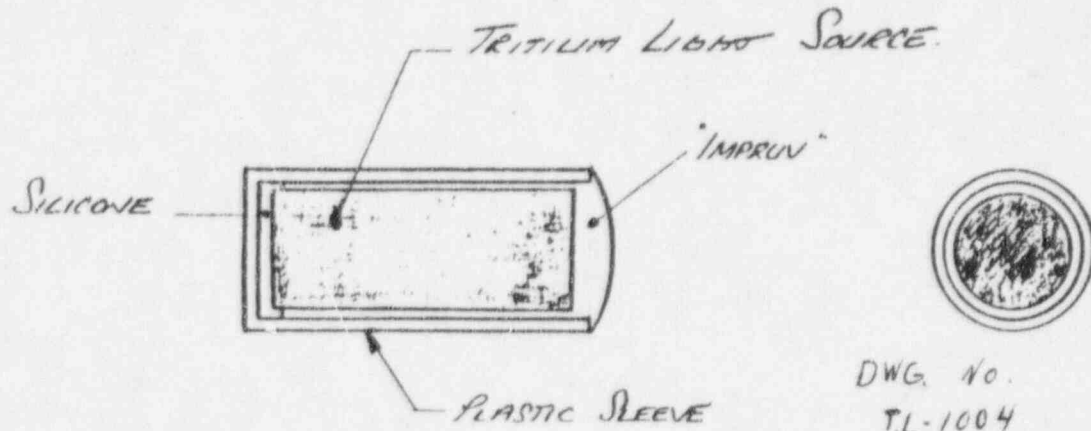
Date: July 25, 1995 Reviewer: Thomas W. Rich
Thomas W. Rich
Date: July 25, 1995 Concurrence: Steven L. Baggett
Steven L. Baggett

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

NO.: NR-0585-D-104-E

DATE: July 25, 1995

ATTACHMENT 1



Type "MH" Betalight insert assembly (ITEM 1)

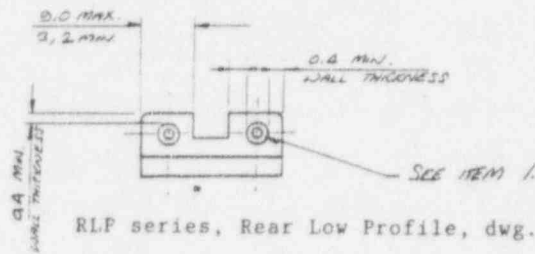
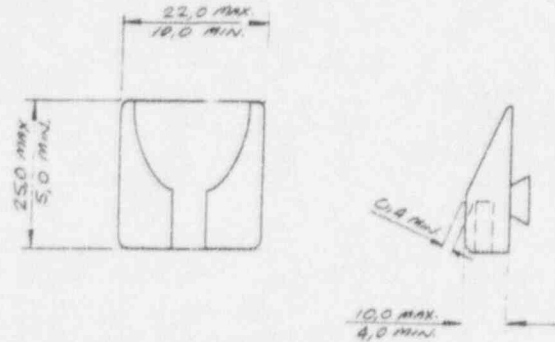
SRBT	H3	DRG. No. TL-1015
TITLE LABELLING DETAILS.		

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

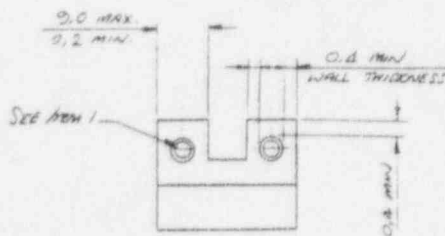
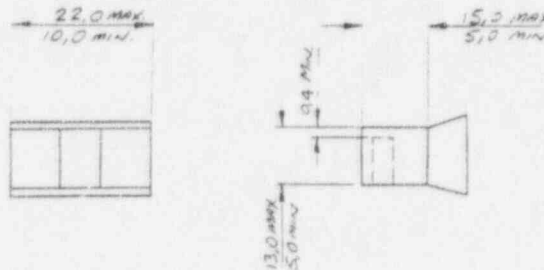
NO.: NR-0585-D-104-E

DATE: July 25, 1995

ATTACHMENT 2



RLP series, Rear Low Profile, dwg. no. TL-1005



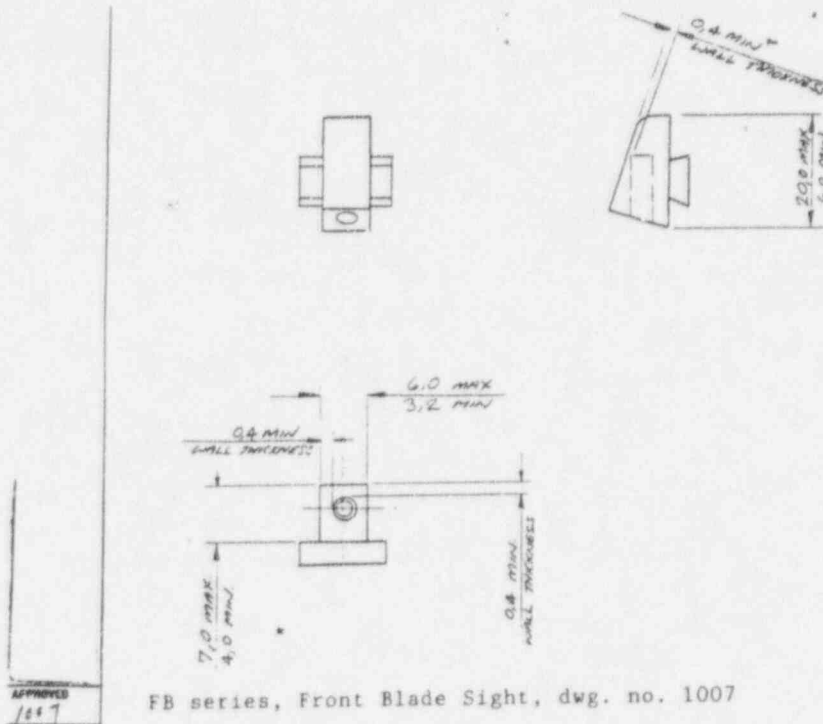
RHP series, Rear High Profile, dwg. no. TL-1006

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

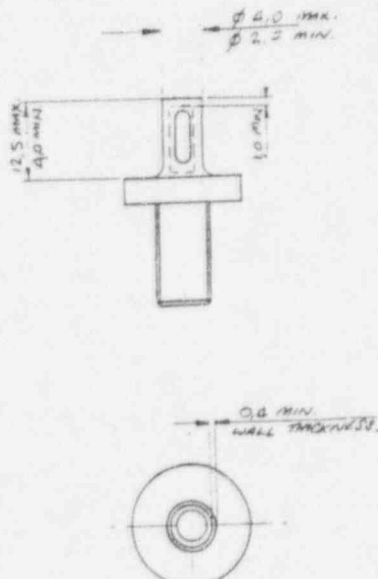
NO.: NR-0585-D-104-E

DATE: July 25, 1995

ATTACHMENT 3



FB series, Front Blade Sight, dwg. no. 1007



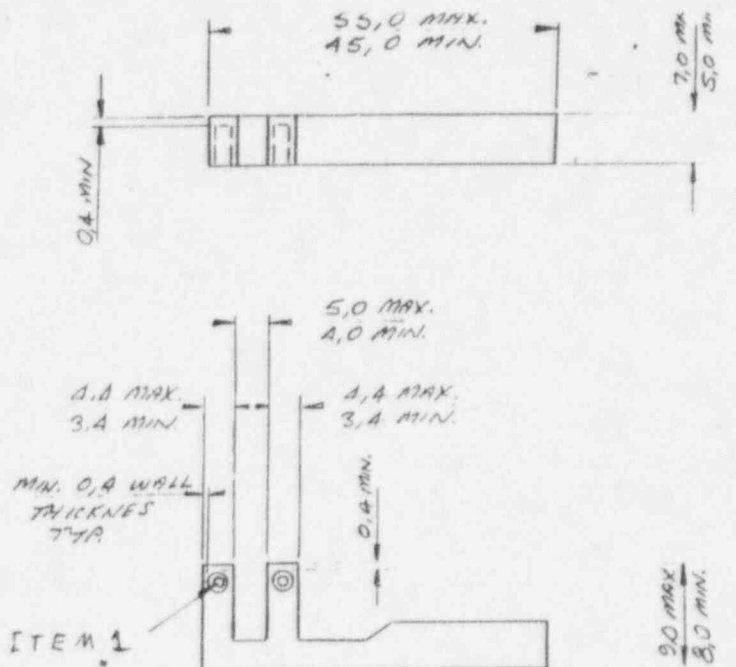
FP series, Front Post Sight, dwg. no. TL-1008

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

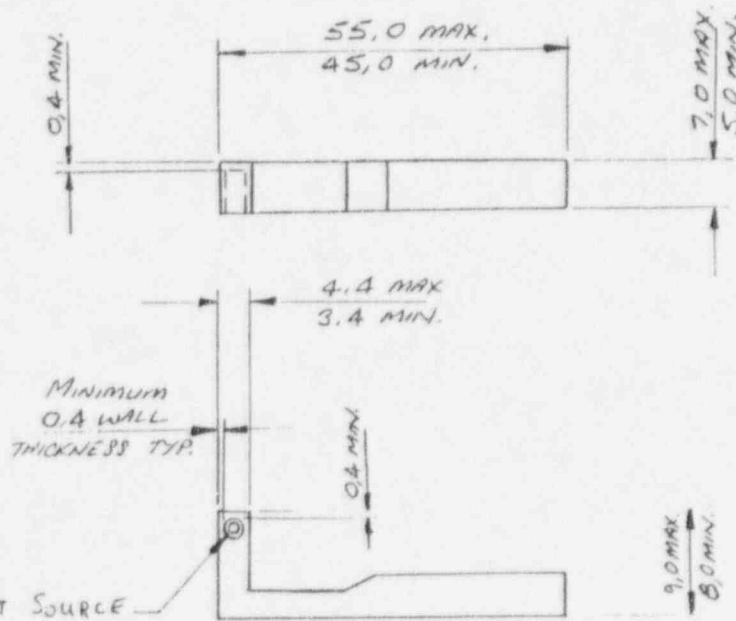
NO.: NR-0585-D-104-E

DATE: July 25, 1995

ATTACHMENT 4



RBW series, Rear Bow Sight, dwg. no. TL-1009



FBW series, Front Bow Sight, dwg. no. TL-1010

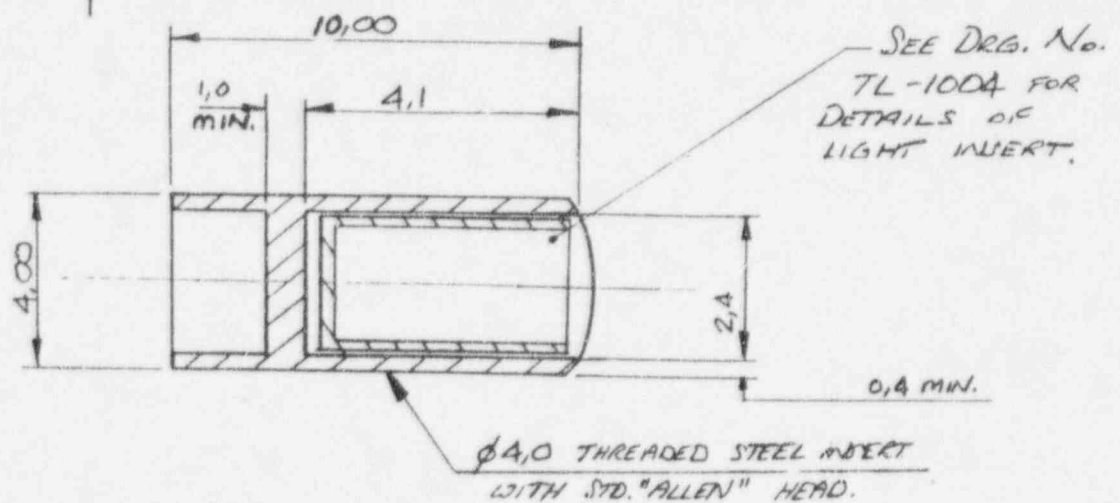
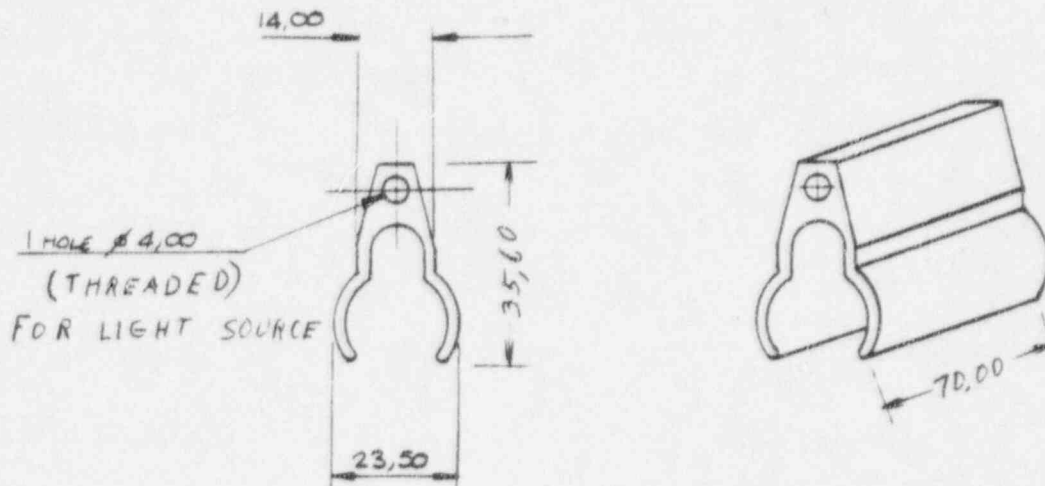
REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

NO.: NR-0585-D-104-E

DATE: July 25, 1995

ATTACHMENT 5

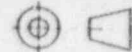
SG series, Shotgun Sight, dwg. no. TL-1013



Dwg. No. TL-1014 - Threaded Insert for shotgun

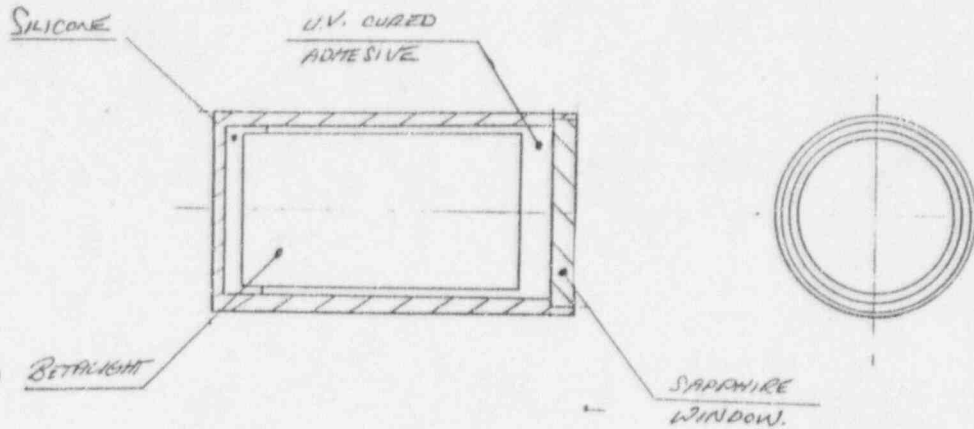
SECURITY CLASSIFICATION

3RD ANGLE PROJECTION



USED ON DRAWING TO BE READ IN CONJUNCTION WITH BS 308

IF IN DOUBT ASK

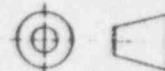


REMOVE ALL SHARP EDGES 0.5 RAD MAX.

APPROVED	TOLERANCES UNLESS OTHERWISE STATED		MATERIAL					
DATE	DIM. XX \pm .10							
	DIM. X \pm .3							
	DIM. X \pm							
	AND OVER							
CHECKED	DIMS IN mm		PROTECTIVE FINISH					
	SCALE N.T.S.				A 7/22/96 - B.P.			
	SURF. TEXT.				ISS.	DATE	CH. NOTE NO.	SIGNED
DATE	SRB TECHNOLOGIES, INC.				SECURITY CLASS			
DRAWN	RESP. AUTH.	TITLE			DRG. No.		SHEET	
					TL-1016		OF	
DATE	PLASTIC LIGHT INSERT				SERVICE DRG. No.		A	
7/22/96							4	

SECURITY
CLASSIFICATION

3RD ANGLE PROJECTION



USED ON DRAWING TO BE READ IN CONJUNCTION WITH BS 308

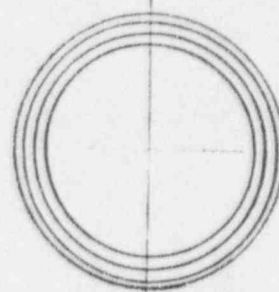
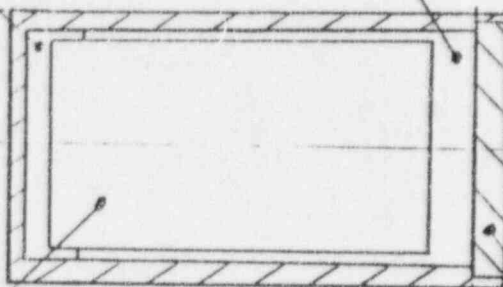
IF IN DOUBT ASK

SILICONE

U.V. CURED
ADHESIVE

BETALIGHT

SAPPHIRE
WINDOW.



REMOVE ALL SHARP EDGES 0.5 RAD MAX.

APPROVED	TOLERANCES UNLESS OTHERWISE STATED		MATERIAL					
DATE	DIM. XX $\pm .10$ DIM. X $\pm .3$ DIM. X \pm AND OVER							
CHECKED	DIMS IN mm		PROTECTIVE FINISH					
	SCALE N.T.S.							
	SURF. TEXT.							
DATE	SRB TECHNOLOGIES, INC.			SECURITY CLASS				
DRAWN	RESP. AUTH.		DRG. No.		SHEET			
	TITLE		TL-1016		OF			
DATE	PLASTIC LIGHT INSERT			SERVICE DRG. No.		A		
						4		

MATERIALS LICENSE

ORC

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

CORRECTED COPY

Licensee		In accordance with letter dated October 28, 1994, 3. License Number 32-23774-02E is issued in its entirety to read as follows:	
1. SRB Technologies, Inc.			
2. 2580 Landmark Drive Winston-Salem, NC 27103		4. Expiration Date	November 30, 2000
		5. Docket or Reference No.	030-33705
6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License	
A. Hydrogen-3	A. Sealed self-luminous light sources (SRB Technologies Models MH Series)	A. Not applicable. (See Condition 10)	
9. Authorized Use			
Pursuant to Section 32.22, 10 CFR Part 32, the licensee is authorized to distribute sealed self-luminous light sources in gun and archery sights as specified in Condition 10 of this license to persons exempt from the requirements for a license pursuant to Section 30.19, 10 CFR Part 30, or equivalent provisions of the regulations of any Agreement State.			

CONDITIONS

10. The licensee is authorized to distribute the following series of self-luminous sight assembly sets containing hydrogen-3 to persons exempt from licensing pursuant to Section 30.20, 10 CFR Part 30.

Series	Drawing No.	TYPE	Maximum Activity per Device
RLP	TL-1005	Rear sight with low profile	30 millicuries per source/ 90 millicuries per weapon
RHP	TL-1006	Rear sight with high profile	30 millicuries per source/ 90 millicuries per weapon
FB	TL-1007	Front blade sight	30 millicuries per source/ 90 millicuries per weapon
FP	TL-1008	Front post sight	30 millicuries per source/ 90 millicuries per weapon

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

32-23774-02E

Docket or Reference Number

030-33705

CORRECTED COPY

CONDITIONS

(Continued)

- | 10. Series | Drawing No. | TYPE | Maximum Activity per Device |
|------------|-------------|---------------------------|---|
| RBW | TL-1009 | Rear bow sight | 30 millicuries per source/
90 millicuries per weapon |
| FBW | TL-1010 | Front bow sight | 30 millicuries per source/
90 millicuries per weapon |
| SG | TL-1013 | Shot guns and long barrel | 30 millicuries per source/
90 millicuries per weapon |
11. This license does not authorize possession or use of licensed material.
12. The licensee may distribute only from its facility located at 2580 Landmark Drive, Winston-Salem, NC.
13. The licensee shall file periodic reports as specified in Section 32.25(c), 10 CFR Part 32.
14. Each device distributed under this license shall be manufactured, tested, and labeled in accordance with Sections 32.22, 32.23, 32.24, and 32.25 of 10 CFR Part 32.
15. Except as specifically provided otherwise by this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Letters contained in Registration Certificate No. NR-0585-D-104-E; and
B. Letter dated November 2, 1995.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

8/11/95

11/15/95 CB

DATE: November 15, 1995

BY:

Original signed by:

J. Bruce Carrico
Medical, Academic, and Commercial
Use Safety Branch
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards
Washington, DC 20555

B. Pullen

-2-

5. Submit a complete renewal application (with proper fee) or termination request (no fee required) at least 30 days before the expiration date on your license. You should receive a reminder notice approximately 90 days before the expiration date. Continued distribution of products containing radioactive material after your license expires is a violation of NRC regulations.
6. In accordance with 10 CFR 30.36, request termination of your license if you plan to permanently discontinue activities involving distribution of products containing radioactive material.

You will be periodically inspected by NRC. Failure to conduct your program in compliance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC may result in enforcement action(s) against you. This could include issuance of a notice of violation; proposed imposition of a civil penalty; or an order suspending, modifying, or revoking your license as specified in the Federal Register Notice, 60 FR 34381, dated June 30, 1995.

If you have any questions, please contact Ms. Susan Greene at (301) 415-7843.

Sincerely,

DISTRIBUTION:

License File 32-23774-01E
NMSS r/f
IMNS Central File
LWCamper
PSantiago
Region II
OSP

Original signed by:

J. Bruce Carrico
Commercial Use Safety Section
Medical, Academic, and Commercial
Use Safety Branch
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

Docket No. 030-33705

Enclosure: License No. 32-23774-01E

DOCUMENT NAME: SRBCVR.SLG

To receive a copy of this document, indicate in the box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

OFFICE	NMSS:IMAB	<input checked="" type="checkbox"/>	NMSS:IMAB	<input checked="" type="checkbox"/>					
NAME	SLGreene/CJB		JBCarrico	<input checked="" type="checkbox"/>					
DATE	11/11/95		11/9/95						

OFFICIAL RECORD COPY

November 9, 1995

SRB Technologies, Inc.
ATTN: Mr. Brian G. Pullen
President
2580 Landmark Drive
Winston-Salem, North Carolina 27103

Dear Mr. Pullen:

Enclosed is NRC License No. 32-23774-01E issued its entirety.

Please review the enclosed license carefully and be sure that you understand all the conditions. If there are any errors or questions, please contact me so that appropriate corrections and answers can be provided.

Please be advised that you must conduct your program involving radioactive materials in accordance with the conditions specified in your NRC license, representations made in your license application, and other rules, regulations, and orders of the U.S. Nuclear Regulatory Commission, now or hereafter in effect, to include the following:

1. Comply with applicable NRC regulations in 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material"; 10 CFR Part 32, "Specific Domestic Licenses to Manufacture or Transfer Certain Items Containing Byproduct Material"; and other applicable regulations.

NOTE: Licensees authorized to distribute or initially transfer products containing byproduct material must also possess a valid possession license issued either by NRC or an Agreement State(s) which authorizes possession and use of byproduct material.

2. Distribute only those products containing radioactive material which are specifically authorized in your license.
3. Notify NRC in writing within 30 days of any change in mailing address (no fee is required if the location of radioactive material remains the same).
4. Request and obtain appropriate amendments if you plan to change control or ownership of your organization, change locations of distribution of products containing radioactive material, or make any other changes in your program which are contrary to the license conditions or representations made in your license application and any supplemental correspondence with NRC. A license fee may be charged for the amendments if you are not in a fee-exempt category.