APPLICATION FOR EXEMPT DEVICE REGISTRATION

ARMSON USA, LLC

OEG SERIES

February 11, 2013

NRC ORIGINAL COPY

Prepared by:

IRSC
International Radiation Safety Consulting, Inc.
17 Norfolk Rd., Holbrook, MA 02343 USA
www.irsc-inc.com

ARMSON USA
COMBAT SIGHTING SYSTEMS

February 11, 2013

John Jankovich, Ph.D.
Team Leader
FSME/DMSSA/LB, Mailstop 8 E24
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

RE: Application for NRC Exempt Device Registration

Dear Dr. Jankovich:

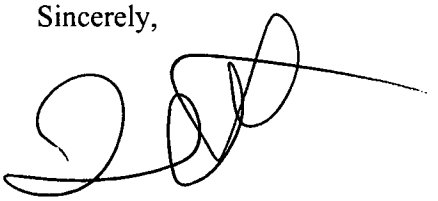
Enclosed please find our application for a new NRC exempt device registration for gunsights containing tritium sources.

Armson OEG Series gunsights were originally distributed under a device registration issued to Leadership Key,s registration NR-418-D-101-G, and are currently distributed under Trijicon registration NR-418-D-101-E.

Armson gunsights have been distributed for over 30 years and have proven themselves to be a quality product.

If you have any questions please call me at 207-797-8200 or email me at forest@armsonusa.com.

Sincerely,



Forest Hatcher

Managing Member

Armson USA, LLC
28 Stroudwater Street Ste 10 Westbrook, ME 04062
(207) 797-8200 www.armsonusa.com fax: (207) 797-8205

This form serves as a certification used to identify a small entity, and is exempt from Office of Management and Budget clearance. 5 C.F.R. 1320.3(h)(1).

NRC FORM 526 (08-2012) 10 CFR 171

U.S. NUCLEAR REGULATORY COMMISSION

CERTIFICATION OF SMALL ENTITY STATUS FOR THE PURPOSES OF ANNUAL FEES IMPOSED UNDER 10 CFR PART 171 (Effective August 22, 2012)

If you have QUESTIONS, e-mail them to: SmallEntity.Resource@nrc.gov

SEE IMPORTANT INSTRUCTIONS FOR NRC FORM 526 -- PLEASE READ CAREFULLY
DO NOT COMPLETE OR RETURN THIS FORM IF YOU DO NOT QUALIFY AS A SMALL ENTITY
A Licensee that is a subsidiary of a large entity, including foreign entities, does NOT qualify as a small entity.

NAME AND ADDRESS OF LICENSEE *(as it appears on the invoice)*:	INVOICE NUMBER	BUSINESS TELEPHONE NUMBER
Armson USA, LLC 28 Stroudwater Street Unit 10 Westbrook, ME 04092		(207) 797-8200
	DOCKET NUMBER	CONTACT NAME Forest Hatcher

EMAIL ADDRESS	COMPANY WEBSITE ADDRESS	CONTACT TELEPHONE NUMBER
forest@armsonusa.com	www.armsonusa.com	(386) 569-1318

SIZE STANDARDS (Check only 1 box below).		MAXIMUM ANNUAL FEE PER LICENSED CATEGORY (See Items 2 and 3 on back)
1. SMALL BUSINESS A for-profit concern that is not engaged in manufacturing with average **GROSS** receipts of $7.0 million or less over its last 3 completed fiscal years. For further information see 1a and 1b of attached instructions.	☐ A. $450,000 TO $7,000,000 ☐ B. LESS THAN $450,000	$ 2,300 $ 500
2. MANUFACTURING INDUSTRY A manufacturing concern with an average number of 500 or fewer employees based upon employment during each pay period for the preceding 12 calendar months. NAICS BUSINESS CODE (See 1b and 1e of attached instructions): 333314	☐ A. 35 to 500 EMPLOYEES ☒ B. LESS THAN 35 EMPLOYEES	$ 2,300 $ 500
3. SMALL ORGANIZATION A not-for-profit organization that is independently owned and operated and has annual **GROSS** receipts of $7.0 million or less. For further information see 1a and 1b of attached instructions	☐ A. $450,000 TO $7,000,000 ☐ B. LESS THAN $450,000	$ 2,300 $ 500
4. SMALL GOVERNMENTAL JURISDICTION (INCLUDING PUBLICLY SUPPORTED EDUCATIONAL INSTITUTIONS) A government of a city, county, town, township, village, school district, or special district with a population of less than 50,000. For further information see 1f of attached instructions.	☐ A. 20,000 TO 49,999 POPULATION OF JURISDICTION ☐ B. LESS THAN 20,000 POPULATION OF JURISDICTION	$ 2,300 $ 500
5. SMALL EDUCATIONAL INSTITUTION THAT IS NOT STATE OR PUBLICLY SUPPORTED Only applicable to such small educational institutions if they have 500 or less employees. For further information see 1b and 1f of attached instructions.	☐ A. 35 to 500 EMPLOYEES ☐ B. LESS THAN 35 EMPLOYEES	$ 2,300 $ 500

CERTIFICATION

This certification MUST be signed by the owner of the entity named above or an official empowered to act on behalf of the entity.

I certify that the above named NRC licensee qualifies as a small entity under the size standards established by the NRC for its licensees in 10 CFR 2.810. The licensee qualifies as a small entity under the specific size standard indicated above.

WARNING: 18 U.S.C. Section 1001, Act of June 25, 1948, 62 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. The submittal of willful false statements is punishable by fine or imprisonment, or both, and for purposes of this certification, may result in revocation or suspension of the license.

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT.	TYPED OR PRINTED NAME AND TITLE	SIGNATURE	DATE
	Forest A. Hatcher		02/18/2013

See Attached Instructions

APPLICATION FOR EXEMPT DEVICE REGISTRATION

ARMSON USA, LLC

OEG SERIES

February 11, 2013

Prepared by:

IRSC
International Radiation Safety Consulting, Inc.
17 Norfolk Rd., Holbrook, MA 02343 USA
www.irsc-inc.com

Application and Review Checklist for (Acceptance, 1st, or 2nd) Review for SSD 00-000

SUMMARY DATA

Name and Complete Mailing Address of the Applicant: **Armson USA, LLC** **28 Soutwater St., Unit 10** **Westbrook, ME 04092**	**Name, Title, and Telephone Number of the Individual to Be Contacted If Additional Information or Clarification is Needed by the NR C:** **Forest Hatcher, Managing Member, 207-797-8200**
The Applicant Is (check one): ( ) Custom User ( ) Manufacturer ( ) Distributor (X) Manufacturer and Distributor	**If the Applicant Is Not the Manufacturer, Provide the Name and Complete Mailing Address of the Manufacturer:**
If the Applicant Is a Custom User, Provide the Name and Complete Mailing Address of the Distributor:	**Provide the Name, Complete Mailing Address, and Function of Other Companies Involved:**
Model Number: OEG Series	**Principal Use Code (see Appendix C): W**
Name Used by the Industry to Identify the Product (e.g., Radiography Exposure Device, Teletherapy Source, Calibration Source, etc.): **Gunsights**	**For Use by:** ( ) Specific Licensees Only ( ) General Licensees Only ( ) Both Specific and General Licensees (X) Persons Exempt from Licensing
Leak-Test Frequency: (X) **Periodic** Leak-Testing **is Not Required** ( ) **6 Months** ( ) **Attached is justification for a leak test frequency of greater than 6 months**	**Principal Section of the 10 CFR that Applies to the User (e.g., General Licensees under 10 CFR 31.5): 10 CFR 30.19** **Radionuclides and Maximum Activities (Including loading tolerance): H-3, 160mCi per gunsight**

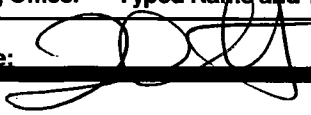
CERTIFICATION:

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 AND 32 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 62 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

Certifying Officer — Typed Name and Title **Forest Hatcher, Managing Member**

Signature:  **Date:** 2/18/13

Index of Attachments

Armson USA, LLC

2/11/2013

Attachment A- Articles of Incorporation

Attachment B- Table of Model Numbers

Attachment C- Product Specifications

Attachment D- mb microtec Sealed Source Registration

Attachment E-Technical drawings for the product

Attachment F- Original Leadership Keys Device Registration

Attachment G- Current Trijicon Device Registration

Attachment H- Product Labeling

Attachment I- Prototype Testing Report

Attachment J- Radiation Dose Calculation

Attachment K- Quality Assurance Program

Attachment L- Information for Users of the Product

Attachment M- State of Maine Possession License

Application for Sealed Source and Device Review
Armson USA, LLC
2/11/2013

Preface:

This application is a request for a sealed source and device review to approve the Armson OEG Series as exempt devices. These devices were formerly manufactured by Armson Pty Ltd of South Africa and distributed by Leadship Keys, and currently Trijicon under US exempt device registrations. This application is being submitted simultaneously with an application for a new exempt distribution license A completed SS&D application form from NRC NUREG 1556 Vol. 3, Revision 1 accompanies this application write-up.

Distributor

Armson USA, LLC
28 Stoutwater St., Unit 10
Westbrook, ME 04092

Manufacturer

Armson USA, LLC
28 Stoutwater St., Unit 10
Westbrook, ME 04092

Enclosed as Attachment A is a copy of the articles of incorporation.

Custom Use

This will not be a custom use product.

Model Number

OEG Series

Includes the following models:

Pro-Dot 0.22
Pro-Dot MaxDuty 0.22
Pro-Dot Max Duty 0.22 with pic mount
1" OEG
1" OEG Max Duty
M16 OEG
M16 OEG Max Duty

Mini-14 OEG Max Duty
HK OEG Max Duty
UZI OEG Max Duty
Pic OEG Max Duty

Major differences between models include the use of a threaded vs. a dovetail mount.

Enclosed as Attachment B is a listing of the characteristics of each model.

See Attachment C for the product specification

Device Type

Luminous Gunsights

Source Type

Gaseous Tritium Light Source (GTLS)

Principal Use Code

(W) Self-Luminous Light Source

Radionuclide

H-3 (tritium)

Total Activity 160mCi per gunsight, contained in two 80mCi sources.

Source Manufacturer

mbMicrotecModel 400 Series
NY-1271-S-101-S

Attachment D is the source registration.

Leak Test Frequency

Not Required

CONDITIONS OF USE

For use with firearms in low light conditions. Both eyes remain open for instant target acquisition, improved depth perception, and no loss of peripheral vision. The Armson Aiming Concept instantly merges the dot and target.

CONSTRUCTION OF THE PRODUCT

Tritium is in gaseous form sealed in borosilicate glass tubes.

Sources are permanently installed in the protective aluminum housing using an epoxy.

The gunsight is comprised of heat treated aircraft grade aluminum alloy tube, with an anodized finish. It is machined from one piece of metal, a double achromatic glass lens, and a polycarbonate dome cover. Armson O.E.G. sights are built to withstand the most demanding use.

Attachment E is the technical drawings for the product

Attachment F is the original Leadership Keys Device Registration

Attachment G is the current Trijicon Device Registration

Dimensions

The sights are a maximum of approximately 5.12" (130 mm) in length, 1.06" (27 mm) in height and 1.06" (27 mm) in width.

Working Life

The working life of gunsights is 12-14 years before the sights need to be replaced. There are units in the field which have been in use for over 30 years still in excellent operating condition, previously used on the battlefield.

LABELING

Devices

Devices are marked "tritium" and "Armson, USA,LLC" to identify the manufacturer.

The packaging for retail sale shall be marked as follows:

"This product contains radioactive material and meets the safety criteria under 10 CFR32.23. The user is exempt from any regulatory requirement."

Attachment H is an image of the product labeling

Sealed Sources

Sealed sources are not labeled due to impracticality, as indicated on the source registration.

PROTOTYPE TESTING

Sources

Sources were tested by the manufacturer to ANSI standardN540-1975, Classification of Radioactive Self-Luminous Sources to a rating of TAGC1444X44.

Devices

Gunsights were originally tested as part of the Leadership Keys application to ANSI standardN540-1975, Classification of Radioactive Self-Luminous Sources by Environmental Research Group, Inc.

Gunsights were subjected to firing testing, thermal shock, and pressure testing.

After testing gunsights were wipe tested for contamination with no positive results, and compared for luminosity before and after testing, with no observed decrease in brightness.

Enclosed as Attachment I is a copy of the prototype testing information.

RADIATION PROFILES

Tritum emits beta particles with a maximum energy of 18.59KeV. This is insufficient energy to penetrate the borosilicate glass container, so the effect dose in contact with the external surface of the source is at background levels.

Enclosed are dose calculations which verify that under normal operating conditions the user will not receive a radiation dose in excess of 10% of the limits specified in 10 CFR 20.1201(a), or equivalent Agreement State regulations.

A potential does exist for a radiation dose if the sources are ruptured. Enclosed are dose calculations which verify that under normal operating conditions the user will not receive a radiation dose in excess of 15rem whole body, head and trunk, active blood forming organs, gonads, or lens of the eye, hands and forearms, feet and ankles, localized areas of skin averaged over areas no larger than 1cm2, 200 rem, or 50 rem to other organs.

See Attachment J for the dose calculation report.

QUALITY ASSURANCE AND QUALITY CONTROL

Armson maintains a quality assurance program which meets the requirements of NRC NUREG 1556, vol 3, revision 1. A copy of the QA program is included as Attachment K.

INSTALLATION, SERVICING, AND INSTRUCTIONS TO USERS

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Sat Aug 25 2012 09:28:40. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
ARMSON USA, LLC	20120008FC	LIMITED LIABILITY COMPANY (FOREIGN)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
07/14/2011	N/A	WISCONSIN

Other Names **(A=Assumed ; F=Former)**

NONE

Clerk/Registered Agent

FOREST HATCHER
28 STROUDWATER STREET STE 10
WESTBROOK, ME 04092

Sec. 183.0202
Wis. Stats.

State of Wisconsin
Department of Financial Institutions

ARTICLES OF ORGANIZATION - LIMITED LIABILITY COMPANY

Executed by the undersigned for the purpose of forming a Wisconsin Limited Liability Company under Chapter 183 of the Wisconsin Statutes:

Article 1. **Name of the limited liability company:**

Armson USA, LLC

Article 2. **The limited liability company is organized under Ch. 183 of the Wisconsin Statutes.**

Article 3. **Name of the initial registered agent:**

Andrew Niebler

Article 4. **Street address of the initial registered office:**

N94 N17900 Appleton Avenue, Ste 200
Menomonee Falls, WI 53051
United States of America

Article 5. **Management of the limited liability company shall be vested in:**

A manager or managers

Article 6. **Name and complete address of each organizer:**

Andrew Niebler
N94 N17900 Appleton Avenue, Ste 200
Menomonee Falls, WI 53051
United States of America

Other Information. **This document was drafted by:**

Andrew Niebler

Organizer Signature:

Andrew Niebler

Date & Time of Receipt:
7/11/2011 11:03:08 AM

Credit Card Transaction Number:
201107112663482

ARTICLES OF ORGANIZATION - Limited Liability Company(Ch. 183)

Filing Fee: $130.00
Total Fee: $130.00

ENDORSEMENT

State of Wisconsin
Department of Financial Institutions

EFFECTIVE DATE	
7/11/2011	

FILED 7/11/2011	Entity ID Number A065805

Andrew Niebler

From: DFI Corporations [corporations@dfi.state.wi.us]
Sent: Monday, July 11, 2011 11:04 AM
To: Andrew Niebler
Subject: Articles of Organization for Armson USA, LLC: Submission received

We have received your Wisconsin Limited Liability Company Articles of Organization for:

Armson USA, LLC

A confirmation email has been sent to aniebler@nprclaw.com.

To view and print the received document, please go to the address below:

http://www.wdfi.org/r?r=8&id=300596&c=1937131333

The contact person we have on record for this document is:
Andrew Niebler
aniebler@nprclaw.com
262-523-8000

Retain and/or print this email for your records.

Payment Details
Your Order Number: 201107112663482
Date/Time: 7/11/2011 11:03:08 AM
Payment Method: Credit Card

You will see a charge on your credit card from WI Dept of Financial Inst in the amount of $130.00.

WHAT WE WILL DO

We will act on your document in the order in which it was received at this Department.

If your document is acceptable:
We will endorse it "FILED". This endorsement will include the effective date of the document and the entity's ID number that we assign. An email will be sent to aniebler@nprclaw.com with a link to the filed document.

If your document is not acceptable to file:
An email will be sent to aniebler@nprclaw.com with a link to make the necessary corrections. You must make the corrections to the document and resubmit it. You will not be charged again. The resubmitted document will be subject to a new received date.

Wisconsin Department of Financial Institutions

http://www.wdfi.org/

IRS.gov

EIN Assistant

Your Progress: 1. Identity 2. Authenticate 3. Addresses 4. Details 5. EIN Confirmation

Additional Information about your EIN

We suggest you print this page for your records.

When Can You Use Your EIN?

This EIN is your permanent number and can be used immediately for most of your business needs, including:

- Opening a bank account
- Applying for business licenses
- Filing a tax return by mail.

However, it will take up to two weeks before your EIN becomes part of the IRS's permanent records. You must wait until this occurs before you can:

- File an electronic return
- Make an electronic payment
- Pass an IRS Taxpayer Identification Number (TIN) matching program.

Next Steps (for LLC)?

If you do not wish to accept the default status of either partnership or disregarded entity, you can file:

- Form 8832 (Entity Classification Election). This form must be completed in a timely manner to receive corporation status. See the instructions for complete information.
- Form 2553 (Election by a Small Business Corporation).This form must be completed in a timely manner to receive S corporation status. See the instructions for complete information.

Acceptance or Non-Acceptance of Election

- The service center will notify the LLC as to the acceptance or non-acceptance of its election. The LLC should generally receive a determination on its election within 60 days after it has filed Form 8832 or Form 2553.
- Do not file Form 1120 (U.S. Corporation Income Tax Return) or Form 1120S (U.S. Income Tax Return for an S Corporation) until you receive notification of your acceptance.

You can download IRS forms, publications, and tax returns at http://www.irs.gov/formspubs

Corrections?

If you need to make changes to your organization's information, you must do so in writing and mail the information to the address provided at http://www.irs.gov/file/article/0,,id=111138,00.html.

<< Back Continue >>

Help Topics

- What is Form 8832?
- What is Form 2553?

IRS.gov

EIN Assistant

Your Progress: 1. Identity 2. Authenticate 3. Addresses 4. Details 5. EIN Confirmation

Congratulations! The EIN has been successfully assigned.

EIN Assigned: **45-2717870**

Legal Name: **ARMSON USA LLC**

The confirmation letter will be mailed to the applicant. This letter will be the applicant's official IRS notice and will contain important information regarding the EIN. Allow up to 4 weeks for the letter to arrive by mail.

We strongly recommend you print this page for your records.

Click "Continue" to get additional information about using the new EIN. Continue >>

Help Topics

Can the EIN be used before the confirmation letter is received?

Model	Source	Activity	Dimensions	Weight	Dome Type	Mount
Pro-Dot 0.22	H-3	160mCi	3.8x0.84x1.25in.	2.8oz	Open Dome	Dovetail
Pro-Dot MaxDuty 0.22	H-3	160mCi	3.8x0.84x1.25in.	2.8oz	Closed Dome	Dovetail
Pro-Dot Max Duty 0.22 with pic mount	H-3	160mCi	3.8x0.84x1.25in.	2.8oz	Closed Dome	Picatinny
1" OEG	H-3	160mCi	5.1x1.08x1.08in.	3.9oz	Open Dome	Picatinny, Mini-14, HK, or UZI
1" OEG Max Duty	H-3	160mCi	5.1x1.08x1.08in.	3.9oz	Closed Dome	Picatinny, Mini-14, HK, or UZI
M16 OEG	H-3	160mCi	5.1x1.08x1.08in.	3.9oz	Open Dome	HK, Mini 14, or UZI/Mini UZI
M16 OEG Max Duty	H-3	160mCi	5.1x1.08x1.08in.	3.9oz	Closed Dome	Unspecified
Mini-14 OEG Max Duty	H-3	160mCi	5.1x1.08x1.08in.	3.9oz	Closed Dome	Unspecified
HK OEG Max Duty	H-3	160mCi	5.1x1.08x1.08in.	3.9oz	Closed Dome	HK,UZI, or Mini UZI
UZI OEG Max Duty	H-3	160mCi	5.1x1.08x1.08in.	3.9oz	Closed Dome	HK,UZI, or Mini UZI
Pic OEG Max Duty	H-3	160mCi	5.1x1.08x1.08in.	3.9oz	Closed Dome	Picatinny

FALL 2012 ARMSONUSA
O.E.G. SIGHT AND MOUNT PRICING

PRODUCT	DESCRIPTION					
www.armsonusa.com/prodreddotsi.html	**Pro-Dot .22**					**$69.95**
www.armsonusa.com/armaxdut22si.html	**Pro-Dot Max Duty .22**					**$79.95**
www.armsonusa.com/prpimo.html	**Pro-Dot Max Duty .22 with Pic Mount**					**$99.95**
www.armsonusa.com/armsonoeg1.html	**1" OEG**					**$169.95**
www.armsonusa.com/aroegmaxdut1.html	**1" OEG Max Duty**					**$179.95**
www.armsonusa.com/armsonoegm16.html	**M-16 OEG**					**$179.95**
www.armsonusa.com/maxdutym16.html	**M-16 OEG Max Duty**					**$189.95**
www.armsonusa.com/maxdutymini14.html	**Mini-14 OEG Max Duty**					**$199.95**
.armsonusa.com/hkmp5m16flat.html	**HK OEG Max Duty**					**$199.95**

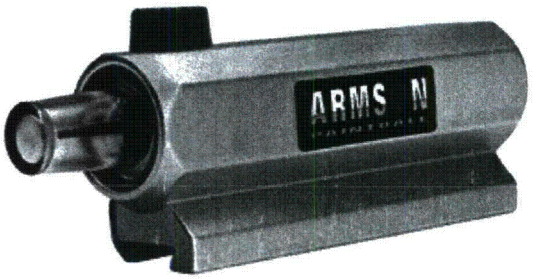
FALL 2012 ARMSONUSA O.E.G. SIGHT AND MOUNT PRICING

PRODUCT	DESCRIPTION					
www.armsonusa.com/hkmp5m16flat.html	**UZI OEG Max Duty**					**$199.95**
www.armsonusa.com/maxduoegpicm.html	**Pic OEG Max Duty**					**$199.95**
www.armsonusa.com/raispicsigra.html	**HK Raised Pic Mount**					**$99.95**
www.armsonusa.com/uzimounts.html	**UZI Raised Pic Mount**					**$99.95**
www.armsonusa.com/mini14mounts.html	**Mini 14 Pic Mount**					**$89.95**
www.armsonusa.com/m16ar15mounts.html	**M16/AR15 Pic Mount**					**$49.95**
www.armsonusa.com/b22picrail.html	**.22 Dovetail Pic Mount**					**$39.95**

HOME
ARMSON O.E.G. SIGHTS
ARMSON MAX DUTY SIGHTS
PRO-DOT .22 SIGHTS
ARMSON SIGHT MOUNTS
ACS-21 COMBAT SIGHT
DEALER PROGRAMS
MILITARY LE DISCOUNTS
ARMSON SIGHT F.A.Q.'S
NEWS AND UPDATES
GUN F/X TACTICAL DEVELOPMENT
PAINTBALL PRODUCTS

SHOW ORDER
ABOUT US
SEARCH
INDEX
EMAIL
Y! SHOPPING
REQUEST CATALOG

ARMSON USA
COMBAT SIGHTING SYSTEMS

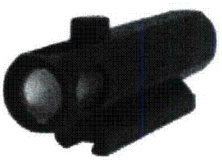


Pro-Dot .22 Sight

Exclusive design allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage and elevation. Standard integrated mount fits 3/8" dovetail rails. Virtually indestructible Military design requires no batteries. Shown in optional Matte Silver Anodized finish. Also available for the original Stryker/Street Sweeper, Max Duty, and new Picatinny mount Max Duty models.

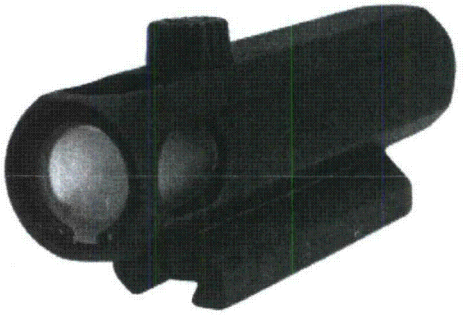
Housing: Machined 6061-T6 aluminum
Finish: Matte black anodized MIL-A-8625C Type II Class 2
Length: 3.8" (97mm)
Height: 1.25" (32mm) Including mount
Width: 0.84" (21mm)
Weight: 2.8 oz (79g)
System Type: Passive Red Dot Collimator
Lens: Glass double achromatic
Optical coating: Multi layer anti-reflective
Magnification: 1x (non-magnifying)
Eye Relief: Unlimited
Reticle Size: 8 MOA
Windage: Adjustable
Elevation: Adjustable
Mount: Integrated 3/8" Dovetail with clamps
Battery: None required

prodreddotsi $69.95
Model: 3/8 Dovetail Order



Pro-Dot Max Duty

ARMSON USA
COMBAT SIGHTING SYSTEMS



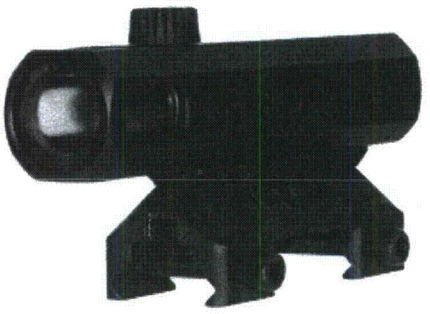
All new Maximum Duty version of our most popular sight! Mounts on any 3/8" .22 style Dovetail mount. Allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage & elevation. Virtually indestructible Military design, requires no batteries. Now available with integrated Picatinny mount.

Housing: Machined 6061-T6 aluminum
Finish: Matte black anodized MIL-A-8625C Type II Class 2
Length: 3.8" (97mm)
Height: 1.25" (32mm) Including mount
Width: 0.84" (21mm)
Weight: 2.8 oz (79g)
System Type: Passive Red Dot Collimator
Lens: Glass double achromatic
Optical coating: Multi layer anti-reflective
Magnification: 1x (non-magnifying)
Eye Relief: Unlimited
Reticle Size: 8 MOA
Windage: Adjustable
Elevation: Adjustable
Mount: Integrated 3/8" Dovetail with clamps
Battery: None required

Max Duty .22 Sight
armaxdut22si $79.95

Anodized Finish: Matte Black Order

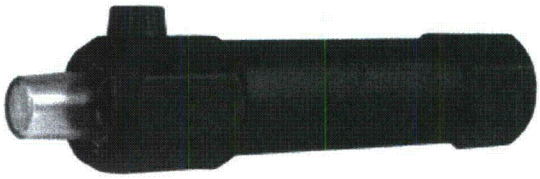
ARMSON USA
COMBAT SIGHTING SYSTEMS



All new Picatinny/ Weaver Mount option for the Maximum Duty Pro-Dot sight! Mounts on any Picatinny/Weaver rail. Allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage & elevation. Virtually indestructable Military design, requires no batteries.

PDMD-Pic $99.95 Order

ARMSON USA
COMBAT SIGHTING SYSTEMS



The original, and most popular O.E.G. sight. Allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage/elevation. Virtually indestructible Military design, requires no batteries. 1" rings allow mounting to Weaver or Picatinny style base. The 1" O.E.G. series can be ordered with Picatinny, Mini-14, H&K, or UZI integrated mounts already attached.

Housing: Machined 6061-T6 aluminum
Finish: Matte black anodized MIL-A-8625C Type II Class 2
Length: 5.1" (130mm)
Height: 1.08" (27mm)
Width: 1.08" (27mm)
Weight: 3.9 oz (110g)
System Type: Passive Red Dot Collimator
Lens: Glass double achromatic
Optical coating: Multi layer anti-reflective
Magnification: 1x (non-magnifying)
Eye Relief: Unlimited
Reticle Size: 4 MOA
Windage: Adjustable
Elevation: Adjustable
Ring Width: 1"
Battery: None required

armsonoeg1 $169.95
Mounts: None Order

ARMSON USA
COMBAT SIGHTING SYSTEMS

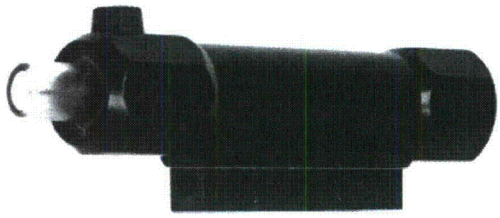
Armson O.E.G. Max Duty 1"

Our Max Duty version of the original Armson O.E.G. sight. Allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage/elevation. Virtually indestructible Military design, requires no batteries. 1" rings allow mounting to Weaver or Picatinny style base. The 1" O.E.G. series can be ordered with Picatinny, Mini-14, H&K, or UZI integrated mounts already attached.

Housing: Machined 6061-T6 aluminum
Finish: Matte black anodized
Length: 5.1" (130mm)
Height: 1.08" (27mm)
Width: 1.08" (27mm)
Weight: 3.9 oz (110g)
System Type: Passive Red Dot Collimator
Lens: Glass double achromatic
Optical coating: Multi layer anti-reflective
Magnification: 1x (non-magnifying)
Eye Relief: Unlimited
Reticle Size: 4 MOA
Windage: Adjustable
Elevation: Adjustable
Ring Width: 1"
Battery: None required

aroegmaxdut1 $179.95
Mounts: None Order

ARMSON USA
COMBAT SIGHTING SYSTEMS



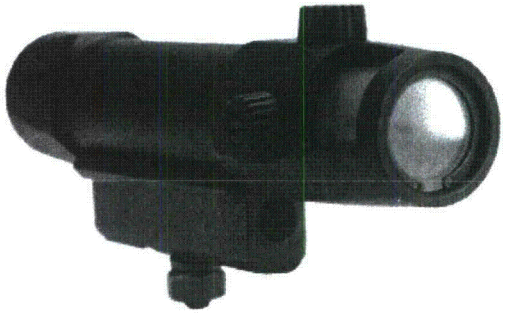
Our legnedary Armson OEG designed for simple bolt on installation on any M-16/AR-15 carry handle. Allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage/elevation. Our exclusive "Thru-Mount Aperature" allows you to use stock iron sights with the OEG still in place. Switch instantly between Red Dot and stock sights at will. Virtually indestructable Military design, requires no batteries. Also available with integrated mounts for HK MP-5/G3, Mini 14, and UZI/Mini UZI models.

Sight Specifications (not including mount):

Housing: Machined 6061-T6 aluminum
Finish: Matte black anodized MIL-A-8625C Type II Class 2
Length: 5.1" (130mm)
Height: 1.08" (27mm)
Width: 1.08" (27mm)
Weight: 3.9 oz (110g)
System Type: Passive Red Dot Collimator
Lens: Glass double achromatic
Optical coating: Multi layer anti-reflective
Magnification: 1x (non-magnifying)
Eye Relief: Unlimited
Reticle Size: 4 MOA
Windage: Adjustable
Elevation: Adjustable
Battery: None required

armsonoegm16 $179.95 Order

ARMSON USA
COMBAT SIGHTING SYSTEMS



New Armson OEG Max Duty designed for simple bolt on installation on any M-16/AR-15 carry handle. Allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage/elevation. Our exclusive "Thru-Mount Aperture" allows you to use stock iron sights with the O.E.G. still in place. Switch instantly between Red Dot and stock sights at will. Virtually indestructible Military design, requires no batteries.

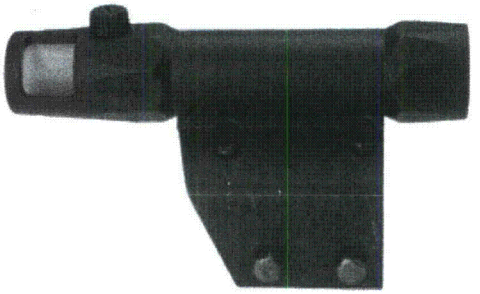
Sight Specifications (not including mount):

Housing: Machined 6061-T6 aluminum
Finish: Matte black anodized MIL-A-8625C Type II Class 2
Length: 5.1" (130mm)
Height: 1.08" (27mm)
Width: 1.08" (27mm)
Weight: 3.9 oz (110g)
System Type: Passive Red Dot Collimator
Lens: Glass double achromatic
Optical coating: Multi layer anti-reflective
Magnification: 1x (non-magnifying)
Eye Relief: Unlimited
Reticle Size: 4 MOA
Windage: Adjustable
Elevation: Adjustable
Battery: None required

Max Duty M-16 Sight
maxdutym16 $189.95 Order

Max Duty M-16 Sight Side view of our Max Duty M-16 Sight. Click image to enlarge.

ARMSON USA
COMBAT SIGHTING SYSTEMS



Max Duty Mini 14 Sight

New Maximum Duty Series sight for the Mini 14. Allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage/elevation. Our proprietary mount system installs in minutes and allows you to use stock iron sights with the O.E.G. still in place. Virtually indestructible Military design, requires no batteries.

Sight Specifications (not including mount):

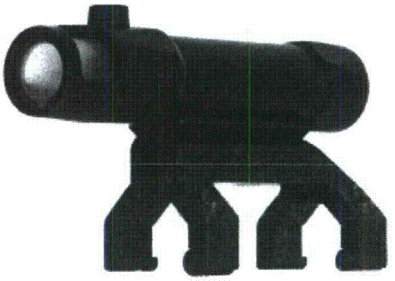
Housing: Machined 6061-T6 aluminum
Finish: Matte black anodized
Length: 5.1" (130mm)
Height: 1.08" (27mm)
Width: 1.08" (27mm)
Weight: 3.9 oz (110g)
System Type: Passive Red Dot Collimator
Lens: Glass double achromatic
Optical coating: Multi layer anti-reflective
Magnification: 1x (non-magnifying)
Eye Relief: Unlimited
Reticle Size: 4 MOA
Windage: Adjustable
Elevation: Adjustable
Battery: None required

Max Duty Mini 14 Sight
maxdutymini14 $199.95 Order

Max Duty sight on Mini 14 Here is the Armson Max Duty for Mini 14. Click to enlarge.

maxdutsigonm

ARMSON USA
COMBAT SIGHTING SYSTEMS



New Maximum Duty Series sight for HK MP-5/G3 or UZI/Mini UZI models. Allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage/elevation. Our exclusive "Thru-Mount Aperature" allows you to use stock iron sights with the O.E.G. still in place. Virtually indestructible Military design, requires no batteries. Please select correct model when ordering.

Sight Specifications (not including mount):

Housing: Machined 6061-T6 aluminum
Finish: Matte black anodized
Length: 5.1" (130mm)
Height: 1.08" (27mm)
Width: 1.08" (27mm)
Weight: 3.9 oz (110g)
System Type: Passive Red Dot Collimator
Lens: Glass double achromatic
Optical coating: Multi layer anti-reflective
Magnification: 1x (non-magnifying)
Eye Relief: Unlimited
Reticle Size: 4 MOA
Windage: Adjustable
Elevation: Adjustable
Battery: None required

hkmp5m16flat $199.95
Model: HK Order

Max Duty MP-5 on K Model **The Max Duty MP-5 Model on an MP-5 K. Click to enlarge the image.**

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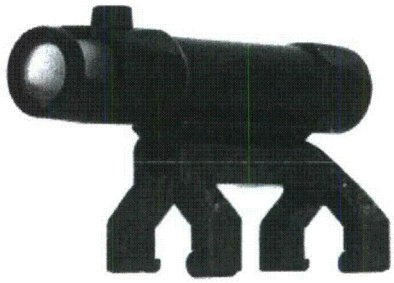
ARMSON USA
COMBAT SIGHTING SYSTEMS



New Maximum Duty Series sight for HK MP-5/G3 or UZI/Mini UZI models. Allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage/elevation. Our exclusive "Thru-Mount Aperature" allows you to use stock iron sights with the O.E.G. still in place. Virtually indestructible Military design, requires no batteries. Please select correct model when ordering.

Sight Specifications (not including mount):

Housing: Machined 6061-T6 aluminum
Finish: Matte black anodized
Length: 5.1" (130mm)
Height: 1.08" (27mm)
Width: 1.08" (27mm)
Weight: 3.9 oz (110g)
System Type: Passive Red Dot Collimator
Lens: Glass double achromatic
Optical coating: Multi layer anti-reflective
Magnification: 1x (non-magnifying)
Eye Relief: Unlimited
Reticle Size: 4 MOA
Windage: Adjustable
Elevation: Adjustable
Battery: None required

hkmp5m16flat $199.95
Model: HK Order

Max Duty MP-5 on K Model The Max Duty MP-5 Model on an MP-5 K.
Click to enlarge the image.

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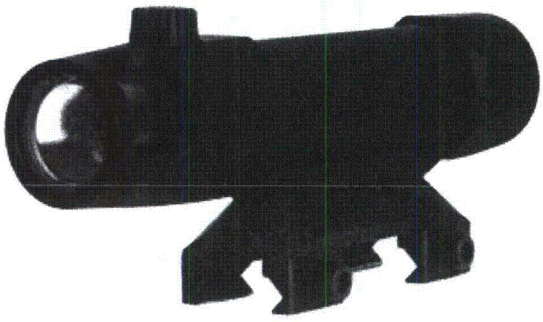
ARMSON USA
COMBAT SIGHTING SYSTEMS



New Armson OEG Max Duty designed for simple bolt on installation on any Picatinny Rail System. Allows two eye sighting with no loss of peripheral vision! Anodized aluminum body, high quality internal optics, and simple adjustments for windage/elevation. Virtually indestructible Military design, requires no batteries.

Sight Specifications (not including mount):

Housing: Machined 6061-T6 aluminum
Finish: Matte black anodized
Length: 5.1" (130mm)
Height: 1.08" (27mm)
Width: 1.08" (27mm)
Weight: 3.9 oz (110g)
System Type: Passive Red Dot Collimator
Lens: Glass double achromatic
Optical coating: Multi layer anti-reflective
Magnification: 1x (non-magnifying)
Eye Relief: Unlimited
Reticle Size: 4 MOA
Windage: Adjustable
Elevation: Adjustable
Battery: None required

MaxOEGPic $199.95 Order

Tele +44 (0) 1424 222212
Fax +44 (0) 1424 225825
Email info@amsonltd.co.uk
Web www.armsonltd.co.uk

ARMSON

8B Brett Drive
Brett Industria Estate
Bexhill on Sea
TN40 2JP
United Kingdom

ARMSON O.E.G SIGHT SPECIFICATIONS
(OCCLUDED EYE GUN SIGHT)

1.MATERIALS
1.1 BODY OF SIGHT:-

MACHINED IN ONE PIECE FROM ALUMINIUM EXTRUSION GRADE 6061-T6, BEAD BLASTED, CLEANED AND BLACK ANODISED.(U.S.A. MIL/A/8625.C.TYPE 11 CLASS 2)

1.2 OPTICAL SYSTEM:-
GLASS ACHROMAT DOUBLET EPOXY CEMENTED LENS ENCASED IN RUBBER.

1.3 MOUNTINGS:-
MACHINED ALUMINIUM EXTRUSION GRADE 6061-T6 BEAD BLASTED AND BLACK ANODISED. MOUNTS ARE PERMANENTLY ATTACHED TO THE SIGHT BODY BY TWO M4 SOCKET SCREWS AND THREADS ARE SEALED WITH LOCKTITE 271.

2.DIAMENTIONS
2.1 LENGTH:- 130mm
2.2 HEIGHT :-(WITHOUT MOUNTS) 27mm
2.3 WIDTH:- 27mm
3. WEIGHT WITHOUT MOUNT: 105 gr
3.1 WEIGHT OF SIGHT WITH MOUNT:FROM 140 TO 250 GRAMMES DEPENDING ON MODEL

4. ELECTRICAL
4.1 TYPE OF BATTERIES EMPLOYED:-
DOES NOT USE BATTERIES OR SWITCHES, USES NATURAL LIGHT DURING DAYLIGHT AND MAY USE TRITIUM LAMPS AT NIGHT.

5. OPTICAL
5.1 SPECIFY ITS COMPONENTS AND FUNCTIONING: CONTAINS ONE ACROMAT DOUBLE LENS COLLIMATED TO INFINITY WITH DOUBLE ANTI REFLECTIVE COATING.

FUNCTIONING TEMPERATURES
6.1 MAXIMUM 80C
1.2 MINIMUM -50C
1.3 HUMIDITY : FILLED WITH OXYGEN FREE NITROGEN AND PERMANENTLY SEALED.

REGISTRY OF RADIOACTIVE SEALED SOURCE AND DEVICES
SAFETY EVALUATION OF DEVICES

NO: NY-1271-S-101-S (Supercedes NR-446-S-102-S) DATE: December 14, 2006 PAGE: 1 OF 6

SOURCE TYPE: Gaseous Light Source

MODEL: 400/1, 400/2, 400/3, 400/4, 400/5, 400/6

DISTRIBUTOR: mb-microtec USA, Inc.
908 Niagara Falls Boulevard
PO Box 1174
North Tonawanda, NY 14120

MANUFACTURER: mb-microtec ag
Freiburgstasse 634
3172 Niederwangen
Switzerland

ISOTOPE:	MAXIMUM ACTIVITY
Hydrogen-3	1.85 TBq (50 Ci)

LEAK TEST FREQUENCY: Not required

PRINCIPAL USE: (W) Self Luminous Light Source

CUSTOM DEVICE: _____ YES __X__ NO

REGISTRY OF RADIOACTIVE SEALED SOURCE AND DEVICES
SAFETY EVALUATION OF DEVICES

NO: NY-1271-S-101-S DATE: December 14, 2006 PAGE: 2 OF 6

SOURCE TYPE: Gaseous Light Source

DESCRIPTION:

The gaseous tritium light sources (GTLS) are constructed of a sealed borosilicate glass envelope containing gaseous tritium. The envelopes are filled to a pressure ranging from just above zero to a maximum of 2.5 atmospheres. The glass envelopes are heat fusion sealed by laser or a torch. The intended use of the GTLS will determine what phosphor will be coated to the inside of the glass envelope prior to filling with tritium. The beta radiation excites the phosphor and can produce wavelengths in the band of 100 nanometer to 10,000 nanometer depending on the phosphor.

The sources can be designed to hold a maximum activity of 1.85 TBq (50 Ci). mb-microtec builds GTLS to the unique specification of a given user. However, the sources can be grouped in the following series. This grouping concept allows mb-microtec to produce and sell a product with the following design specifications without having an effect on public health and safety.

MODEL #	DESCRIPTION (To be used in conjunction with the attached diagrams)
400/1	Round Cylindrical Sources (D) Diameter (Min) 0.3 mm (D) Diameter (Max) 25 mm (T) Thickness of the Wall 0.1 x D → 0.2 x D (L) Length (Min) 2.5 x D (L) Length (Max) 300 mm
400/2	Square Section Cylindrical (S) Width of Square (Min) 0.5 mm (S) Width of Square (Max) 15 mm (T) Thickness of the Wall 0.1 x S → 0.2 x S (L) Length (Min) 2.5 x S (L) Length (Max) 300 mm
400/3	Rectangular Section Cylindrical (D) Diameter (Min) 0.7 mm (D) Diameter (Max) 25 mm (W) Width Divided by (H) Height = 5 (maximum) (T) Thickness of Cylinder Wall 0.1 x D → 0.2 x D (L) Length (Min) 2.5 x D (L) Length (Max) 300 mm

REGISTRY OF RADIOACTIVE SEALED SOURCE AND DEVICES
SAFETY EVALUATION OF DEVICES

NO: NY-1271-S-102-S DATE: December 14, 2006 PAGE: 3 OF 6

SOURCE TYPE: Gaseous Light Source

MODEL #	DESCRIPTION
400/4	Disk Sources (D) Diameter (Min) 10 mm (D) Diameter (Max) 70 mm (H) Height (Min) 1.4 x D (H) Height (Max) ½ x D (T) Thickness of the Wall 0.2 x H → 0.3 x H
400/5	Spherical Sources (D) Diameter (Min) 10 mm (D) Diameter (Max) 70 mm (T) Thickness of the Wall 0.1 x D → 0.3 x D
400/6	ARC Sources* (A) Arc (Min) 15° (A) Arc (Max) 330° (Rr) Radius (Min) = 3 x (H) Height (Rr) Radius (Max) = 100 x (H) Height

*These sources are constructed by bending a Model 400/1 → 4 source design to the required arc. Therefore the wall thickness is commensurate with the requested source design model number.

LABELING:

Labeling of the individual glass source is impractical. The sources are always used within a device/source holder. These components will bear labeling that is required by the regulatory authority authorizing distribution of the product. The licensees are informed on all data of interest to them such as activity, ANSI N540 classifications, and dimensional configuration with tolerances.

DIAGRAM:

See attachments 1, 2, 3, 4, 5, 6, and 7

CONDITIONS OF NORMAL USE:

The GTLS are used in device/source holders in a wide range of conditions. Refer to the appropriate device registration document for the specific conditions of use

SOURCE TYPE: Gaseous Light Source

PROTOTYPE TESTING:

For Model numbers 400/1 → 6 the manufacturer reported an ANSI 540 classification of TAGC1444X44. "A" may be any of the digits 1 → 6 depending on source activity and intended usage determined by the following table.

Tritium Source Activity	Intended Usage	Classification A
< 50 mCi	Any	1
≥ 50 mCi but < 500 mCi	Any	2
≥ 500 mCi but < 5Ci	Fixed	3
	Mobile	4
≥ 5 Ci to 50 Ci	Fixed	5
	Mobile	6

It must be noted that the test level for temperature, thermal shock, reduced pressure, vibration, and emersion is achieved only when the source is suitably mounted on a substrate, which is not deformed under the test conditions. If installed on a device, the performance test level must be determined by actual tests on the device. In particular, the test level for impact (denoted "X") depends wholly on the device parameters, as a drop test cannot be performed on the bare glass source.

EXTERNAL RADIATION LEVELS:

Intact sources cause a dose commitment that is negligible in normal use of a device containing a GTLS.

QUALITY ASSURANCE AND CONTROL:

Mb-microtec inspects all incoming glass vessels, radioactive gas is certified by the shipper to have an isotopic purity of 94% and a maximum oxide content of 0.5%.

The manufacturer controls the content of radioactive materials by determination of internal volume and filling pressure. And using the specific activity provided by the gas supplier.

Finished sources are tested for:

- Proper dimensions
- Brightness
- Temperature and thermal shock
- Reduced pressure (prototype test)
- Discolorations (prototype test)
- Immersion (prototype test)
- Leakage test

REGISTRY OF RADIOACTIVE SEALED SOURCE AND DEVICES
SAFETY EVALUATION OF DEVICES

NO: NY-1271-S-101-S DATE: December 14, 2006 PAGE: 5 OF 6

SOURCE TYPE: Gaseous Light Source

LIMITATIONS AND/OR CONSIDERATIONS OF USE:

- The sources shall be distributed to persons specifically licensed by the NRC or an Agreement State.
- Handling, storage, use, transfer, and disposal: To be determined by the licensing authority.
- mb-microtec's U.S. consultant and U.S. representative is Mr. Lawrence Keating at (716) 694-2695.
- Products containing these light sources must be properly evaluated and licensed prior to the distribution of the product to the commercial market.
- This registration sheet and the information contained within the references shall not be changed without written consent of the New York State Department of Health, Bureau of Environmental Radiation Protection.

SAFETY ANALYSIS SUMMARY:

The United States Nuclear Regulatory Commission has previously reviewed and approved these sources for distribution to specific licensees under SS&D registry sheet number NR-446-S-102-S. Furthermore, thousands of these and similar GTLS have been distributed in various consumer products for more than three decades with no documented cases of adverse health effects to the users or members of the general public. In those recorded instances where devices containing GTLS have been severely damaged, doses to individuals in the vicinity or even to those actually handling the broken tubes have ranged from trivial to nonexistent.

Moreover, since the GTLS are to be distributed to specific licensees for incorporation into other devices, it will be the responsibility of those licensees to demonstrate to the regulatory body having authority that the products containing GTLS will maintain the integrity of the sources for the conditions of use specified for the products.

We therefore continue to conclude that the mb-microtec Model 400/1→6 source designs are acceptable for licensing purposes.

REGISTRY OF RADIOACTIVE SEALED SOURCE AND DEVICES
SAFETY EVALUATION OF DEVICES

NO: NY-1271-S-101-S DATE: December 14, 2006 PAGE: 6 OF 6

SOURCE TYPE: Gaseous Light Source

REFERENCES:

The following supporting documents for the Model 400/1 → 6 source designs are hereby incorporated by reference and are made a part of this registry document:

A. mb-microtec application dated November 15, 2004, with enclosures thereto.

ISSUING AGENCY:

N.Y.S. Department of Health
Bureau of Environmental Radiation Protection

Date: 12/14/06 Reviewer: Daniel M Sasser

Date: 12/14/06 Concurrence:

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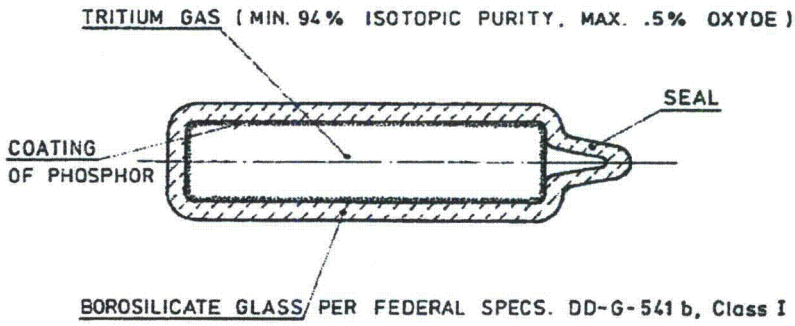
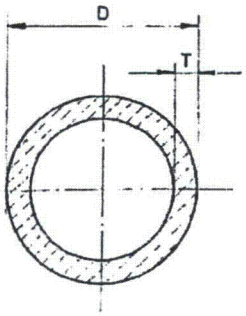
NO: NY-1271-S-101-S DATE: December 14, 2006 ATTACHMENT: 1

CONCEPT AND MATERIALS SOURCES MODEL NR. 400



NO: NY-1271-S-101-S DATE: December 14, 2006 ATTACHMENT: 2

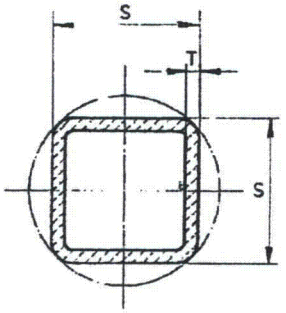
ROUND SECTION CYLINDRICAL SOURCES MODEL NR. 400



LASER SEAL		HAND SEAL	
$D_{max.}$	= 7,5	$D_{max.}$	= 25
$D_{min.}$	= 0,3		
$L_{max.}$	= 95,0	$L_{max.}$	= 300
$L_{min.}$	= 2,5 D		
T	= 0,1 D - 0,2 D		

DIMENSIONS : mm

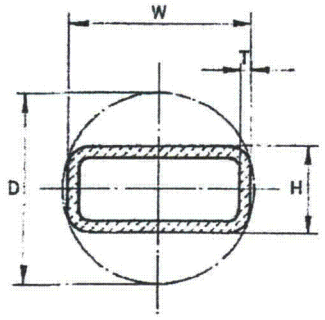
SQUARE SECTION CYLINDRICAL SOURCES MODEL NR. 400



LASER SEAL		HAND SEAL	
$S_{max.}$	= 5	$S_{max.}$	= 15
$S_{min.}$	= 0,5		
$L_{max.}$	= 95,0	$L_{max.}$	= 300
$L_{min.}$	= 2,5 S		
T	= 0,1 S - 0,2 S		

DIMENSIONS : mm

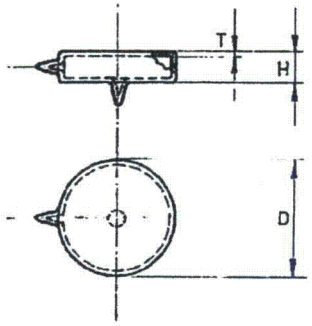
RECTANGULAR SECTION CYLINDRICAL SOURCES MODEL NR. 400



	LASER SEAL	HAND SEAL
D max.	7,5	D max. = 25
D min.	0,7	
$\frac{W}{H}$ max.	5	
L max.	95,0	L max. = 300
L min.	2,5 D	
T	0,1 D - 0,2 D	

DIMENSIONS : mm

DISC SOURCES MODEL NR. 400 (AXIAL OR RADIAL PIP)

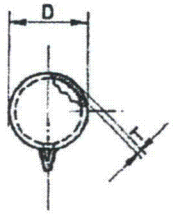


D max.	=	70
D min.	=	10
H max.	=	1/2 D
H min.	=	1/4 D
T max.	=	0,3 H
T min.	=	0,2 H

DIMENSIONS : mm

NO: NY-1271-S-101-S DATE: December 14, 2006 ATTACHMENT: 6

SPHERICAL SOURCES MODEL NR. 400



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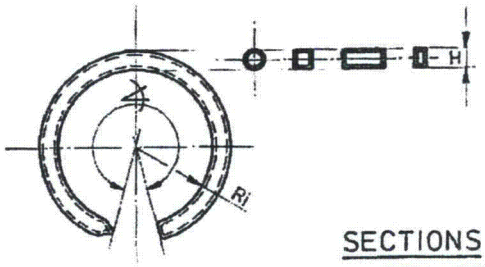
D min.	=	6
T max.	=	0,3 D
T min.	=	0,1 D

DIMENSIONS · mm

ARC SOURCES MODEL NR. 400



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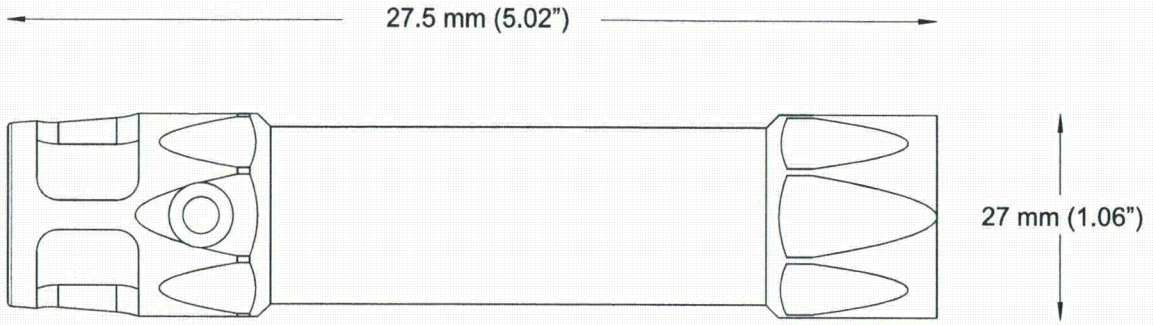
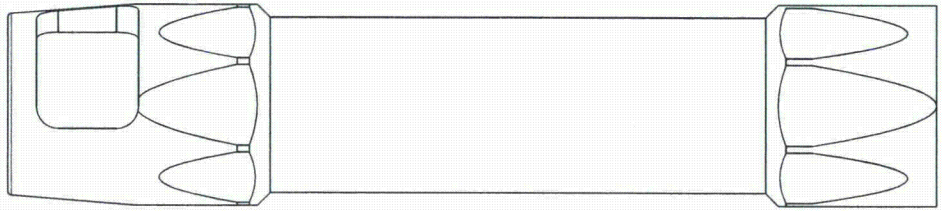
$\measuredangle$ min.	=	15°
Ri max.	=	100 H
Ri min.	=	3 H

SECTIONS : AS LASER AND HAND SEALED CYLINDRICAL SOURCES

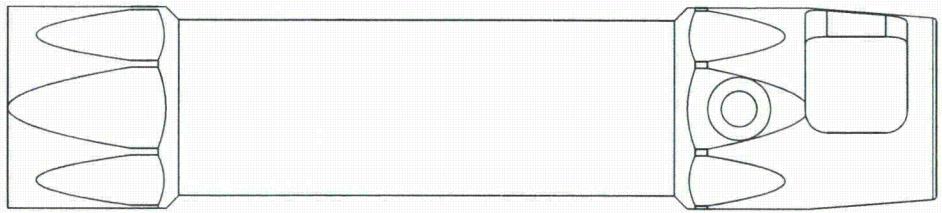
Armson OEG Maximum Duty 1" Model



Top View

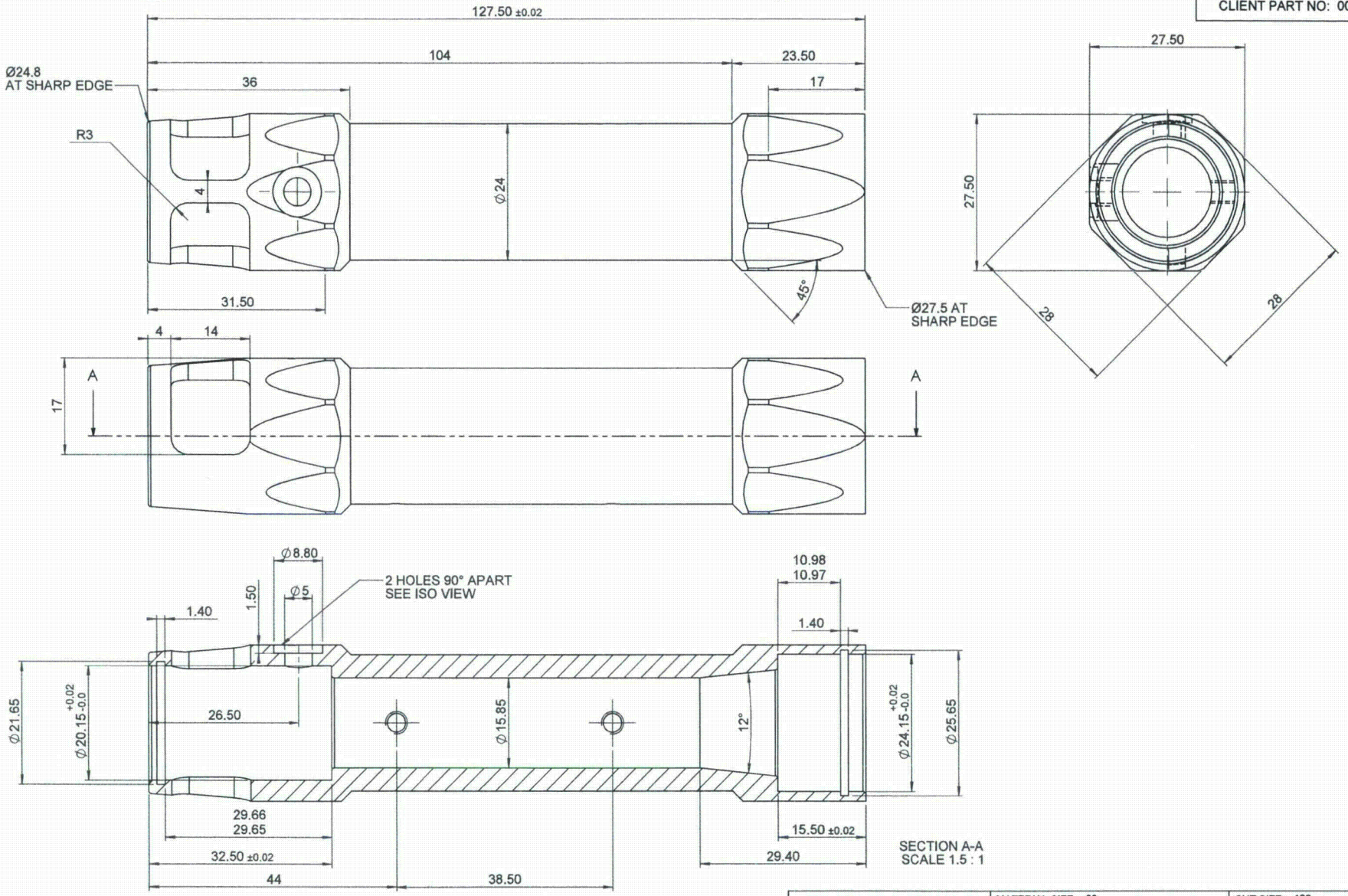


Left Side View



Right Side View

CLIENT PART NO: 00



SECTION A-A
SCALE 1.5 : 1

BREAK ALL CORNERS 0.25 UNLESS INDICATED OTHERWISE. NO SHARP EDGES.

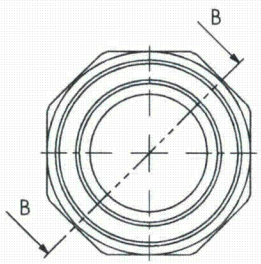
REV.	DESCRIPTION OF CHANGE	MOD. AUTH.	BY	DATE
P1				

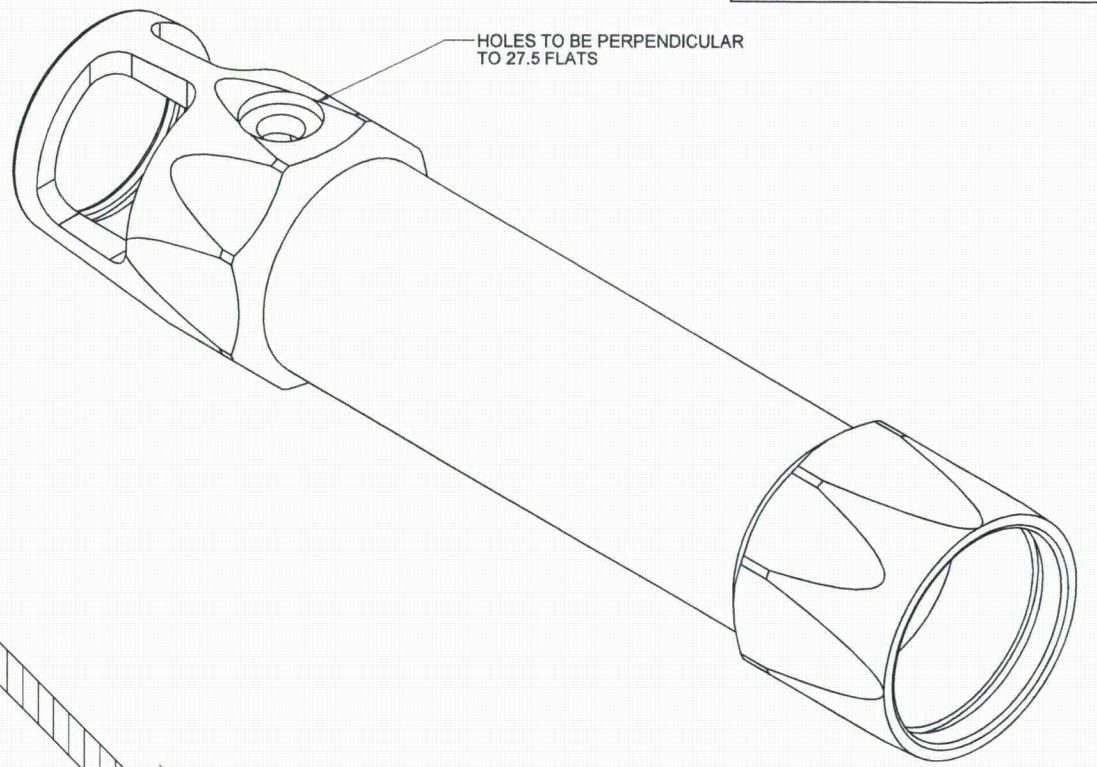
TOLERANCES UNLESS OTHERWISE STATED				
DIMENSIONAL				ANGULAR
0-50	0.1	0.2	0.3	
50-100	0.15	0.3	0.4	
100-500	0.2	0.4	0.6	
500-1000	0.5	1	1.5	REMOVE ALL RURRS & SHARP EDGES
1000 UP	0.75	1.5	2.0	

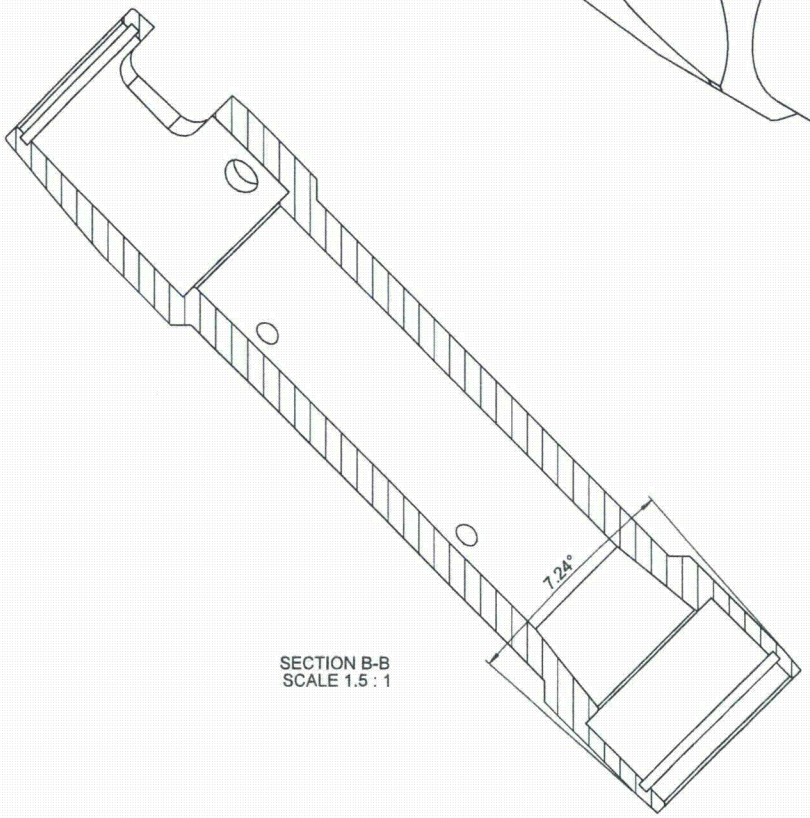
DO NOT SCALE IF IN DOUBT PLEASE ASK

MATERIAL SIZE : 00		CUT SIZE : 129	
MATERIAL : ALUMINIUM EXTRUTION		QTY / m : 7	
TITLE: SIGHT			
Executive Engineering (Pty) Ltd. Preisele Ingenieurs Werke / Precision Engineering Works			
DRAFTSMAN: PIERRE		PAPER SIZE: A3	DATE: 22/05/2007
SCALE 1:1	SHEET 1 OF 2	DRAWING No:	MIL001

CLIENT PART NO: 00







SECTION B-B
SCALE 1.5 : 1

BREAK ALL CORNERS 0.25 UNLESS INDICATED
OTHERWISE. NO SHARP EDGES.

REV.	DESCRIPTION OF CHANGE	MOD. AUTH.	BY	DATE
P1				

TOLERANCES UNLESS OTHERWISE STATED				
DIMENSIONAL				ANGULAR
0-50	0.1	0.2	0.3	
50-100	0.15	0.3	0.4	
100-500	0.2	0.4	0.6	
500-1000	0.5	1	1.5	REMOVE ALL RURRS & SHARP EDGES
1000 UP	0.75	1.5	2.0	

DO NOT SCALE IF IN DOUBT PLEASE ASK

MATERIAL SIZE : 00 | CUT SIZE : 129

MATERIAL : ALUMINIUM EXTRUTION | QTY / m : 7

TITLE: SIGHT

Executive Engineering (Pty) Ltd.
Preisieie Ingenieurs Werke / Precision Engineering Works

DRAFTSMAN: PIERRE | PAPER SIZE: A3 | DATE: 22/05/2007

SCALE 1:1 | Sheet2 OF 2 | DRAWING No: **MIL001**

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

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

82-06

NO: NR418D101G DATE: March 31, 1982 PAGE: 1 OF: 3

DEVICE TYPE: Tritium lighted Gunsight

MODEL: ARMSON O.E.G.

MANUFACTURER

Armson Sales
P.O. Box 426
New Germany, South Africa

DISTRIBUTOR

Leadership Keys, Inc.
P.O. Box 2130
Farmington Hills, MI 48018

SEALED SOURCE MODEL DESIGNATION

Saunders-Roe Developments Ltd.
Model PRH/G/200

ISOTOPE	MAXIMUM ACTIVITY
Hydrogen-3	160 Millicuries

LEAK TEST FREQUENCY: Not Applicable.

PRINCIPAL USE: Gas light source for illumination of gun sights.

DESCRIPTION

Two tritium light sources (Saunders-Roe) are used to illuminate a small piece of colored acrylic plastic inside the reticle assembly. The reticle assembly is positioned in a closed and sealed chamber behind a magnifying lens system to comprise an optical sighting means for small arms. Additional detail is shown on the enclosed diagram.

LABELING

Gunsights shall be labeled in accordance with the requirements of Title 10 CFR Part 20, Section 20.203 and 10 CFR Part 32, Section 32.51(a)(3).

REGISTRY OF RADIOACTIVE SEALED SOURCES AN DEVICES
SAFETY EVALUATION OF DEVICE
(Amended in its Entirety)

NO.: NR-418-D-101-E DATE: MAR 23 1990

DEVICE TYPE: Luminous Gunsights

MODEL:
a) ACOG Series
b) Armson O.E.G.
c) Bow Pin Sight Used on an Archery Bow
d) Sealed Light Sources Installed-in Iron Sight Inserts Mounted on Weapons
e) Trijicon 4 x 3?
f) Trijicon ACOG 4 x 32
g} Trijicon Optically Magnifying Scopes
Trijicon Sight Assembly Containing Sealed Light Source
i) Trijicon Spectrum

DISTRIBUTOR:
Trijicon, Inc. (formerly Armson, Inc./Leadership Keys, Inc.)
P.O. Box 2130
Farmington Hills, MI 48333
License Number 21-19874-02E
37716 Hills Tech Drive
Farmington Hills, MI 48331

SEALED SOURCE MODEL DESIGNATION:
Saunder-Roe Developments, Inc.
Model 880/G/200 or M.B.
Microtec A.G. Model 400 Series

ISOTOPE:	MAXIMUM ACTIVITY:
a) Hydrogen-3	1.00 mCi per scope
b) Hydrogen-3	160 mCi per sight
c) Hydrogen-3	6 mCi per source
d) Hydrogen-3	30 mCi per source and 90 mCi per weapon
e) Hydrogen-3	100 mCi per scope
f) Hydrogen-3	100 mCi per scope
g) Hydrogen-3	75 mCi per scope
h) Hydrogen-3	30 mCi per source
i) Hydrogen-3	100 mCi per source and 300 mCi per weapon

Furthermore, the illuminators mounted in the gunsights exhibit no significant external radiation levels above background. This is to be expected based on the relatively small quantity of tritium, the low energy of the radiation emitted by the tritium and the shielding effectiveness of the gunsight housing.

Therefore, we conclude that the potential personnel doses associated with the gunsights are insignificant in comparison with the dose limits set forth in Column IV of the Table in Section 32.24 of 10 CFR Part 32.

Furthermore, under conceivable conditions of ordinary use, storage or handling or conceivable emergencies we believe that it is unlikely that any person could be exposed in excess of applicable regulatory limits.

Accordingly, we consider the Armson OEG gunsight to be acceptable for licensing purposes, in accordance with the provisions of this registration. The Leadership Keys License No. 21-19874-01, and applicable provisions of 10 CFR Parts 30, 31, and 32.

REFERENCES

- Leadership Keys letters dated September 23, 1981, October 22, 1981, November 9, 1981, November 27, 1981, December 19, 1981, December 30, 1981, January 7, 1982, January 9, 1982, January 11, 1982, and January 14, 1982.
- NRC License No. 21-19874-01

ISSUING AGENCY

U. S. Nuclear Regulatory Commission

Reviewer: Earl G Wright
Earl G. Wright

Concurrence: Nathan Bassin
for Bernard Singer

Enclosure:
Diagram

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
(Amended in its Entirety)

NO.: NR-418-11-101-E DATE: MAR 23 1990 PAGE 2 OF 2

DEVICE TYPE: Luminous Gunsights

LEAK TEST FREQUENCY: Not Required

PRINCIPAL USE: (W) Luminous Product

CUSTOM DEVICE: ___ YES _x_ No

ISSUING AGENCY: U. S. Nuclear Regulatory Commission

DATE: MAR 23 1990 REVIEWER: Stuart W Bell

DATE: MAR 23 1990 CONCURRENCE: Thomas W. Rich

DIAGRAM

See enclosure.

CONDITIONS OF NORMAL USE

Up to 160 millicuries of tritium contained in two Saunders and Roe Model PRH 880/G/200 sealed glass sources installed in Armson OEG gunsights will be distributed to persons generally licensed in accordance with Section 31.5, 10 CFR Part 31 for use on firearms by persons in the conduct of normal business (for example, law enforcement, and military). During use the devices may be exposed to harsh handling and outdoor environments.

PROTOTYPE TESTING

The applicant has provided prototype testing adequate to meet NRC criteria (see License No. 21-19874-01).

EXTERNAL RADIATION LEVELS

None expected above natural background.

QUALITY ASSURANCE AND CONTROL

The Leadership Keys quality assurance and control program meets NRC criteria and is documented in License No. 21-19874-01.

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE

See License No. 21-19874-01.

SAFETY ANALYSIS SUMMARY

The Armson OEG gunsights distributed by Leadership Keys contains up to 160 millicuries of H-3 contained in an occluded gunsight as shown in the enclosure.

In comparison, the quantity of tritium used in these gunsights is somewhat less than the 200 millicuries contained in some wrist watches authorized for distribution to persons exempt from licensing. Additionally, since the gunsight is authorized for distribution only to general licensees for use in the course of their business, a smaller segment of the population is likely to be potentially exposed than is the situation with wrist watches distributed to the general public.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
AMENDED IN ITS ENTIRETY

NO.: NR-418-D-101-E DATE: August 22, 2006

DEVICE TYPE: Luminous Gun Sights

MODEL:
a) ACOG Series
b) Armson O.E.G.
c) Bow Pin Sight Used on an Archery Bow
d) Sealed Light Sources Installed in Iron Sight Inserts Mounted on Weapons
e) Trijicon 4 x 32
f) Trijicon ACOG 4 x 32
g) Trijicon Optically Magnifying Scopes
h) Trijicon Sight Assembly Containing Sealed Light Sources,
i) Trijicon **Riflescope Series**
j) Trijicon TX xx Series Gun Sights
k) Trijicon "Insight-F" and "Insight-R"

DISTRIBUTOR: Trijicon, Inc. (formerly Armson, Inc./Leadership Keys, Inc.)
49385 Shafer Ave.
P.O. Box 930059
Wixom, MI 48393-0059

SEALED SOURCE MODEL DESIGNATION: Saunder-Roe Developments, Inc. Model 8801G/200
MB Microtec Model 400 Series

ISOTOPE:	MAXIMUM ACTIVITY:
Hydrogen-3	250 mCi (9.25 GBq) per device for Models "a" through "h", and "j"
Hydrogen-3	300 mCi (11.1 GBq) per device for Model "i"
Hydrogen-3	90 mCi (3.33 GBq) per weapon for Model "k"

LEAK TEST FREQUENCY: Not Required

PRINCIPAL USE: (W) Self-Luminous Light Source

CUSTOM DEVICE: ____YES __X__NO

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
AMENDED IN ITS ENTIRETY

NO.: NR-418-D-101-E DATE: August 22, 2006

DEVICE TYPE: Luminous Gun Sights

DESCRIPTION:

The sources used in products listed on page one of this certificate are MB Microtec 400 Series Models (NRC registration certificate NR-0446-S-102-S). All by-product material is tritium (H-3) in gaseous form, sealed into borosilicate glass tubes. Self luminous sights contain a maximum activity as follows:

a)	ACOG Series	100 mCi (3.70 GBq) per scope
b)	Armson O.E.G.	160 mCi (5.92 GBq) per sight
c)	Bow Pin Sight Used on an Archery Bow	6 mCi (220 MBq) per source
d)	Sealed Light Sources Installed in Iron Sight Inserts Mounted on Weapons	30 mCi (1.11 GBq) per source 90 mCi (3.33 GBq) per weapon
e)	Trijicon 4 x 32	100 mCi (3.70 GBq) per scope
f)	Trijicon ACOG 4 x 32	100 mCi (3.70 GBq) per scope
g)	Trijicon Optically Magnifying Scopes	75 mCi (2.77 GBq) per scope
h)	Trijicon Sight Assembly Containing Sealed Light Sources	100 mCi (3.70 GBq) per source
i)	Trijicon **Riflescope Series**	300 mCi (11.1 GBq) per weapon
j)	Trijicon TX xx Series Gun Sights	250 mCi (9.25 GBq) per sight
k)	Insight-F	30 mCi (1.11 GBq) per source
	Insight-R	30 mCi (1.11 GBq) per source 60 mCi (2.22 GBq) per weapon

The TX xx Series gun sights are used to improve low-light shooting capability. The gun sights are attached to guns by a ring mount. **The sights are constructed of Ultem resin and aluminum. The sights also have an alternate tritium source location, as indicated in Attachment 1. Sights produced after Serial No. 001877 will be constructed of aluminum and contain tritium sources in the alternate location.** The design of the sources make them inaccessible. The overall dimensions for the gun sight are 5.25 inches (13.3 cm) in length, 2.2 inches (5.6 cm) in width, and 2.1 inches (5.3 cm) in height with a weight of 8.4 ounces (106 grams).

The models in the TX xx Series have built in four major differences. These differences are: a mask that changes the image projected to the user, the lens, the mounting configuration, and the attachment of a pressure pad that would allow for remote use. The differences do not

DEVICE TYPE: Luminous Gun Sights

DESCRIPTION (cont'd):

effect the safety and protection of the tritium source. The manufacturer estimated the TX xxx Series gun sights working life as 15 years.

The Trijicon Models "Insight-F" and "Insight-R", listed as Model "k" on page one of this certificate, are intended to be installed on the Insight Model AN\PSQ-18A sight system, for use on the M203 40mm grenade launcher. The Trijicon Model "Insight-F" is a front sight containing one sealed source. The Trijicon Model "Insight-R" is a rear sight containing two sealed sources. The AN\PSQ-18A sight system consists of two sights, designated by the manufacturer as "Insight-F" for the front sight, and "Insight-R" for the rear sight. Both sights are manufactured from aluminum or steel. There are three tritium light sources per sight system: a single light source in the front sight of the system and two light sources in the rear sight of the system. The maximum activity for each source is 30 mCi (1.11 GBq). The sources are permanently installed in the protective aluminum or steel housing with epoxy. The manufacturer estimated the working life of the Model AN\PSQ-18A sight system to be 12 years.

The Trijicon "Insight-F" sight is 0.260 inch (0.660 cm) wide, 0.420 inch (1.067 cm) high, and 0.260 inch (0.660 cm) long. The hole size where the source is installed is 0.0625 inch (0.1588 cm) in diameter and 0.215 inch (0.546 cm) deep. The minimum wall thickness around the source hole is 0.0223 inch (0.0566 cm).

The Trijicon "Insight-R" sight is 0.600 inch (1.524 cm) wide, 1.104 inch (2.804 cm) high, and 0.662 inch (1.681 cm) long. The hole size where the source is installed is 0.043 inch (0.109 cm) in diameter and 0.185 inch (0.470 cm) deep. The minimum wall thickness around the source hole is 0.019 inch (0.048 cm).

REVIEWER NOTE: For the Models "Insight-F" and "Insight-R", the manufacturer submitted the actual dimensions stated above in the application dated February 18, 2004. The safety evaluation of these models were based on these dimensions. The range of dimensions listed on page 10 of 14 of the application were not reviewed and approved for use in these models.

DEVICE TYPE: Luminous Gun Sights

LABELING:

Each self illuminating sight is permanently marked with the Trijicon name and the word 'tritium'. In addition, the sales package of the device contains information that the device contains tritium gas, along with appropriate instructions for the return of used, unwanted devices or defective products back to the manufacturer for disposal. The Models "Insight-F" and "Insight-R" are permanently marked with the Trijicon name and the text "T H_3 XX", where XX represents the year of manufacture.

DIAGRAMS:

See Attachments 1 and 2.

PROTOTYPE TESTING:

The following prototype tests for TX xx Series were conducted:

- Temperature: The gun sight was subjected to temperatures varying from 248°F (120°C) held for one hour to -50°F (-46°C) held for 48 hours.
- Humidity: The gun sight was placed in an environment of 100% relative humidity and held at that humidity for 48 hours.
- Temperature Shock: The temperature of the gun sight was raised to 176°F (80°C) for 15 minutes and then transferred to a cold chamber having a temperature of -50°F (-46°C) and held in the chamber for 15 minutes.
- Pressure: The gun sight was placed in a test chamber and exposed to 0.25 bars (25 kpa) and 2.0 bars (200 kpa) for four periods of 15 minutes.
- Penetration: A 0.02 lb (10 gram) hammer with a small point was dropped from a height of 3.3 ft (one meter) onto the exposed surface of the light source.

DEVICE TYPE: Luminous Gun Sights

PROTOTYPE TESTING (cont'd)

- Mechanical Shock: The sight was attached to a gun and dropped 6.6 ft (two meters) onto a hard surface. The gun was dropped in a manner that it struck the floor in the following positions: barrel vertical (muzzle down), barrel vertical (muzzle up), barrel horizontal (bottom up), barrel horizontal (bottom down), barrel horizontal (left side up), and barrel horizontal (right side up).

- Chemical: The gun sights were immersed for 48 hours at room temperature in gun oil, trichloroethane, and a cleaning compound according to MIL-C-372B.

- Vibration: The gun sights were subjected to a simple harmonic motion having an amplitude of 0.03 inches (0.075 cm). The vibration cycle increased from 10 Hz to 50 Hz in one minute.

- Firing: The gun sights were mounted on a test fixture in an orientation to replicate recoil. Trijicon chose the highest known weapon G force that was available to replicate recoil. The sight was subjected to approximately 31,500 Joules for 5000 pulses.

The same gun sights were used for each of the tests listed above. Each sight was visually inspected between each test and the activity was measured with a scintillation counter after completion of all the tests to ensure that no detrimental damage had occurred. The prototype testing did not result in leakage of tritium or breakage of the source.

The Model AN\PSQ-18A sight system was prototype tested to the specifications of NUREG 1556, Volume 8, Appendix 0, "Standard Requirements for Gunsights Containing Tritium Gas Sealed in Glass Vials", to simulate the firing conditions in the specifications for grenade launcher use. The manufacturer subjected the prototypes to a shock of 600 g's, for a duration of 0.5 ms in the longitudinal axis. The manufacturer reported that the prototype test units passed all test requirements. In addition, the manufacturer reported that the Model AN\PSQ-18A sight system passed further, more stringent tests specified by the United States Army.

DEVICE TYPE: Luminous Gun Sights

QUALITY ASSURANCE AND CONTROL:

Trijicon, Inc. has submitted a copy of their ISO 9001:2000 certification. Trijicon, Inc. has submitted a quality assurance and control (QA/QC) program that has been found to be acceptable by NRC for the production and distribution of the TX xx Series sights, and the Models "Insight-F" and "Insight-R" by Trijicon. A copy of this program is on file with the NRC.

SAFETY ANALYSIS SUMMARY:

Trijicon Models A through I have been previously reviewed and registered in NRC certificate NR-0418-D-101-E, dated March 23, 1990. These devices were found acceptable for licensing purposes. Based on our review of the information provided and the test data cited above, we conclude that Trijicon, Inc.'s TX xx Series gun sights, and the Models "Insight-F" and "Insight-R", meet the safety criteria set forth in 10 CFR 32.23. Furthermore, we conclude that the sealed tritium light sources in the TX xx Series, and the Models "Insight-F" and "Insight-R", would be expected to maintain their containment integrity for normal conditions of use and likely accidental conditions.

DEVICE TYPE: Luminous Gun Sights

REFERENCES:

The following supporting documents from Trijicon, Inc. for TX xx Series are hereby incorporated by reference and are made a part of this registry document.

- Trijicon, Inc. letters dated August 9, 2002, and September 30, 2002, with enclosures thereto.
- Trijicon, Inc. letter dated March 14, 2003, with enclosures thereto.
- Trijicon, Inc. application dated February 18, 2004, letter dated March 2, 2004, and emails dated March 10, 2004, and March 11, 2004, with enclosures thereto.
- **Trijicon, Inc. letter dated July 31, 2005, Telephone Conversation Record dated September 22, 2005, and letter dated February 20, 2006, with enclosures thereto.**

ISSUING AGENCY:

U.S. Nuclear Regulatory Commission

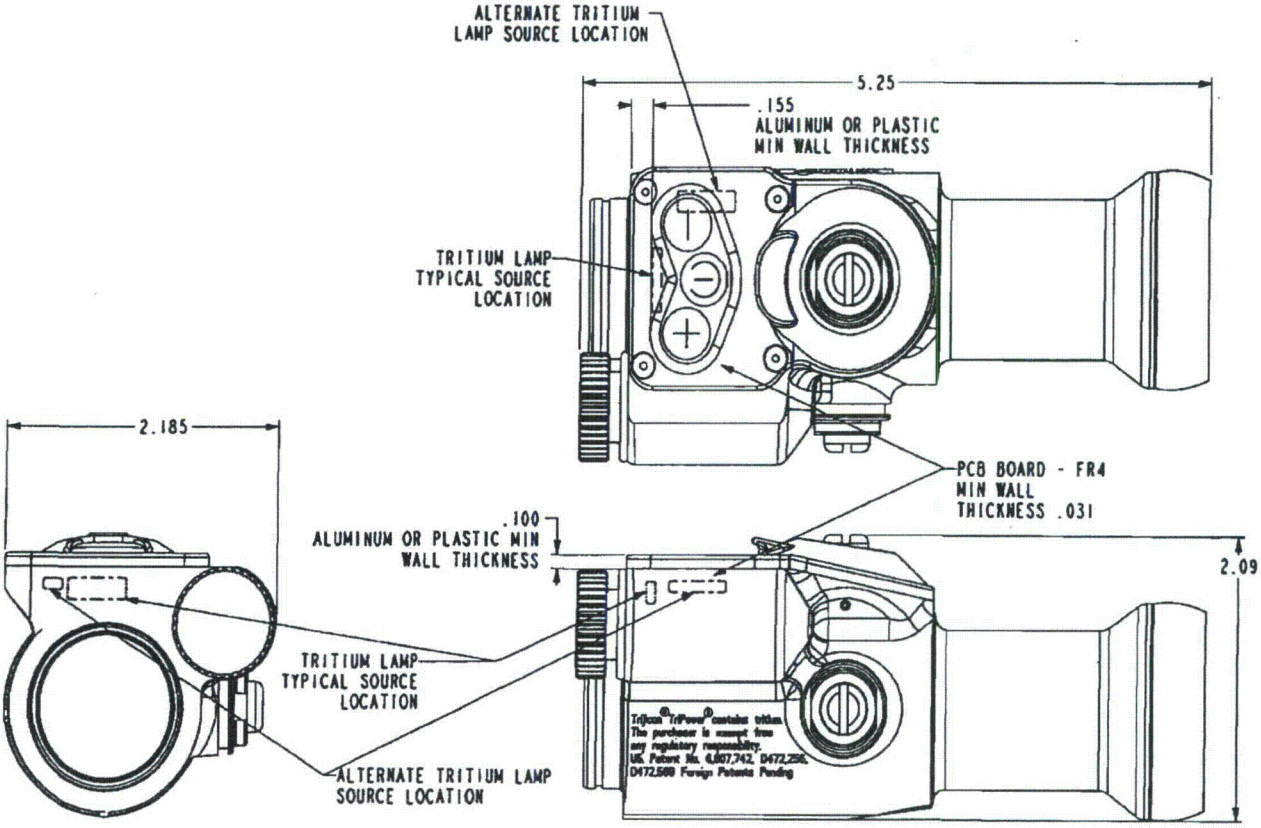
Date: August 22, 2006 Reviewer: Tomas Herrera
Tomas Herrera

Date: August 22, 2006 Concurrence: John P. Jankovich
John P. Jankovich

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
AMENDED IN ITS ENTIRETY

NO.: NR-418-D-101-E DATE: August 22, 2006 ATTACHMENT 1 OF 2

DEVICE TYPE: Luminous Gun Sights

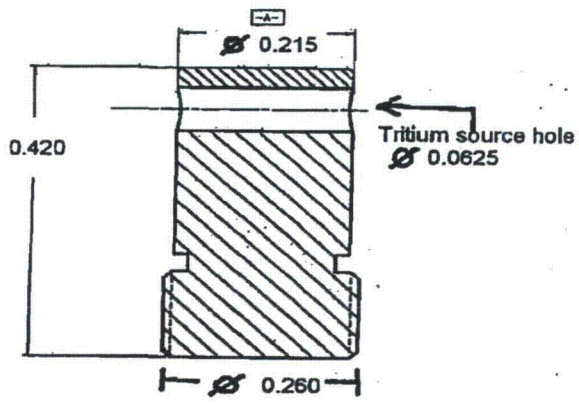


Trijicon TX xx Series Gun Sight
Dimensions are in inches

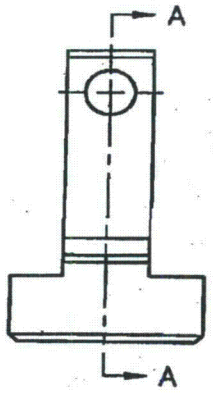
REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
AMENDED IN ITS ENTIRETY

NO.: NR-418-D-101-E DATE: August 22, 2006 ATTACHMENT 2 OF 2

DEVICE TYPE: Luminous Gun Sights

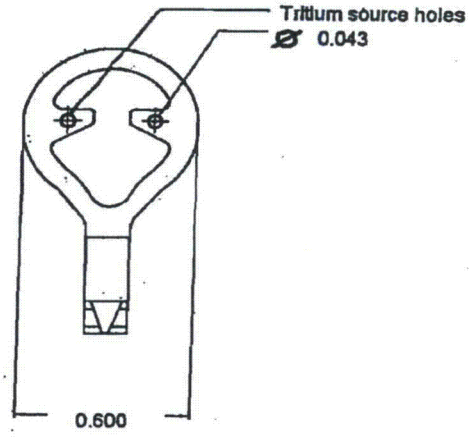


Cross-Sectional View

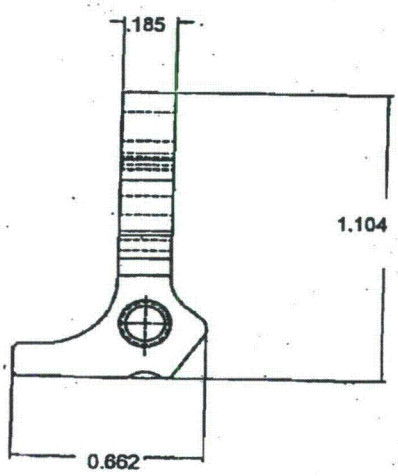


Front View

Trijicon "Insight-F" - Front Sight
(Dimensions are in inches)

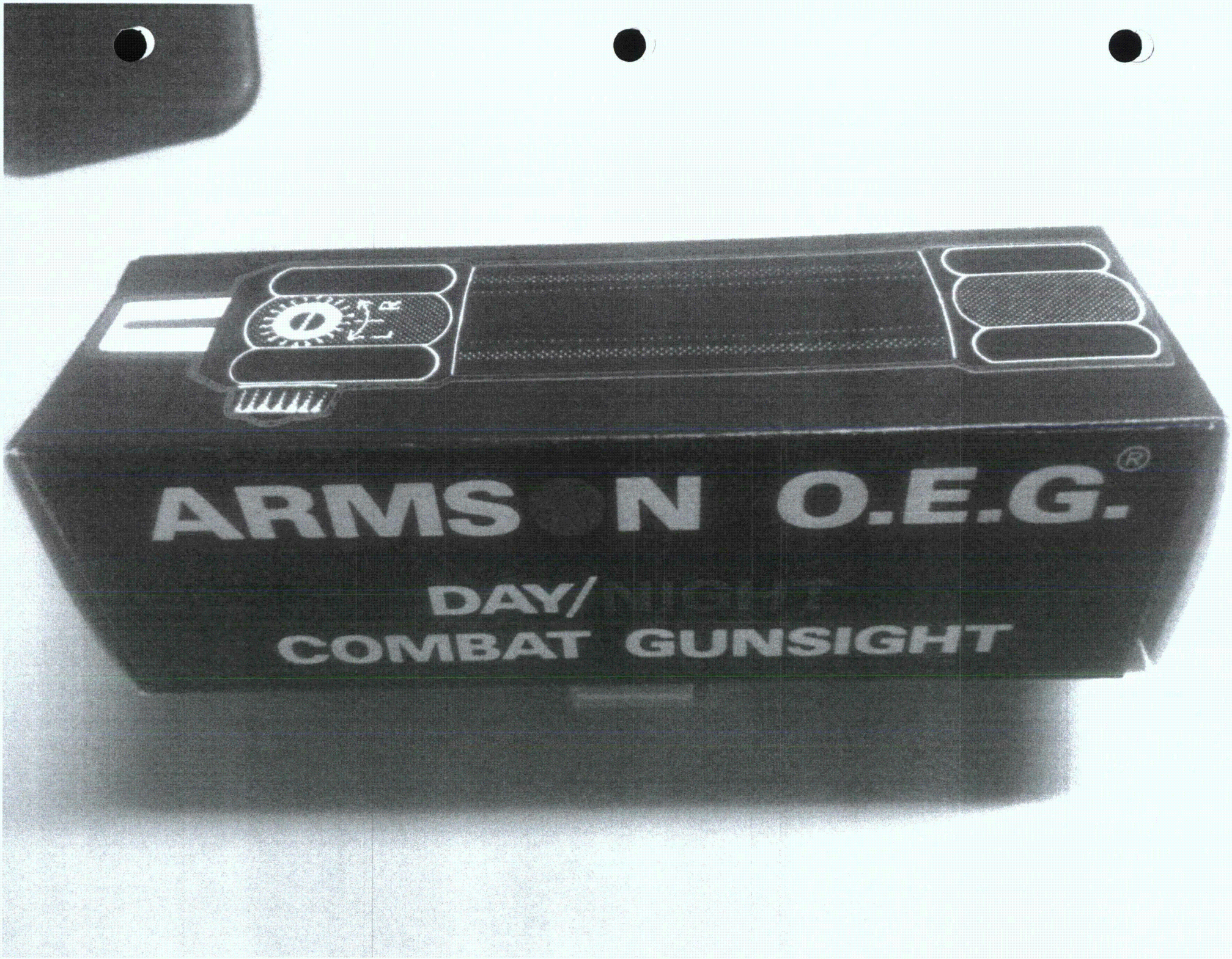


Front View



Side View

Trijicon "Insight-R" - Rear Sight
(Dimensions are in inches)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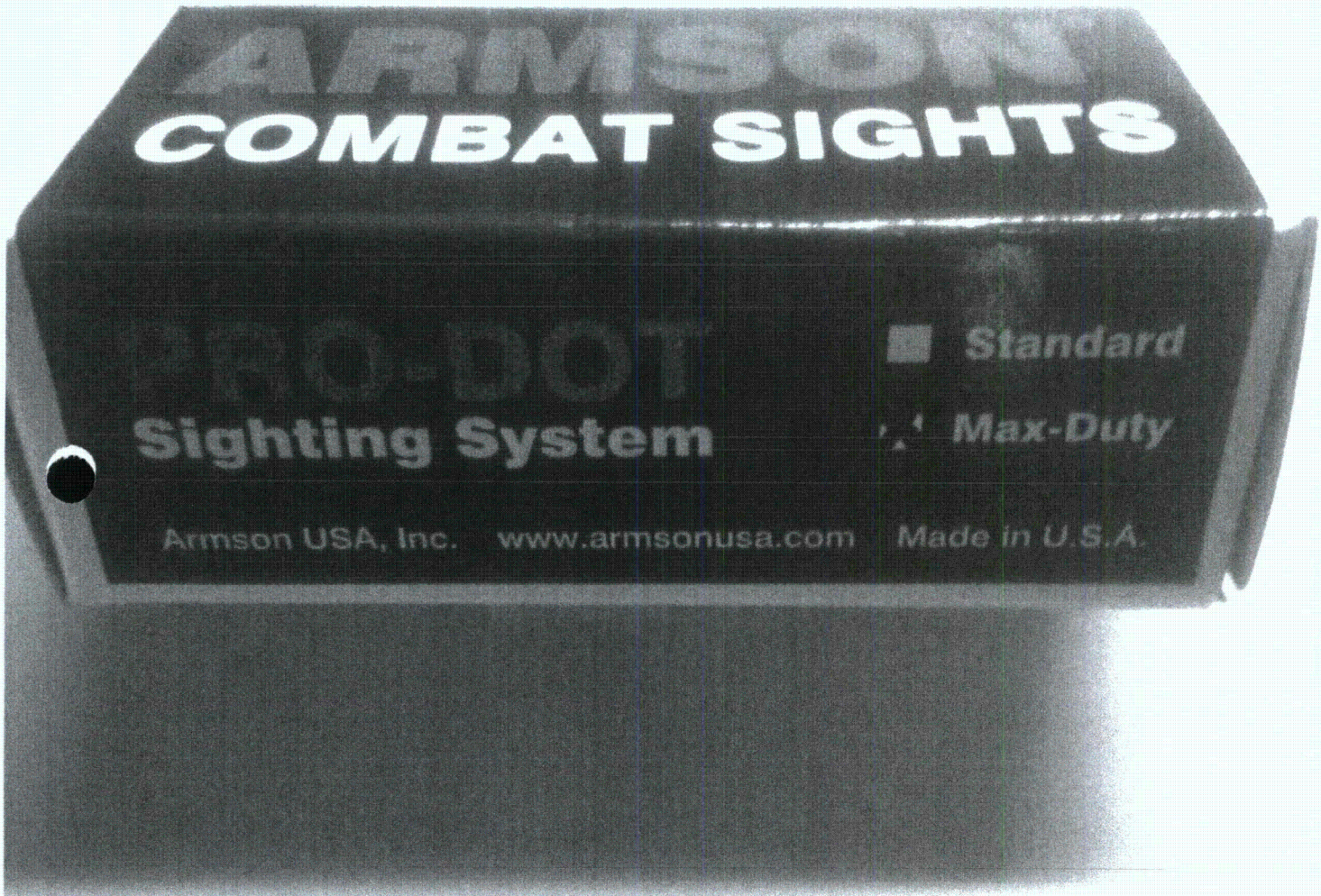
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ATTACHMENT 4

ERG Test Report

I. Introduction

It was required to subject the Armson O.E.G. Day/Night gunsight to stress tests in accordance with applicable portions of American National Standard N540--Classification of Radioactive Self-Luminous Light Sources, and procedures developed by Leadership Keys, Inc.

II. Test Procedures

A. Life Cycling

The test was carried out according to the procedure developed by Leadership Keys, Inc. described in Attachment 5.

The test gunsight was fired 1000 rounds on a Colt 45 pistol with weaver grip and wipe tests were performed on the sight. The gunsight was then installed by a gunsmith onto a Colt 45 pistol, and fired 500 rounds at a temperature of 66-70°F.

Wipe tests, in accordance with section D of this attachment, were performed after each 100 rounds, and the source was visually tested for loss of luminosity in a dark room after each 100 rounds.

B. Thermal Shock Test

The test was carried out in accordance with ANS N540, paragraph 7.4.

The test gunsight was heated to a temperature of +80°C in a drying oven, and was held at that temperature for 15 minutes. The test gunsight was transferred within 15 seconds to an insulated chamber containing a block of dry ice. The gunsight was allowed to reach a temperature of -55°C and remain there for 15 minutes.

The test gunsight was then allowed to return to room temperature in a desiccator, and a wipe test was performed in accordance with section D of this attachment. The source was visually tested for loss of luminosity in a dark room

C. Reduced Pressure Test

The test was carried out in accordance with ANS N540, paragraph 7.5.

The test gunsight was placed in a chamber at ambient temperature and the pressure was reduced to 175 mm Hg (absolute) and kept constant for 15 minutes. The pressure was then restored to ambient. This cycle was repeated three more times.

The test gunsight was visually inspected for luminosity in a dark room, and a wipe test was done in accordance with section D of this attachment.

D. Wipe Test Procedure

Wipe tests were done using dry filter paper following tests described in paragraph A and using filter paper moistened with isopropyl alcohol following tests described in paragraphs B and C. Each of the 5 access holes were wiped and placed in scintillation vials, and the standard test method of ANSI/ASTM D 2476-77, as applicable, was conducted.

III. Test Report

No luminosity loss was observed at any point during the testing, and all wipe test results were at background levels.

IV. Radiation Safety Report

In reference to 32.23, safety criteria, there would be no external radiation dose from the tritium in normal use, and the tests conducted demonstrate that the gunsight would remain undamaged during normal use. Even in the unlikely event that the lamps were damaged and the tritium escaped, only a small fraction of the gaseous tritium would be inhaled by any persons in the area.

Qualification Test Specification

1.0 APPLICATION

This qualification test specification describes the performance and life requirements for occluded eye gunsights. This specification adopts the applicable portions of ANSI N540-1975, American National Standard N540; Classification of Radioactive Self-Luminous Light Sources, ref. 10 CFR 32.22 2(x1)

2.0 SELECTION OF TESTS

The selection of tests, test levels, cyclic life and performance requirements shall be selected on the basis of a reasonable and documented study of market place use, worst case studies and failure mode and effect analysis. The purpose of this test will be to demonstrate acceptable life for most customers and to show that the design achieves the ever present objective of keeping radiotoxicity as low as practical. Separate reports on Worst Case Studies and Failure Mode and Effects Analysis are considered a part of this specification.

3.0 SAMPLE SIZE

One sample gunsight, representative of a production sample, made on production tools, either a prototype or an actual production sample shall complete all of the tests of this procedure, and shall comply with the listed performance requirements.

4.0 TEST SEQUENCE

The gunsight shall complete each of the tests below in the sequence listed.

4.1 ACCEPTANCE TEST

The test gunsight shall meet all of the requirements of the Acceptance Test Specification. If all of the acceptance tests have been performed, they need not be repeated. If the prototype or production sample gunsight has any test not completed, they shall be conducted at this point.

4.2 LIFE CYCLING

The test sample shall be mounted on a Colt 45 Automatic Pistol. The mounting shall be made to the slide portion of the gun. The initial mounting shall be done by a competent gunsmith. Repeated installations, after the initial mounting which involves drilling and tapping of holes in the slide, may be performed by the by the test operator.

The gun shall be fired 100 times with 230 grain maximum load factory ammunition. The ambient temperature shall be recorded. The gun may be sighted in with slow fire, or used in any sequence of target or competitive shooting.

After the 100 cycles of firing, the night lamp shall be checked for being lit. The operator shall enter a dark area no lighter than shaded moonlight. The dot shall be visible to an unaided normal eye within 10 minutes of entering the dark area. The wipe test for liquid scintillation counting as specified in paragraph 2.7 of the Acceptance Test Specification shall be performed.

After the lamp lit and wipe test for scintillation counting has been done, the gun shall repeat the sequence of 100 cycles of firing, lamp lit and count tests four addtional times, for a total of 500 cycles of firing.

Qualification Test Specification

4.3 THERMAL SHOCK

The thermal shock test of ANSI N540 shall be conducted to test level 4, -55 degrees C and 80 degrees C. After the thermal shock test, the lamp lit and count tests as in paragraph 4.2 shall be conducted.

4.4 ALTITUDE

The reduced pressure test of ANST N540 shall be conducted to level 4, 87mm Hg abs. After the reduce pressure test, the lamp lit and count tests of paragraph 4.2 shall be conducted.

5.0 EVALUATION

The gunsight shall pass the requirements of this specification if the lamp remains lit and the results of liquid scintillation counting is less than 5 nano-curies (less than 11,100 disintegrations per minute).

The reticle assembly shall be removed from the gunsight and inspected for any signs of damage. The test observations shall be recorded and included in the report.

The test sample shall be kept available for inspection for a period of one year from the date of the test.

NOTE

Because the shock loads developed during the life cycling test above are much more severe and sustained than the drop tests of ANSI N540 paragraph 7.6 Impact Test are not required.

International Radiation Consulting, Inc.

Dose Calculations: Gaseous Tritium Light Sources for Gun Sights

Doses to Various Critical Groups
Based on NUREG-1717 Methodology

Armson USA, LLC
28 Stroudwater Street, Unit 10
Westbrook, ME 04092

November 29, 2012

Prepared by:
Radiation Safety Associates, Inc.
19 Pendleton Drive/PO Box 107
Hebron, CT 06248

A. Introduction

This document contains dose calculations to support an application for a sealed source and device registration for tritium-lighted gun sights. Calculations have been performed in this report for H-3 sources with this activity using the NUREG-1717 methodology. These are Gaseous Tritium Light Sources (GTLS)s.

B. Radioactive Material Contained

Isotope: Hydrogen-3 (tritium), two 80 mCi sources or four 40 mCi sealed sources per device
Total Activity: 160 mCi total per device
Half-life: 12.28 years

Armson U.S.A. Armson) is licensed for 200 Ci of ^{3}H. Therefore, the absolute maximum number of gun sights that might be in Armson's possession is

$$\frac{200\ \text{Ci}}{1} \times \frac{1000\ \text{mCi}}{\text{Ci}} \times \frac{\text{gun sight}}{150\ \text{mCi}} = 1250\ \text{gun sights.}$$

C. External Dose Potential

1. Particle Radiation

Tritium decays to stable Helium-3 (He-3) by emitting a negative beta particle. No direct photon (gamma) radiation occurs during this transformation. The E_{max} energy of this beta particle is 0.0186 MeV (18.6 keV) and the E_{av} energy is 0.005685 MeV (5.69 keV)[1]. The yield of this transformation is 1.0.

Inspection of the Beta Particle Range-Energy Curve from the Health Physics and Radiological Health Handbook[2] shows that a ^{3}H beta particle, even at the maximum particle energy (with a yield approaching zero) will not penetrate a density-thickness of 7 mg/cm^2 (the nominal density-thickness of the upper layer of the epidermis (the *stratum corneum* or dead skin cell layer). Therefore, as an external hazard, there would be *no* shallow dose (SDE), *no* eye (lens) dose (LDE) and *no* deep dose (DDE) delivered to any person from the ^{3}H particle emissions.

[1] Kocher, David C. "Radioactive Decay Data Tables." U.S. Department of Energy, DOE/TIC-11026.
[2] After Schleien, Bernard "The Health Physics and Radiological Health Handbook," Revised Edition, copyright 1992, p. 184.

2. Photon Radiation

Bremsstrahlung photon emissions from an intact device will be negligible. This is confirmed in NUREG-1717[3] on page A.4-10, Table A.4.2 footnote b, which states that for ^{3}H the "Dose due to *bremsstrahlung* is assumed to be zero (0), because the energies of the *bremsstrahlung* photons are very low and pathways of internal exposure also are assumed to occur." Additional justification is provided in NUREG-1717 section 2.13.4.1.3.

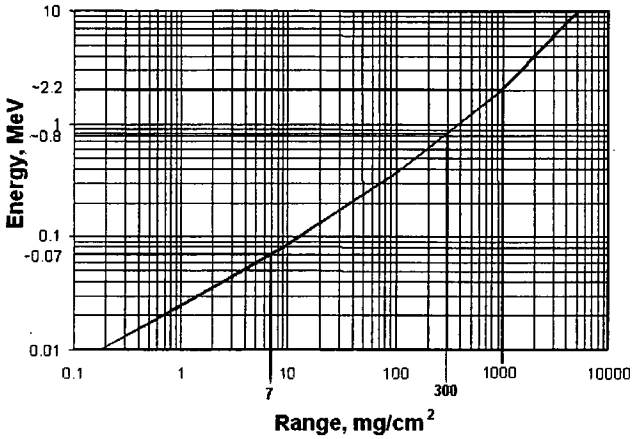


Figure 1. Beta particle range-energy curve showing threshold energies for shallow (7 mg/cm^2), lens or eye (300 mg/cm^2) and deep (1000 mg/cm^2) dose equivalents.

Conclusion

External radiation dose to all exposed individuals and groups is zero. Internal doses, at a leak rate of 10 ppb/h, should be negligible and certainly less than 1 mrem per year for an individual and less than 10 mrem per year to handlers and distributors of these devices. This fulfills the requirements of 10CFR 32.23 and 10 CFR 32.24.

Therefore, 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 1 mrem.

It follows, then, that there will be no dose greater than 15 mrem to the skin or extremities.

[3] U.S. Nuclear Regulatory Commission. "Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials." NUREG-1717. Washington, D.C., June 2001.

Finally, tritium has no specific target organ, so no single body organ will exceed a dose of 3 mrem.

D. Accident Scenarios Considered

Armson is licensed for 200 Ci of ^{3}H, which (at 160mCi per set of sights) converts to 1,250 sets $\left(\frac{200{,}000\ \text{mCi}}{160\ \text{mCi}}\right)$. It is reasonable to presume, then, that 300 devices (48,000 mCi) might be located in a warehouse, 200 devices (32,000 mCi) might be in transit to sellers in a single vehicle, and the remainder of the ^{3}H is either on order or is somewhere in the manufacturing process. It is also reasonable to estimate that a typical end user might have three gun sight sets (480 mCi) in his/her residence at one time.

For purposes of these calculations, three scenarios are considered.

1. Dose to a warehouse worker and to a firefighter extinguishing a fire in a manufacturer's warehouse containing 300 devices. This scenario assumes that 5% (15) of the sets are destroyed in the fire, releasing 2.4 Ci or **2.4E+6 µCi = A**;
2. Dose to firefighters extinguishing a tractor trailer fire containing 200 devices. This scenario assumes that 1% (2) of these sets are destroyed in the fire, releasing 0.032 Ci or **3.2E+5 µCi = A**;
3. Dose to firefighters extinguishing a fire in an end use facility, assumed to be a private residence and containing 3 gun sights (4.8 E+5 µCi). Two gun sights are assumed to be destroyed in the fire releasing 0.32 Ci or **3.2E+5 µCi = A**.

E. Internal Dose Potential

1. Instantaneous Airborne Concentration (C) in an Accidental Release[4]

$$C = \frac{Q}{V k t}\left(1 - e^{-kt}\right) \qquad (1)$$

And

$$Q = RF \times A \qquad (2)^5$$

Where, from above:

Structure	A (µCi)
Warehouse	2.4E+6
Tractor Trailer	3.2E+5
Residence	3.2E+5

[4] NUREG-1717, page A.1-1, equation 1.
[5] NUREG-1717, page A.1-2, equation 3.

Calculate Quantity Released (Q)

$$Q = RF \times A \qquad (3)$$

Where:

Q = quantity (μCi) released

RF = fraction of radioactive material released as respirable size particles (100% for gaseous sources[6]) and

A = total amount of radioactive material involved in a fire.

Warehouse: Q = 2.4 E+6 μCi
Tractor trailer: Q = 3.2E+5 μCi
Residence: Q = 3.2 E+5 μCi.

Calculate Instantaneous Airborne Concentration (C)

$$C = \frac{Q}{V k t}\left(1 - e^{-kt}\right)$$

Where:

Q = released quantity (μCi)

V = volume (m^3) into which activity is released[7] (see table 1 below)

k = ventilation rate (see table 1 below)

t = time over which C is averaged. A time of 1 hour is used for this calculation.

E.g.,

$$C = \frac{1.2E+7}{(3000)(1)(1)}\left(1 - e^{-(1)(1)}\right)$$

$$= 4000\,(1 - 0.37) = 3E+3$$

Type of Enclosure	**Q** (μCi)	L x W x H (m)	Floor area (m^2)	Volume **(V)** (m^3)	Ventilation Rate **(k)** (volume/h)	**C** Instantaneous air conc (μCi/m^3)
Warehouse 75 units	1.2 E+7	30.5 x 30.5 x 3.66	9.3E+2	3,000	1	5.1E+2
Tractor trailer 2 units	6.4E+5	13.7 x 2.35 x 2.7	32	87	1	2.3E+3
Residence[8] 3 units	3.2E+5	186 m^2 x 2.44	186	450	1	4.5E+2

Table 1. Assumed attributes of relevant transport, storage and use enclosures; instantaneous airborne concentrations.

[6] Release fraction (RF) = 100% (NUREG-1717 Table A.1.1).
[7] From NUREG-1717 Table A.1.2.
[8] Analogous to an end use facility.

2. Inhalation Intake and Dose

During a fire, an individual's intake from inhalation of airborne radioactive material (μCi) is given by

$$I_{Inh.} = C \times BR \times t, \quad (4)$$

Where t = time of exposure (h),

BR = breathing rate (m^3/h) = 1.2 m^3/h[9]

C = average concentration of airborne radioactive material (μCi/m^3) over time, t.

Type of Enclosure	Avg. Concentration (C) (μCi/m^3)	Breathing Rate (BR) (m^3/h)	Intake (μCi) t = 0.083 hour (5 min) Worker (Resident)	Intake (μCi) t = 2 hour Firefighter[10]	Intake (μCi) t = 0.5 hour Firefighter[10]	Intake (μCi) t = 1 hour Firefighter[10]
Warehouse	5.1E+2	1.2	51	1224 (408)	–	–
Tractor trailer	2.3E+3	1.2	229	–	1380 (460)	–
Residence	4.5E+2	1.2	45	–	–	540 (180)

Table 2. Calculated intakes due to fires for the various enclosure types, for workers as well as firefighters. Firefighter intakes in parenthesis account for SCBA use.

Internal dose is calculated by comparing the calculated intake to the stochastic ALI for tritium in Appendix B to 10 CFR 20. This ALI is 8E+4 μCi. Using proportionalities, e.g.,

$$\frac{5000 \text{ mrem}}{8E+4 \text{ μCi}} = \frac{x \text{ mrem}}{51 \text{ μCi}}$$

$$x = \frac{(51 \text{ μCi})(5000 \text{ mrem})}{8E+4 \text{ μCi}} = 3 \text{ mrem}$$

Type of Enclosure	Intake (μCi) t = 0.083 hour Worker (Resident)	Worker (Resident) Dose
Warehouse	51	**3**
Tractor trailer	229	**14**
Residence	45	**3**

Table 3. Calculated internal doses to workers (residents) due to inhalation.

[9] NUREG-1717, section A.1.5, last paragraph.

[10] Fire fighters are presumed to be wearing self-contained breathing apparatus (SCBA) that provides an assigned protection factor of 3 against tritium. Refer to 10 CFR 20 Appendix A footnote f.

Type of Enclosure	Intake (μCi) t = 2 hours	Dose (mrem) t = 2 hours	Intake (μCi) t = 0.5 hour Firefighter	Dose (mrem) t = 0.5 hour	Intake (μCi) t = 1 hour Firefighter	Dose (mrem) t = 1 hours
Warehouse	(408)	**26**	--	--	--	--
Tractor trailer	--	--	(460)	**29**	--	--
Residence	--	--	--	--	(180)	**11**

Table 4. Calculated internal doses to fire fighters for various exposure times due to inhalation. Intakes in parentheses indicate that the APF for SCBAs has already been accounted for.

As above, e.g.,

$$\frac{5000 \text{ mrem}}{8\text{E} + 4\ \mu\text{Ci}} = \frac{x \text{ mrem}}{408\ \mu\text{Ci}}$$

$$x = \frac{(408\ \mu\text{Ci})(5000 \text{ mrem})}{8\text{E} + 4\ \mu\text{Ci}} = 26 \text{ mrem}$$

3. Ingestion Intakes and Doses

Released gaseous ^{3}H is quickly bound into airborne water vapor as T_2O (^3H_2O). A portion of this might be absorbed through the skin and is considered to be an ingestion. Ingestion intake[11] is calculated as follows:

$I_{Ing.}$ = A x 1E-4 **(5)**

where A = total amount of available material at risk during the accident.
In these three scenarios, A = Q from the calculations above.

Warehouse: A = 2.4E+6 μCi x 1E-4 = **240 μCi**
Tractor trailer: A = 3.2 E+5 μCi x 1E-4 = **32 μCi**
Residence: A = 3.2E+5 μCi x 1E-4 = **32 μCi**

Activity on skin is absorbed and is considered another ingestion component, added to the inhalation quantity. For a fire fighter in full turnout gear, assume a dose reduction of 33%.

Type of Enclosure	Available Material (A) (μCi)	Dose Worker (Resident) (mrem)	Available Material Fire Fighter (μCi)	Dose Fire Fighter (mrem)
Warehouse	240	**15**	160	**10**
Tractor trailer	32	**60**	21	**1**
Residence	32	**2**	21	**1**

Table 5. Calculated internal doses to fire fighters due to ingestion.

[11] NUREG-1717, section A.1.6, 2nd paragraph, page A.1-3.

Internal dose is calculated by comparing the intake to the stochastic ALI for tritium in Appendix B to 10 CFR 20. This ALI is 8E+4 μCi. Using proportionalities and the Worker scenario, e.g.,

$$\frac{5000 \text{ mrem}}{8\text{E} + 4 \text{ μCi}} = \frac{x \text{ mrem}}{1.9\text{E} + 5 \text{ μCi}}$$

$$x = \frac{(240)(5000 \text{ mrem})}{8\text{E} + 4 \text{ μCi}} = 15 \text{ mrem}$$

NOTE: NUREG-1717[12] gives an ingestion dose conversion factor for H-3 of 6.4E-5 rem/μCi. Use of this factor results in essentially the same doses as are calculated above using ALIs.

4. Total Effective Dose Equivalent (TEDE) Estimate

TEDE = ∑DDE + CEDE

In the case of tritium, deep dose equivalent (DDE) is zero as described above.

Committed effective dose equivalent (CEDE) has two components that are additive. A summary table is provided below.

Type of Enclosure	Ingestion Dose (mrem) Worker (Resident)	Inhalation Dose (mrem) Worker (Resident)	TEDE Worker (Resident) (mrem)
Warehouse	3	15	**18**
Tractor trailer	14	60	**74**
Residence	3	2	**5**

Table 6. Total effective dose equivalent (TEDE) to workers (residents) in the postulated accident scenarios.

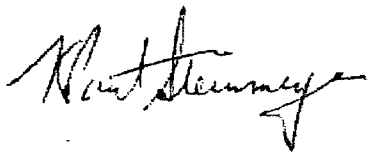
Type of Enclosure	Ingestion Dose Fire Fighter	Inhalation Dose Fire Fighter	TEDE Fire Fighter (mrem)
Warehouse	26	10	**36**
Tractor trailer	29	1	**30**
Residence	11	1	**12**

Table 7. Total effective dose equivalent (TEDE) to fire fighters in the postulated accident scenarios.

[12] NUREG-1717, Table 2.1.2 Dosimetry Data for Selected Byproduct Materials.

5. Conclusion

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 in 10 CFR 32.24, 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 in 10 CFR 32.24.



November 30, 2012

K. Paul Steinmeyer, RRPT

Quality Assurance Program

January 20, 2013

ARMSON USA
COMBAT SIGHTING SYSTEMS

Revision 1.0

MASTER COPY

Approvals:

Title	Date	Title	Date
Title	Date	Title	Date
Title	Date	Title	Date
Title	Date	Title	Date
Title	Date	Title	Date
Title	Date	Title	Date

Rev	Description of Changes	Release
1	Initial Release	1/20/2013
2		

Description of Changes Since Last Revision:

Revision 1.0 Initial release

Definitions

Applicant--Any person, persons, or company licensed or applying for a license to manufacture, distribute, or redistribute devices.

Assembler- a person who performs assembly and inspection of gunsights; may also include repair, tritum upgrade, packaging, and shipping.

Deviation--A departure from the specifications for a device, or a departure from the information supplied to NRC pertaining to the device.

Device--Any product (e.g., gauge, sealed source), registered in accordance with 10 CFR 32.210, that is manufactured, distributed, or redistributed by Armson.

Document--Any drawing, procedure, instruction, or record pertaining to the production of the device.

Material--Any item that is raw material, subassembly, or a component used in the production of the device.

NRC Contact--The person identified by the licensee as being responsible for ensuring compliance with NRC regulations.

Operational Check--A test or set of tests performed on a completed device to ensure that the device operates in its intended manner and to its intended specifications. This includes verification of shutter operation, emergency stops, and device safety features.

Production --The process of assembling or fabricating a device or any part of a device. Production includes all operations associated with a device or any part of a device from the time it is received from a supplier until it is distributed to the customer.

QA Director--Person in upper management who does not have direct responsibility for production of a device but is responsible for ensuring that the QA program is established and maintained.

QA Manager--Person responsible for ensuring that an appropriate QA program is running properly and verifying that the activities affecting device quality have been correctly performed.

QA Program--The planned and systematic actions necessary to provide confidence that a firm or product will meet the required specifications. The program must provide a means to control and measure characteristics of an item, process, or facility to the established requirements of the program.

Quality Control--Actions taken to prevent or detect product deficiencies.

Radiation Safety Officer- Person designated for maintaining the radiation safety program. The radiation safety program is conducted according to the radiation safety manual, which is a separate document from the QA program. The radiation safety officer may be an Armson employee or a consultant.

Redistributor--Any person, persons, or company licensed to redistribute completed devices or sealed sources that have been registered with NRC by the initial distributor.

Repair--Fixing an unacceptable item by a means different than that specified in the production procedures (as opposed to reworking an item).

Repair technician-An individual trained only for repairs to a product.

Rework--Fixing an unacceptable item by methods included in an approved procedure.

Sample--One or more units of product drawn from a lot or batch, the units of the sample being drawn without regard to their quality.

Sample Size--The number of units of product in the sample selected for inspection.

Service--Any operation pertaining to production of the device or operation performed on any part of the device.

Shipper/Receiver-Person designated for shipping and or receiving packages.

Specifications--Requirements imposed by Armson, customer, or NRC that, if not followed, may affect the use or operation of the device.

Supplier--Any person, persons, or company that supplies material, equipment, or service to an applicant.

Content

1. ORGANIZATION

This is the quality assurance program for Armson USA, LLC for the purpose of assembling gunsights, including those containing tritium. This QA program has been developed in order to comply with the QA requirements for products containing radioactive material as specified in Appendix G of US NRC Regulatory Guide NUREG 1156, Vol 3., Revision 1. The structure of this QA manual is based on the suggested format of NRC Regulatory Guide 6.9, Revision 0.

The organizational structure, functional responsibilities, and levels of authority are documented in this manual, starting with the Chief Executive Officer down to each employee position. Tasks shall be designated by position and not by individual employee. For example the duties of an assembler shall be spelled out as opposed to duties of John Smith..

The radioactive materials possession and manufacturing license was issued by the Maine Division of Environmental Health, Radiation Control Program. The exempt device registration and distribution license shall be issued by the US NRC.

Contact person for state of Maine: Jay Highland, Ph: 207-287-5677, email: jay,highland@maine.gov

Contact person for US NRC: Bruce Carrico Ph: 301 415 7826, email: Jbruce.Carrico@nrc.gov

At Armson US the QA Manager and QA Director positions are combined. The QA Director has continued involvement in ensuring that the QA department is running properly. The QA Manager/Director has the authority to access to work areas, and the organizational freedom to identify quality problems, recommend or initiate solutions, verify implementation of solutions, and halt production at any time to ensure that the device or production procedures conform to all regulations and specifications. Any individual is empowered to issue a halt order.

1.1 The organizational structure is documented in the form of an organizational chart, with a brief explanation of each position and the responsibilities associated with the position. Position titles are used in the org chart in lieu of the names of the persons occupying the positions. A separate list shall be maintained as to who occupies these positions, including the date of hire. There are currently 5 employees.

Appendix A- Organizational chart

Appendix B- List of Armson, USA LLC personnel

The following positions are recognized:

- CEO,QA Manager/Director
- Assembler

- Repair Technician
- Shipper/Receiver
- Radiation Safety Officer

All employees report directly to the CEO. Employees are cross trained as necessary. Any training performed will be documented.

1.2 The company president/CEO is the QA Director, or the QA This may not be possible in larger organizations. Quality must first be measured against the device specifications before other factors, such as production schedules.

1.3 The QA Manager is responsible for the everyday workings of the QA program and is responsible for reviewing and approving all changes to, or changes affecting, the QA program.

1 Involvement by the QA Director at a minimum, consists of reviewing the audits of the QA program and
. periodically reviewing any updates, changes, problems, or concerns with the QA program. The QA
4 Director must initiate changes to the QA program as deemed necessary.

2. PERSONNEL

Armson USA, LLC has written procedures to ensure that employees have appropriate qualifications and training for the jobs they are performing. We keep records of each employee's education, experience, training, and either examination results or capability demonstrations, including re-evaluations.

Armson must have written procedures for all training and indoctrinations.

2.1 Training of personnel will be formal, including a written outline of the training with a written or hands-on objective examination, and informal, including on-the-job training that includes a qualitative determination of the trainee's ability. Both formal and informal training must be documented. After training individuals must sign off that they received an understood the required training.

Workers will be observed and evaluated in the conduction of their assigned task.

Appendix C- Subjects to be covered during job training

2.2 All employees upon hire are subject to an initial evaluation of their skills, and re-examination on an annual basis. The evaluation will include a statistical analysis of inspection results of work performed by the employee and observation of the employee's work habits and skills, to ensure compliance with the appropriate specifications. All evaluations and re-evaluations must be documented.

See Form 1-Employee Evaluation Form.

2.3 Armson maintains a list of employees qualified to perform each operation. This is achieved by maintaining a list of all persons qualified to perform an operation including the date at attendance at training, and the qualification date. The employee's supervisor has access to this information to verify the employee's qualifications.

2.4 Employees will inform the employer of any changes in their health could impair their job function. This could include vision changes, injuries, etc.

2.5 The employee training form is included as Form 2 to this manual.

3. EQUIPMENT

Equipment used will typically consist of an inspection microscope, dial calipers, and hand tools. No equipment to be used is required to be calibrated.

3.1 Equipment shall be maintained in good working order. Any equipment worn out will become obvious at the time of use. If there is any doubt as to the further usefulness of equipment it must be replaced. The QA manager will make determinations regarding the replacement of equipment.

3.2 Records shall be maintained for each piece of equipment including model and serial number, date of repaid, and description of what was repaired.

3.3 The equipment log is included as Form 3

4. DESIGN AND DOCUMENT CONTROL

Armson USA, LLC has written procedures to ensure that all documents conform to the appropriate specifications and pertinent regulations.

Armson will maintain a hard copy, master copy QA plan. Employees will work of this plan as opposed to one on the server. Controlled copies issued shall be numbered and dated. The manual will contain revision dates and revision history. All forms shall have a revision and date. Uncontrolled copies shall be shredded in a cross-cut shredded.

Documents may be stored in hard copy or electronic format. Electronic records shall also be stored on a backup system. It is also suggested that they also be backed up to an offsite location for disaster mitigation.

Documents must be stored in a clean, dry, secure location. The level of security for documents must be appropriate for their level of importance. Proprietary information shall be kept in a lockable filing cabinet.

Each document is released only after it has been reviewed and approved by someone other than the person who prepared that document, such as the QA manager.

Any changes to the documents are controlled by measures commensurate with those applied to the original document.

Updated copies will be distributed and employees notified through email, written memos, and/or verbal indications.

Minor corrections such as spelling, grammer, or obvious word usage errors do not require secondary review.

Revision numbers shall be as follows: 1.0 initial release , 1.1 minor procedural edits, 2.0 major procedural edits. The criteria for major edits including adding new sections or paragraphs that direct affect work output.

4.1 A controlled list of recipients of QA manuals will be maintained. Each recipient will sign off that the most current document was received and is being used.

4.2 As soon as a document is revised, approved, and effective, Armson must ensure that all previous copies of the document are pulled from production to ensure that the documents are not being used for production, and that they are destroyed (with exception listed in 4.6)

4.3 Armson ensures that the master copies of documents are controlled so that no previous revisions of the documents are issued or used. All master copies shall have the word "MASTER COPY"on them. All controlled copies shall have the word "CONTROLLED" on them.

4.4 Armson maintains a list that reflects all current documents and their appropriate revisions on page 1 of this manual.

4.5 The NRC must review and approve all document revisions if the document was submitted as part of the device registration or license application.

4.6 A file must be kept for each document including all previous revisions of the document, all changes to the document, the reasons for the changes to the document. Each page will be marked "not for use"

4.7 Procedures for reviewing the documents include a checklist of the types of items that must be included in the documents. If any item on the checklist is missing, the reviewer must ensure that it was not inadvertently excluded from the document. This is important for revision control when items can be inadvertently dropped.

4.8 Any new models to be produce require an amendment to the NRC device registration, NRC distribution license, and state of Maine possession and manufacturing license in regards to possession incident to exempt distribution.

4.10 See Form 4 Engineering change request
See Form 5 Engineering change notice
See Form6 Drawing issue checklist

5. MATERIAL AND SERVICE PROCUREMENT

All materials and procedures used to produce gunsights must meet specifications and pertinent regulations. Procurement of materials or services must be controlled to ensure conformance with specifications.

Suppliers must demonstrate that they are capable of supplying material or services in accordance with the requirements and specifications.

Receipt inspections are performed on all items received from suppliers upon receipt. The extent of receipt inspection must depend on the supplier and are left to the discretion of the QA Manager. Armson does not perform supplier audits

Before issuance of an order for materials or services, Armson provides the supplier the scope of the work, technical requirements, identification of the documents that must accompany the material or service, any relevant changes in their QA program identification of the documents that the supplier must keep on file, requirements for reporting and approving dispositions of nonconformances, delivery times. and the signature of an authorized purchasing agent.

Armson maintains written procedures and records for procurement for materials or services, and inspection upon their receipt.

5.1 Selection of a supplier must be based on the supplier's past history of providing identical or similar materials or services and the supplier's technical capability, as determined by either direct evaluation of the facility or by analysis of the quality of previously supplied materials or services. Suppliers selected are referred to as qualified suppliers.

5.2 For each supplier, the level of receipt inspections will be 100 percent of the materials or services received from suppliers. No onsite audits are required to be performed.

5.3 Armson maintains a qualified supplier list. The list include all suppliers who have demonstrated that they are capable of supplying the materials or services to Armson. Materials or services are only procured from suppliers on the qualified supplier list. The qualified supplier list will be controlled so that no unqualified suppliers are included on the list.

5.4 A initial written contract shall be made with a supplier. The contract shall at minimum reference the bill of materials for building a component, the requirement to be notified of any changes in materials used or subcontractors, the expected delivery due date (i.e. within 30 days of receipt of order). The person placing the order must ensure that the supplier has copies of, and is using, the most current documents pertaining to the order.

5.5 Verification must be performed that existing batches of components are compatible with new batches received.

5.6 A trend analysis shall be performed on a minimum of an annual basis to look for any supplier problems. The criteria for the analysis shall be established by the QA Manager.

5.7 Samples of a purchase requisition and a purchase order are included as Appendix D.

6. INVENTORY

Armson has written inventory procedures that include procedures for handling, marking, tagging, labeling, segregating, recordkeeping, nonconforming material. The inventory procedures account for material that has a shelf life and ensure that the proper materials are used in the production process.

The inventory procedures must include provisions for in-process material and finished devices. The procedures ensure that only items that have passed inspection are used in the production process, and that completed devices have passed their final inspections and testing before distribution.

All inventory that has a shelf life, such as adhesives, o-rings, and tritium vials (GTLS), must be usec rotating stock as necessary.

Handling and inventory procedures must ensure that materials or devices that are segregated or iden items that have passed inspection enter the controlled area.

To ensure that the correct materials are used in production and that the items have passed their inspe have passed their inspection.

6.4 Inventory items or containers must be clearly marked or segregated to prevent use of the wrong mat Armson designates a single assembly area in which all materials needed for production are brought Minimum 1 year audit. usually more often.

7. PRODUCTION PROCEDURES AND PROCESSES

Armson has written procedures for all production processes. The procedures must include all necessary instructions, including the machinery, equipment, and qualifications of the worker needed to perform the task. The procedures must also include inspection or testing hold points. Not all tasks need to be listed in the procedures. For example, procedures for cutting stock material to length may not need to be listed in the procedures.

7.1 Production procedures must be adequate for the operation to be performed. They may be as simple as a detailed engineering drawing of the part or device, with notes indicating any special instructions, cautions, or methods of construction. More detailed, step-by-step written procedures are necessary for more complex assembly or repair operations.

Light Gathering Unit/Light Source Assembly

See Appendix E for the Bill of Materials to be used.

Place reticule silver side up inside reticule cup. Insert the base of the light gathering unit into the reticule cup, on top of the reticule, line up the edges correctly and press firmly into place. Using a pin or small needle and a small amount of super glue, apply super glue into the edges of reticule cup to secure the light gathering unit in place. Alternately, first apply super glue to the sides of the flats on the base of the light gathering unit and insert into reticule cup pressing firmly to ensure that it is fully seated.

Rear Lens Assembly

Holding sight body in one hand with the back end held upward, insert o-ring (size) into the internal bore so that it sits on the machined ledge. Make sure that it is fully seated. Drop lens in curved side up. Do not touch lens with fingers. Drop a second (size) o-ring into the internal bore on the top side of lens. Slide the plastic spacer into the internal bore on top of the (size) o-ring. Using the required snap ring pliers install (size) circlip, flat side down, over the dome ensuring that it seats securely in groove.

Front End Assembly

Screw (2) adjuster push rods into the (2) adjuster bodies. Place cup housing into the body with the two larger openings oriented to the adjuster holes in the sight body. From the inside of the sight body insert adjusters into the adjuster holes with the smaller diameter section of the adjuster body facing out of the sight body. Install knobs ensuring that they are properly indexed. Install knob screws and tighten until snug but not fully tight. Face the angles on the adjuster push rods towards each other. Place light source assembly into the body, base first, with flat sides touching adjusters. Using a small screwdriver gently push the light source assembly into the adjusters until seated. Insert spring into the slot in the cup housing and using a small screwdriver manipulate the position until it is seated in the corresponding area of the light source assembly. Rotate the adjuster knobs counter clockwise two or three turns and observe the spring to ensure that it is properly seated. Place top housing cover into body with the raised notch, face down, fitting directly over the spring. Insert o-ring (size). Place dome into sight body. Using the required snap ring pliers install (size) circlip, flat side down, over the dome ensuring that it seats securely in groove. Turn adjusters until the red pointer is in the approximate middle of the dome.

7.2?roductions procedures must include appropriate hold points. These may be detailed as part of theduc

ıre or indicated as a note on the production drawing.

7.3 Armson specifies the flow of materials and processes in assembly procedures that accompanies the item, see Form 7- Inspection Traveler. Inspection hold points are referenced and Include pictues and USE EXPLODED VIEW.

7.4 As necessary, procedures specify the qualifications of the workers needed to perform each operation. This may be accomplished by classifying workers to certain skill levels. If the worker's qualifications are not identified in the production procedures, there must be a mechanism to ensure that the worker performing the task is qualified to perform the task and to operate the equipment needed to perform the task.

7.5 Procedure for repair or exchange of tritium sources

7.6, Fabrication step images are located in Appendix F.

8. INSPECTION AND TESTING

Armson ensures that all materials, devices, and production procedures conform to the appropriate specifications and regulations. Armson must have written procedures for in-process inspection and testing of materials, production processes, and final inspection and testing of gunsights. The procedures include acceptance criteria and procedures for receipt inspection, generating sample sizes, final inspection and testing, packaging and transportation inspections, and audits of production procedures. The final acceptance inspection must be performed by someone other than the person who performed the work being inspected.

The procedures also include an inspection schedule that includes mandatory hold points beyond which work must not proceed without successful completion of the inspection or test. The procedures include provisions for bypassing inspections or tests and provisions for nonconforming materials. Records must

be maintained of all inspections and tests results and must include the date and person performing the inspection or test.

Armson segregates items that have passed inspection and testing.

8.1 Armson will perform illumination tests and wipe testing on a minimum of 1% of all completed gunsights.

8.2 Hold points are specified on a traveler that follows the device through the production process. The traveler indicates the hold points and the types of inspections and tests to be performed. The traveler is designed to be a record indicating that the inspections or tests have been performed. The traveler must be approved by the assembler indicating that the inspection hold points are acceptable.

8.3 After tritium lights are installed, all sights must be inspected to confirm they are securely in place.

8.4 After the inspection, the acceptable items must be segregated from unacceptable items. Segregation of items may be achieved having the items placed in a controlled stock room or holding area.

8.6 Inspection of production processes uses a checklist that lists the acceptance criteria. Inspections may be performed by qualified production staff instead of the QA director, however, the QA director must inspect the processes at least yearly. All inspections must be documented.

8.7 If a production process is found to be insufficient, the inspection results and their impact on previously manufactured products must be evaluated by the QA director. Appropriate corrective actions must be taken.

8.8 Inspection traveler is included as a Form 7, Form 8 incoming inspection report, Form 9 verification of conformance form. It is not necessary to issue a certificate of conformance for each order; they shall only be issued upon customer request.

9. NONCONFORMING MATERIALS

Armson has written procedures to ensure that materials and devices that do not conform to the specifications are not used in production or distributed. The procedures have provisions for nonconforming materials found through receipt inspection, in-process and final inspection and testing, and devices returned by customers. The procedures include identification of the nonconforming materials, disposition procedures, and provisions for returning reworked items back to production. Before nonconforming materials are returned to production or distributed, they must pass appropriate inspections and tests. Armson keep records of all nonconformances and their disposition.

9.1 Nonconforming materials must either be segregated in a controlled area or be marked as nonconforming.

9.2 Rework may be performed without prior approval, provided it is done according to procedures. Repair to material must not be performed without appropriate approval.

9.3 Records of all nonconforming materials must be kept for trend analysis and for verification that rejected materials have not been used in the production process.

9.4 A traveler form must be used to identify nonconformances. The traveler must indicate the inspections and approvals needed. The QA manager must approve the disposition of nonconformances.

9.5 Samples of a Nonconforming Materials Report are included as Form 10.

10. PACKAGING AND TRANSPORTATION

Armson has written procedures to ensure that all materials or devices shipped by Armson are packaged and transported according to the regulations and specifications governing the material. The procedures include provisions for inspections of packaging and transportation. The packaging and transportation must ensure the product is delivered intact to the customer.

The procedures ensure that the instructions will accompany the gunsight.

Records must be kept of all packaging materials used, shipping reports, and inspections.

10.1 Armson has a standard procedure for packaging all items leaving the facility or a unique packaging procedure for each item as it leaves the facility. The packaging procedure must includes the form of transportation, including the name or type of transportation company, and the labeling of the packaging.

10.2 Before distribution of any material or device, it must be verified that all items, including paperwork, are included with the material or device or are being shipped separately. The customer must be notified if items are missing and that they will be sent at a later date. The system must ensure that back-ordered items are sent when they become available.

10.3 Return materials authorization numbers (RMAs) shall be issued to customers who wish to return devices for service. Form 11. is the RMA form.

11. DEVIATIONS AND CUSTOMER COMPLAINTS

Armson has written procedures for evaluating and recording deviations, whether reported by customers, suppliers or found during internal audits. The procedures must adequately address the evaluation and notification requirements listed in 10 CFR 21.21. Records must be kept of each deviation or complaint that Armson receives. The records must contain the device type and model number, serial number (if applicable), name of complainant, nature and date of the complaint, reply to complainant, corrective action taken, and root cause of the failure if known. The procedures must ensure that the QA Manager and the department that was responsible for the failure are notified of the deviation or complaint and the corrective action. All known customers that may be affected by the failure or complaint must be instructed to take appropriate corrective action.

Trend analysis must be performed on all deviations. The analysis must be on-going and be performed at least yearly.

11.1 Armson maintains a log of complaints received from customers by phone or in writing. The log must include: device type and model number, serial number, name of complainant, nature and date of the complaint, reply to complainant, corrective action taken, and root cause of the failure, if known.

11.2 Trend analysis must be, at a minimum, by type of failure and model number of the device. Any trends arising must be investigated for possible generic problems.

11.3 Armson must have written procedures for contacting affected customers and procedures for determining whether customers are affected by a failure or complaint. If it appears that the failure or complaint is a result of a generic design or manufacturing problem, all known users of a device

that may have the same failure must be notified. The procedures must ensure that the NRC is notified of failures or generic design or manufacturing problems that may be related to their license or registration of the product.

11.4 The department responsible for the deviation must be notified as soon as practicable to prevent additional deviations.

11.5 The customer complaint form is included as Form 12.

12. AUDITS

Armson must have written procedures for auditing and evaluating its QA program and for auditing its suppliers. Audits must ensure that the program encompasses all the requirements of the applicable regulations. Audit procedures must include acceptance criteria and assurance that all procedures are up to date.

Audits may be performed by an employee or a consultant. Ideally the person performing audits must have no responsibility for the matters being audited. Since Armson is a small company it may be advantageous to have an outside audit perform the audit,

Records of all audits must be kept on file and reviewed by the personnel responsible for the matters being audited. Audit records must indicate deficient areas in the program and corrective actions. Follow-up actions must be taken to verify that corrective actions are accomplished. All records must be signed and dated by the appropriate company officer.

Internal audits must be performed at intervals not to exceed 1 year.

12.1 Armson has standard written procedures for auditing its QA program and for auditing its suppliers. A written checklist specifying the necessary components of the QA program must be completed as a record of the audit.

12.2 The completed audit checklist must include the signature of the auditor, signature of the person responsible for the area being audited, and the date of the audit. If the audit reveals deficient areas of the program, the deficient areas must be noted on the checklist, and the deficient areas must be re-audited. The auditor must again sign the checklist when all deficiencies have been corrected. If the deficiencies are minor, the auditor may allow them to be corrected before completion of the audit or may agree with the corrective action to be taken. In these cases a re-audit is not necessary.

12.3 If audits are used to verify employees' performance, the procedure for the audits must specify the acceptance criteria for the job being performed. A record of the audit must be kept.

13. RECORDS AND DOCUMENTATION

The QA Manager must ensure that all appropriate pertinent records are maintained and filed. This includes the results of tests, inspections, and audits, as well as copies of up-to-date written procedures. The objective is to ensure that each component of the QA program has been properly implemented. The records must be accessible to each appropriate regulatory agency.

13.1 Records of audits and inspections and all necessary documentation must be available to the necessary departments.

13.3 The QA Director must have access to the master copies of all records and documentation.

13.4 Information regarding the total number of gunsights distributed per year by model and activity level shall be maintained for the life of the product, and will be provided to the NRC on an annual basis and at the time of inactivation of the device registration.

13.5 All documents must be maintained for a minimum of 5 years, with the exception of QA audit reports, prototype testing, and distribution report, and files related to decommissioning the facility, which must be kept for the life of the device registration and licenses.

13.6 Form 13 is the annual QA audit form.

Forms:

Form 1- Employee Evaluation Form (revision and date)

Form 2- Employee Training Record (revision and date)

Form 3- Equipment Log (revision and date)

Form 4- Engineering Change Request (revision and date)

Form 5- Engineering Change Order (revision and date)

Form 6- Drawing Issue Checklist (revision and date)

Form 7- Inspection Traveler Form (revision and date)

Form 8-Daily Incoming Materials Report (revision and date)

Form 9- Certificate of Conformance

Form 10- Non-conforming materials Log (revision and date)

Form 11- Return Material Authorization Form (revision and date)

Form 12- Customer Complaint Log (revision and date)

Form 13- Annual QA audit form (revision and date)

Form 14- Bill of Materials Log

Appendices:

Appendix A- Organizational Chart

Appendix B- List of Armson, USA LLC Current Personnel

Appendix C- Subjects to be covered during job training

Appendix D- Purchase Order

Appendix E- Bill of Materials

Appendix F- Fabrication Step Images

Equipment Log

Name of Equipment
Model Number
Manufacturer:
Used For:
Instructions for Use, Maintenance, Calibration:
Maintenance Frequency
Calibration Frequency

Date	Calib.	Main.	Performed By	Comments

Engineering Change Request

Model/Part No.	Customer/order No.	Initiator	Dept.
Reason for Change	Type of change	(NORMAL/EMERGENCY)	
Document No.	Description of Change		

Reviewed/Approved Dept.	Signature	Date	Remarks/Comments
Design Eng.			
Prod Plan.			
R & D			
Other			

Notify Supplier	Y/N
Notify Customer	Y/N
Notify NRC	Y/N

ECR #

Date

Engineering Change Request

ECR #

Model/Part No.	Customer/order No.	Initiator	Dept.	Date

Reason for Change | Type of change | (NORMAL/EMERGENCY)

Document No. | Description of Change

Reviewed/Approved Dept.	Signature	Date	Remarks/Comments
Design Eng.			
Prod Plan.			
R & D			
Other			

Notify Supplier	Y/N
Notify Customer	Y/N
Notify NRC	Y/N

Engineering Change Notice	ECN#			
Model/Part No.	Customer Order No.			
Changed By	Date	Checked By	Date	Released
Document Rev. No.	Description of Change			
Units Affected	Stock Disposition			
Date	Inventory	Scrap	Rework	
Dield Units	Next Run	Deplete	Other use	
In process	See Stock Disp.		Description of other use	
Remarks	Distirbution			
Notification required	Supplier/Customer/NRC			

Drawing Issue Checklist

To

Date

From

Order Number

The following documents and/or were sent to you on (DATE)
Please confirm that you have received these drawings
and sign and date this form where indicated. Return the signed
original immediately and keep a copy for your records

Drawing or Document Number	Issue Number	Rec'D

I certify that the previous revisions of the docuemnts and drawings
have been recalled or accounted for:

Signature:
Date

File checked by
Date

INSPECTION TRAVELER

JOB #:_____ **BATCH #:**_____ **ITEM #:**_____

INSPECTION AND TEST TO BE PERFORMED	POINTS TO PERFORM INSPECTION/TEST

DATE	INSP./TEST PERFORMED	PERFORMED BY	PASS/FAIL	COMMENTS

Armson USA, LLC
Receipt Inspections

Date	Vendor	Product	Qty	Reference #	Inspected By	Pass/Fail

Date:

Company:

Address:

Purchase Order:

Item/Part Number:

Contract:

This certificate assures that the items listed below conform to all the conditions of Purchase Order _(P.O. #)_,Contract _(contract #)_, and their engineering drawings.

ITEM NUMBER	PART NUMBER	DRAWING NUMBER	DESCRIPTION

COMPANY NAME

BY: _____ _____
SIGNATURE DATE

_____
TITLE

_____ _____ (Witness)
SIGNATURE DATE

Armson USA, LLC
Nonconforming Parts/Material

Date	Parts/Material	Reason for Nonconforming	Action Taken	Inspector

Armson USA, LLC
Customer Complaints

Date	Name	Model	Serial #	Complaint	Cause of Failure	Corrective Action	Inspector

Item No
1
2
3
4
5
6
7
8
9
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Checklist for Reviewing QA Programs for compliance with NUREG 1156 vol 3 revision 1 Appendix G

Does the applicant have a QA manual or a set of instructions defining the QA program?

Is the manual up to date?

Is the manual approved and signed by designated official from each department?

ORGANIZATION

Is the organizational structure of the applicaant documented in the QA manual

Are all the QA personnel listed along with all their responsibilities?

Is the QA director someone in upper management not directly responsible for manufacturing and production

Does the QA director have continual involvement in the QA program?

Is the NRC contact listed and up to date?

Do the QA manager and the QA director have the authority to halt production

PERSONAL

Does the applicant have the procedures to ensure up-to date records of all employee qualifications?

DESIGN AND CONTROL DOCUMENT

Are there procedures for ensuring that all docuemnts contain all pertinent information and conform toa ll pertinent regulations and specificaitons?

Are ther procedures for handling document and design changes?

Do procedues ensure that all appropiraite departements are notified of the changes?

Do procedures ensure that documents under revision are not used?

Are all changes documented?

Do the procedures ensure that documents and changes are checked and approved before released?

Do the procedures ensure include notifying regulatory agencies of any changes?

Do the procedures ensure alternative approaches in the adbsence of specifications?

Is there a history file for each document that includes previous versions, document changes, and reasons for the changes?

Are the copies on file of all up-to date documents for each job?

Are there procedures for vertification of the adequacy of suppliers?

Are there records of all audits of suppliers?

Are audits of suppliers pertformed at intervals of less than 3 years?

Are ther procedures for receipt inspection?

Do you receipt inspections verify:

correct sizes?

quantity?

document and specification conformance?

paperwork?

Are there procedures for receipt of non-conforming materials

Are there records of receipt inspections, including non-conforming material?
Do all purchase orders contain
scope of work?
technical requirements?
identification of the docuemnts that must accompany the order?
identification of the records that the applicant must keep?
Signature of appropriate individual?
Are there records of all purchases?
Are there inventory procedures?
Do inventory procedures include:
special handling?
marking?
tagging?
labeling?
serregating?
paperwork procedures?
handling of non-conforming material?
Does the inventory system have provisions for material with shelf life?
Does the inventory system have provisions to ensure that the correct material is used in production?
Are periodic physical inventories performed?
Does the system ensure that products that are marked or segregated as complete have passed their final inspections and testing

PRODUCTION PROCEDURES AND PROCESSES

Are there procedures that descibe production processes?
Is there a flowchart describing the flow of material and inspection hold points
Are there procedures for in-process and final and testing of the deviceDo inspection procedures:
Do acception criteria include:
Acceptance criteria?
Receipt criteria?
At what points to perform in-process inspections and tests?
Procedures for determining sample sizes?
Procedures for final inspection and testing
provisions for non-conformig material
Are there records for inspection of production procedures?
Are there procedures for handling nonconforming items received from a suplier or customer or found during production?

Is there a system for marking or segregating items that have been inspected or tested?
Does final inspection include operational check and removal contamination test of 100% of devices?

NONCONFORMING MATERIALS

Are there procedures for handling nonconforming items received from a suplier or customer or found during production?
Are nonconforming materials tagged or segregated from production?
Are there procedures for disposition of non-conforming materials and for introducing materials back into production
Are there records of nonconforming materials?

PACKAGING AND TRANSPORTATION

Are there procedures for inspecting packaging and the form of transportation?
Do these procedures ensure that all paperwork and manual are included with the shipment or are being shipped separately to the customer?
Are there records of all packaging and shipping reports and inspections

DEVIATIONS AND CUSTOMER COMPLAINTS

Are there procedures for evaluating deviations and customer complaints?
Are there procedures for informing the appropriate members of the organization and the NRC of deviations?
Are there procedures for informing customers of devices that may contain deviation?
Are there records of all deviations and customer complaints?
Do customer complaint records contain
Name of complaintant?
Nature and date of complaint?
Corrective action taken?
Cause of failure?
Model and serial number of the device?
Are there procedures for trend analysis of deviations and complaints?
Is trend analysis performed at intervals that do not exceed 1 year?

AUDITS

Does the applicant have procedues for auditing its QA program?
Do the procedures include exceptance criteria?
Do the procedures ensure that all records and procedures are up to date?
Do audits include verification audits of suppliers?
Is the auditor responsible for any of the matters being audited?
Are all records signed and dated by the appropraite member of the organization?

ARMSON SIGHTING SYSTEMS
O.E.G. USERS INSTRUCTIONS

The O.E.G. (Occluded Eye Gunsight) sight must be used with both eyes open at all times. The user must concentrate on the target not the sight when aiming.

Before loading the weapon or zeroing the sight, practice raising the weapon with both eyes open and placing the red dot on the target until it can be done quickly every time. This will save time and ammunition when zeroing.

ZEROING PROCEDURE

The small flat head screw in the center of each adjuster must be *loosened slightly* until the adjuster can be turned by hand (this is important, as the plastic adjustment knob can be stripped).

Only the user must fire the weapon when zeroing. This sight cannot be zeroed by one person for another to use.

Stage 1: Rest the weapon and line up the iron sights with the target, then without moving the weapon observe the position of the dot in relation to the target. Move the adjusters until the dot is also on the target using the procedures below.

Stage 2: At a range of approximately 25 yards (depending upon weapon type, and the expected range at which the target will be engaged), raise the weapon, place the spot on the target and fire immediately. The sight is then adjusted up or down and then left or right until the hits are in the center of the target. The range may be moved to 50 or 100 yards for final zeroing if it is required. When zeroing is complete, *re-tighten the locking screw* in the center of the adjusters.

Dry fire practice is very beneficial and will improve skill without using ammunition. Remember that you must fire immediately when the dot is on the target.

Armson USA, LLC Regulatory Statement

2/11/2013

This product contains radioactive material. Do not attempt to access the radioactive source.

This product meets the safety criteria listed in NRC regulation 10 CFR 32.23. The user is exempt from any regulatory requirement. No leak testing is required.

STATE OF MAINE
MATERIALS LICENSE

Pursuant to the Maine Radiation Statutes (22 MRSA 677) and Maine Department of Health and Human Services regulations on radiation (10-144A CMR 220), 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 radioactive material as designated below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the Maine Department of Health and Human Services now or hereafter in effect and to any conditions specified below.

1. Name	This license is issued in accordance with correspondence dated: August 27, 2012	
Armson USA, LLC		
2. Address	3. License Number **05271**	Amendment Number
28 Stroudwater St. Unit #10 Westbrook, ME 04092	4. Expiration Date December 31, 2017	

5. Radionuclide	6. Form of Material	7. Maximum Activity
A. Hydrogen 3 (^{3}H)	A. Sealed Sources (gasseous tritium light sources: mb microtech Model 400 series, Saunder-Roe Developments Model 8801G/200MB and PRH/G/200), and NTP Radioisotopes (PTY) Ltd CL/1,5/6,5/G	A. 7.4 TBq (200 Ci) total. Not to exceed 2.96 GBq (80 mCi) per source

8. Authorized use:
A. For possession and use of byproduct material in the installation, removal, manufacture, and distribution of devices that have been registered with the U.S. Nuclear Regulatory Commission and distributed in accordance with a U.S. Nuclear Regulatory Commission exempt distribution license.

CONDITIONS

9. This licensed material may be received, transferred from and/or stored at the licensee's facilities located at 28 Stroudwater St. Unit #10, Westbrook, Maine.

10. The Radiation Safety Officer for this license is Timothy Brandon.

11. In addition to the possession limits, the licensee shall restrict possession of licensed material so that at no time is a quantity of radioactive material possessed in excess of a quantity that requires decommissioning funding in accordance with C.8.F.

12. The sealed sources containing the licensed material shall not be opened by the licensee.

13. Licensed material shall not be used in or on human beings.

14. The licensee shall not acquire licensed material in a sealed source or in a device that contains a sealed source unless the source or device has been registered with the Nuclear Regulatory Commission under 10 CFR 30.32(g) or with an Agreement State.

STATE OF MAINE
MATERIALS LICENSE

Supplementary Sheet

15. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory.

16. The licensee may transport licensed material in accordance with the provisions of Part L of the Maine Rules Relating to Radiation Protection, 10 CFR 71, and the regulations of Federal and State Departments of Transportation.

17. Except as specifically provided otherwise in 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 Agency's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Application dated August 27, 2012

Date: December 3, 2012

Thomas C. Hillman
Asst. Environmental Engineer
Radioactive Materials Section
Radiation Control Program
Division of Environmental Health