SAVAGE SYSTEMS, INC.

A Better Archery System

110 N. Front Street, P.O. Box 1589, Oak Grove, LA 71263-1589 ▪ (318) 428-7733 ▪ FAX (318) 428-7030

May 26, 2003

Mr. William R. Ward
U. S. Nuclear Regulatory Commission
Two White Flint North
11545 Rockville Pike
Rockville, Maryland 20852-2738

Dear Mr. Ward:

Re: Pending Application for Exempt Distribution and
SSD Registry NR-1183-D-101-E

Pursuant to several conversations enclosed is a revised license application for the exemption distribution of the Night Hawk One and Night Hawk Two archery sight pins. It has been revised to correct the errors and misinterpretations in the original application and to set the maximum tritium activity in the archery sight pins at 300 mCi. Calculations clearly demonstrate that this activity meets the established criteria in 10 CFR 32.23 and 32.23 for the intended application. The calculations are based on the procedures and assumptions in Appendix O, Volume 8, NUREG-1556. It is also requested that the SSD Registration be revised to reflect the corrected intended 300 mCi H-3 activity.

Application is being made to the Louisiana radiation control agency for a license to possess, use and manufacture the 300 mCi H-3 archery sight pins.

If there are any technical questions concerning this application, please contact Roy A. Parker, Ph.D., Radiation Physicist, 5061 Abelia Drive, Baton Rouge, Louisiana 70808, Tel. 225-924-1473, Fax 225-924-4269.

It is desired to expedite the issuance of the exempt distribution license, and your continued interest and cooperation are greatly appreciated.

Sincerely,

Huey Savage

Huey Savage
General Manager

Enc.
cc. Roy A. Parker

APPLICATION FOR A SPECIFIC LICENSE TO DISTRIBUTE SELF-LUMINOUS PRODUCTS TO PERSONS EXEMPT FROM LICENSING

Savage Systems, Inc.
Oak Grove, Louisiana
Huey Savage
General Manager

Revision 1
May 2003

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SECTION I. A. Description of product

The low-light sight pins utilize tritium (H-3) gas contained in sealed glass capsules as a source of illumination. Savage Systems, Inc. manufactures these archery sights. The lamp sources for the Savages sights will be obtained from one of the following two suppliers:

mb-microtec AG CH-31 72 Niederwangen/Bern Freiburgstrasse 624 Switzerland	Reg # NR-446-S-1 02-S
SRB Technologies, Inc. 2580 Landmark Drive Winston Salem, N.C. 27103	Reg # NC-585-S-102-S (North Carolina)

SECTION I. B. Intended use of product

Savage manufactures a number of archery sights that mount to bows to improve shooting. In order to improve the visibility in low light, Savage has designed and molded archery sight pin housings in zinc material that will accept an H-3 vial to illuminate the fiber optics of the sight pin. The tritium illuminated sight pins are mounted into archery sights that are affixed to the archer's bow. The light energy from the lamp source (H-3) provides sufficient light energy to light up the fiber optics in the sight, of which, the archer uses as an aiming element during daylight and low light conditions. The fiber optic without the tritium fades with the ambient light during low light, darkness and predawn hours, making it insufficient as an aiming element under these conditions. The tritium illuminates the fiber optics and does not require batteries, switches, recharging or maintenance, as would be the case with battery operated lights. In addition, some states of the United States, battery operated archery sights are illegal for hunting; where as, tritium illuminated sights are legal in almost all states of the United States and many foreign countries. The addition of luminous elements to the sight designs provides an improved low-light level sighting capability and thereby greatly enhances the hit probability for the user. The light expelled from the aiming element is a "soft" light that does not blind the shooter allowing clearer visibility of the target than with other artificial light sources. For the above reasons, tritium is the only reasonable solution and has proven such for many years.

SECTION II. Type and quantity of by-product material in each unit

All by-product material is tritium H-3 in gaseous form, sealed into borosilicate glass tubes. The sources are purchased from either mb-microtec (source configuration 400/1) or SRB Technologies, Inc (source configuration M-1).
The archery sight pins consist of one source each being no more than 300 mCi.

SECTION III. Chemical and physical form of by-product material

The sight systems contain H-3 gas encapsulated in borosilicate glass.

SECTION IV. Solubility in water and body fluids of by-product material

H-3 gas has a low retention in the body subsequent to inhalation; and, the skin absorption intake for H-3 in this form is relatively insignificant (NUREG/CR-0215). However, if the gas leaks from the tubes over time, H-3 gas may be converted to tritiated water on contact with the atmosphere. Tritiated water is completely soluble in normal water and body fluids. Inhaled tritiated water is assumed to be totally absorbed in body fluids (ICRP 30).

SECTION V. A. Details of construction and design of product

The sight system contains tritium H-3 activated light sources (gaseous H-3) encapsulated in borosilicate glass that is internally coated with phosphor. These light sources are held in place and sealed into their metal housing with a gluing/sealing system that protects the sight from accidental damage as well as from unauthorized handling of the light source. The system has been designed to protect the H-3 light source and the user under field or extreme environmental conditions. To prevent dirt from entering the viewing system or covering the light, a clear, hard material (MV gluing system) covers the illuminated window surface; and, this material protectively encapsulates the entire light surface. Design considerations require that this material be impervious to cleaning solvents, trichloroethane, oils, and MIL-C-372 cleaning mixture. All sights utilize the MV gluing/sealing method. The optical archery sight has a small light source encased in a flexible plastic protective insert and encapsulated in a hard resin (CR-39 used for the manufacture of ophthalmic shatterproof eyeglasses) to create a "lens". This entire "lens" is then assembled into a metal protective frame and attached to the archery bow sight by means of a standard threaded screw.

The Night Hawk One (See Exhibit A Drawing No. TF 301) and Night Hawk Two (See Exhibit B Drawing No. TF 010) sight pins have one small light source, encased in a cavity in the metal housing and encapsulated using the MV gluing/sealing method. Then, at one end of the encapsulated light and at a distance of 0.5 mm from it, a fiber optic is permanently affixed in position using the same MV gluing/ sealing method. The light source is totally inaccessible to the user and, in fact, not even visible since the light output is carried to its imaging plane by means of the fiber optic. The sight is mounted to the bow by means of a screw/clamp connection either directly or by means of an adapter supplied with the sight. The specification of the H-3 sealed source is as follows:

A. Laser sealed light with rectangular section
B. Height: 1.5 mm plus or minus 0 .2 mm
C. Width: 3.0 mm plus or minus 0.2 mm
D. Length: 12.0 mm plus or minus 0.5 mm
E. Color: blue, painted white on all sides except one side
F. Tritium activity: 300 mCi (11.1 GBq) Maximum

G. Drawings of the design and construction of the archery pin housings are enclosed in Exhibit A, Night Hawk One sight housing, Exhibit B, Night Hawk Two sight housing. See Exhibit A&B for markings and H-3 cavities.

B. Disposal
No significant radiation dose commitment is expected to result from the disposal of any of the sights since dispersion and dilution with the atmosphere would rapidly reduce tritium concentrations in air to background levels.

SECTION VI. <u>External radiation levels</u>

Tritium is a pure beta emitter with a maximum energy of 0.018 MeV, average energy of 0.0057 MeV, and range of approximately 0.55 mg/cm^2. No significant external exposure is expected either from the intact sources encapsulated in borosilicate glass or the free gas. Due to the low energy of the beta, bremsstrahlung is expected to produce no significant dose.

Bremsstrahlung fraction:

$$F = 3.5 \times 10^{-4}\ Ze$$

Where Z = atomic number (assume 9 for glass)
e = maximum beta energy (0.018 MeV)

$$F = 5.67 \times 10^{-5}$$

Sight calculation:

Assume the tritium archery sight is 30 inches from the midline of an archer's head.
Total energy flux from 300 mCi H-3 at 75 cm:

$$\phi = \frac{5.67 \times 10^{-5} \times 300\,\text{mCi} \times 2.22 \times 10^{9}\ \text{d/m/mCi} \times 0.0057\,\text{eV/d}}{4\pi(75\,\text{cm})^2}$$

$$\phi = 3.0\,\text{MeV/cm}^2$$

Calculated dose rate at 75 cm:

Mass absorption coefficient for 0.018MeV gamma = 0.84 cm^2/g
D (absorbed dose rate) = 3.0 MeV/cm^2/m x 1.6 x 10^{-6}erg/MeV x 0.01 g-rad/erg x 0.84 cm^2/g = 4.0 x10^{-8} rad/m
H (dose equivalent rate) = 4.0 x10^{-8} rad/m x 1000 mrem/rad x 60 m/hr = 2.4 x 10^{-3} mrem/hr

The dose equivalent rate of 2.4 x 10^{-3} mrem/hr to even a most active archer is negligible.

The above calculations assume a bare H-3 source. In actuality, the housing and construction of the sights would greatly absorb low levels of bremsstrahlung created. (NUREG/CR-021 5).

SECTION VII. Degree of access to human beings during normal use

The design of the sights assures that the tritium light sources are not accessible during normal use, storage, handling, or maintenance. Full protection is afforded by both the metal housing and hardened glue system of which encompasses the H-3 source.

Section VIII. Total quantity of by product material expected to be distributed annually

The maximum total expected quantity of the by-product material to be distributed annually is 10,000 archery sights each containing 300 mCi of tritium or 3,000 Ci.

Section IX. Expected useful life of product

The expected useful life of the sights is 6 years to 10 years. This is the length of time in which the brightness decreases to one-half of its initial value (Reference: British Defense Standard 62-4 Issue 3).

SECTION X. Proposed method of labeling or marking each unit

The sides of the sight pins will be permanently embossed in the steel mold that molds the zinc pin with "Savage H-3". The markings (embossing) will easily exceed the useful life of the product. (See Exhibit A&B for size and locations of markings.)

In addition, each sight will be packaged with instructions for installation, which carry a notification that they contain tritium in sealed sources; what the activity level is; and that no attempt should be made to disassemble them. The notification will also state that the items should be returned to the authorized dealer for any corrective measures or disposal. The intent is to influence the user to return the unwanted product rather than simply discarding it. However, the warning does not imply that there is a regulatory requirement for returning these items.

SECTION XI. Prototype testing

Prototype testing was performed by bolting 10 archery sights to an electric wood sander for periods of up to 30 minutes with temperatures ranging from below freezing to over 100 degrees Fahrenheit. The sander vibrates in three planes, giving "G" forces unequal to those that man can withstand. Testing was also performed with the sights submerged in water, drop, and shock tested. Dropping the sights from 8 feet high, 6 times, performed the drop test. Shock testing was performed by dropping 5# weights onto the sights placed on a concrete floor from 6 ft. height. Vibration tests were also performed by the use of an electric sander on a group of 6 archery sights that had been saturated for 24 hours in WD 40.

Section XII. Results of prototype testing

As a result of all the prototype testing, no evidence was found to dislodge or loosen the H-3 vials from the sight cavities. Light testing was performed in a dark room to compare brightness with sights that had not been bolted to the sander, water, shock, drop or oil tested. Both sight groups were found to be equal in brightness. No evidence was found that the vials were being dislodged or loosened. The vials were further checked for leakage of H-3 gas with a liquid scintillation counter that showed negative, indicating that all vials were in tack and not leaking.

Further, the light sources themselves are purchased from the same manufacturers (mb-microtec and SRB Technologies) and to the same levels of quality as those presently being used and already qualified by the U.S. Army and other military agencies around the world as well as by almost all the manufacturers of commercially acceptable applications (currently licensed by the NRC) such as self-luminous watches, compasses, exit signs, and night sights.

SECTION XIII. Estimated external radiation doses and dose commitments

1: Normal use

No radiation dose commitment is anticipated during normal use of the sight systems. External radiation dose rate for the 300 mCi H-3 sights at 25 cm is calculated to be less than 0.02 mrem/hr. External radiation to an archer is calculated to be less than .002 mrem/hr. The tritium gas is sealed in borosilicate glass; therefore, no inhalation or ingestion of the radioactive material is expected in normal use.

a. Storage

During the distribution cycle it is assumed that the maximum annual distribution of 10,000 sights each containing 300 mCi is stored in a 14 ft x 10 ft x 10 ft room within a large distribution storage warehouse with 1 air change per hour, as assumed in Section A.2, Attachment 1, Appendix O, Volume 8, NUREG-1556. It is highly unlikely that the entire annual production would be in any one distribution warehouse at any one time. Savage Systems has no way of knowing the physical characteristics of the warehouses in the distribution system that may be used. The calculated equilibrium concentration of tritium will be given by:

$$c = \frac{I}{\lambda V}$$

Where: I = rate of influx of H-3 gas (leakage rate) Assume leakage rate no greater than 1×10^{-5} µCi/sight/24 hours in accordance with Section A.2, Attachment 1, Appendix O, Volume 8, NUREG-1556.

$I = 10{,}000 \text{ sources} \times 1 \times 10^{-5}$ µCi/source/24 hr $= 4.2 \times 10^{-3}$ µCi/hr

V = volume of the room cc (cubic centimeters)

$V = 14 \text{ ft} \times 10 \text{ ft} \times 10 \text{ ft} \times 2.83 \times 10^{4}$ cc/cubic ft $= 4.0 \times 10^{7}$ cc

λ= air exchange rate hr^{-1}

λ= 1 air exchange/hr

c = equilibrium H-3 gas concentration µCi/cc

$$c = \frac{4.2 \times 10^{-3}\,\mu Ci/hr}{1\,air\,exchange/hr \times 4.0 \times 10^{7}\,cc} = 1.1 \times 10^{-10}\,\mu Ci/cc$$

The concentration limit set in 10 CFR 20 Appendix B, Table II, Column I for H-3 in air in an unrestricted area is 2×10^{-7} µCi/ml. Therefore, the calculated equilibrium concentration in the assumed storage area is less than 0.05 % of the 10CFR20 concentration limit for members of the general public in an unrestricted area.

The annual dose commitment to a warehouse worker, working in the storage area for one (1) hour/day, 250 days/year is as follows:

Assume pursuant to Section A.2, Attachment 1, Appendix O, Volume 8, NUREG-1556.:

All H-3 gas is converted to tritiated water

Total rate of absorption of tritiated water into body fluids (mCi/minute) from inhalation and skin absorption is 3×10^{-2} C, where C is the concentration of tritiated water in air in mCi/ m^3 (ICRP 30)

Committed dose equivalent per unit intake of tritiated water is 6.3×10^{-2} rem/mCi.

Annual committed dose: H mrem/hr

$$H = 1.1 \times 10^{-10}\,\mu Ci/cc \times 3 \times 10^{-2}\,m^3/minute \times 10^{-3}\,mCi/\mu Ci \times 10^{6}\,cc/m^3 \times 250\,hr/yr \times 60\,minutes/hr \times 6.3 \times 10^{-2}\,rem/mCi \times 10^{3}\,mrem/rem$$

$$H = 3.1 \times 10^{-3}\,mrem/yr$$

The calculated annual committed dose of 3.1×10^{-3} mrem is significantly less then the 10 mrem limit for storage as specified in Column II, 10 CFR 32.24, although unrealistic high assumptions were made about the number of sights being stored.

b. Transportation

As was the case for storage, the transportation calculation is based on the total number of sources and not on the specific product, and therefore the calculations are shown for the total number of sources to be transported. Assume a truck driver transports all products to be stored in the warehouse in a single truckload and spends a total of two hours in the trailer loading and unloading and that the truck is ventilated to produce one (1) air change per hour:

Assume: V = 2.9×10^{7} cc volume of truck pursuant to NUREG/CR-0215

I = 10,000 sources x 1×10^{-5} µCi/source/24 hr = 4.2×10^{-3} µCi/hr

λ = 1 air change/hr

$$c = \frac{I}{\lambda V}$$

$$c = \frac{4.2 \times 10^{-3}\ \mu Ci/hr}{1\ air\ exchange/hr \times 2.9 \times 10^{7}\ cc}$$

$$c = 1.4 \times 10^{-10}\ \mu Ci/cc$$

Dose Commitment:

$$H = 1.4 \times 10^{-10}\ \mu Ci/cc \times 0.03\ m^{3}/min \times 10^{-3}\ mCi/\mu Ci \times 10^{6}\ cc/m^{3} \times 2\ hr \times$$
$$60\ min/hr \times 6.3 \times 10^{-2} \times rem/mCi \times 10^{3}\ mrem/rem$$

$$H = 3.2 \times 10^{-5}\ mrem$$

All other situations during normal use, storage, and transportation involve smaller quantities of H-3 and/or shorter exposure times and, thus, would result in negligible dose commitments. The dose commitment of 3.2×10^{-5} mrem is significantly less than the 10 mrem limit specific in Column II of 10 CFR 32.24, although unrealistic high assumptions were made about the number of sights being transported.

c. Disposal

These products are relatively expensive items and are unlikely to be inadvertently discarded. The disposal of an item to normal trash is unlikely. Instructions accompanying the products request return of damaged or defective items to the distributor. Therefore, improper or careless disposal is unlikely to cause any significant radiation dose.

NUREG/CR-0215 estimates the dose commitment to the maximally exposed individual for burial of 500,000 tritium lighted wristwatches sights per year in landfills (20,000 in a single location) to be 0.1 mrem/yr. If the sources are burned, a potential maximum dose commitment of 17 mrem/yr is estimated.

Using the above calculations for tritium lighted wristwatches and assuming burial of the entire annual production 10,000 archery sights, 3,000 Ci then the maximally exposed individual would be 0.008 mrem/yr or 1.3 mrem/yr if the total annual production were burned.

The above annual dose commitments of 0.008 mrem for burial and 1.3 mrem are both well within the limits specified in Columns III and IV of 10 CFR 32.24, although unrealistic high assumptions were made about the number of archery sights being disposed annually.

The total number of items potentially disposed of in a single year would be much lower and the H-3 activity per unit considerably lower than that postulated for the study (NUREG/CR-0215). Therefore, disposal of the items will not present a radiation hazard to the general public.

2. Accident conditions

   a. Use

      The maximum credible accident involving the use of the archery tritium sight is rupture of the tritium source and instantaneous release of the gas when shooting,

      Assume:

      Sight contains 300 mCi of H-3 gas
      Sight is located 2 feet, 60 cm from the user's face
      Breathing zone represented by cone with apex at the source and base, a 10 cm diameter circle, at the user's face.
      All H-3 is converted to tritiated water instantly.
      Effective half-life for tritiated water 10 days.
      Total absorption of inhaled tritium in body fluids.
      Mass of soft tissue = 63,000 g (ICRP 30)
      Conversion of all tritium gas to water

      Fraction of gas released in the direction of the breathing zone:

$$F = \frac{\pi r^2}{4\pi R^2}$$

      Where: r = radius of the base of cone 5 cm
      R = distance from source to face 2 feet, 60 cm

$$F = \frac{\pi 5^2}{4\pi 60^2}$$
$$F = 0.007$$

$$H = 300\,\text{mCi} \times .007 \times 6.3 \times 10^{-2}\,\text{rem/mCi} \times 10^{-3}\,\text{mrem/rem} = 131\,\text{mrem}$$

      For such an accidental instantaneous release, most of the gas would remain as elemental H-3. The dose commitment from H-3 gas would be approximately 1000 times less, or approximately 0.131 mrem. The total estimated dose commitment would be lower than 2% of the calculated value, 2.6 mrem, since up to 2% of the gas originally in the glass capsule could be in the form of tritiated water.

      The above accidental use dose commitments of 131 mrem, 0.131 mrem and 2.6 mrem are well within the limits specified in Columns III and IV of 10 CFR 32.24, although unrealistic high assumptions were made concerning the sight to face distance when shooting and inhalation properties.

   b. Storage

      Maximum credible accident involving storage of the units would involve a fire in the storage area which ruptures some of the capsules.

Assume:

- Sight contains 300 mCi of H-3 gas
- Total annual production stored 10,000 sights
- Fifty percent of the sources rupture A = 1500 Ci
- All H-3 gas is converted to tritiated water instantly.
- Total absorption of inhaled tritium in body fluids from inhalation.
- Skin absorption is 3×10^{-2} C where C is the concentration of tritiated water in air, mCi/m^3
- Volume of room 14 ft x 10 ft x 10 ft, $V = 39.6\ m^3$

$$C = \frac{A}{V}$$

$$C = \frac{1500\,Ci}{39.6\,m^3}$$

$$C = 3.79 \times 10^4\ mCi/m^3$$

Dose Commitment

$$H = 3.79 \times 10^4\ mCi/m^3 \times 0.03\,m^3/min \times 6.3 \times 10^{-2}\ rem/mCi$$

$$H = 72\,rem/min$$

This calculation greatly overestimates the true dose commitments in this type of situation. Air currents would disperse the gas very rapidly in the case of a fire, particularly one of such severity as to rupture 50% of the sources instantaneously. In addition, only a small fraction of the H-3 gas is likely to be converted to tritiated water before venting to the outside.

In accordance with Section B.2, Attachment 1, Appendix O, Volume 8, NUREG-1556 a more reasonable estimate of the dose commitment would be obtained using the maximum fraction of tritiated water in the source, 0.02. If this value is used then the dose commitments become 2.8 rem for a fireman involved in a 2 minute rescue or 1.4 rem for an occupant remaining 1 minute.

Assume a more likely scenario is a single warehouse contains a one month distribution of 1,000 sights or 300 Ci. Using the maximum fraction of tritiated water in the source, 0.02, the dose commitment becomes 280 mrem for a fireman involved in a 2 minute rescue or 140 mrem for an occupant remaining 1 minute.

The above calculated dose commitments are within the limits specified in Columns III 10 CFR 32.24 for one such occurrence per year for every 10,000 sights distributed and in Column IV, 10 CFR 32.24 for one such occurrence per year for every 1 million sights distributed.

c. Ingestion or inhalation
   Assume the ingestion or inhalation of the entire contents of a single 300 mCi H-3 archery sight.

$$H = 300\,mCi \times 0.063\,rem/mCi$$
$$H = 19\,rem$$

   This calculations assume that the entire activity of H-3 gas in an encapsulated sight is converted to tritiated water. H-3 gas is not absorbed readily in body fluids and thus produces a negligible dose. This postulated accident would require that an individual remove a source from the product without damaging it (not possible by any known technology), swallow, and have the source rupture while in the digestive tract. Each of these conditions is highly improbable. The combination of all three occurring is nearly impossible.

   Assume that a intact source capsule can rupture in the digestive tract. Then an individual would inhale or ingest only a small portion of the total activity. Assume that an individual does ingest or inhale 50% of the total, which is still virtually impossible, but the dose commitment becomes 10 rem with is within the 15 rem limit specified in Column IV, 10 CFR 32.24.

SECTION XIV. <u>Determination of exempt distribution criteria</u>

1. Normal use and storage

   No radiation dose commitment is expected in the normal use of the archery sights. The maximum expected dose commitment to workers in the storage area is less than 0.003 mrem/year. This is within the limit set in Column II, 10 CFR 32.24.

2. Accidental release of the tritium gas

   a. Under maximum credible conditions of use of the equipment, the dose commitment to an individual would not exceed 131 mrem within the limits set in Column III, 10 CFR 32.24. In the virtually impossible case where an individual ingested the 50 % of contents of an entire source, the calculated dose commitment is 10 rem. This is within the limits set in Column IV, 10 CFR 32.24.

   b. Under extreme fire conditions in the storage area, the estimated maximum dose commitment to an occupant of the area remaining one minute is 140 mrem, and to a fireman performing a 2 minute rescue the dose commitment is 280 mrem. These dose commitments are within the limits specified in Columns III and IV, 10 CFR 32.24. However, the probability of such an event occurring and an individual entering the storage area without respiratory protection is negligible. The noxious gases that would be produced in such an event would prevent unprotected entrance.

   Therefore, the requirements of 32.23 are met.

SECTION XV. <u>Quality control</u>

Light sources are purchased only from mb-microtec and SRB technologies. In addition to dimensional characteristics, the lights are procured with quality requirements for tritium purity, activity, brightness, and color; and, are supplied with a certificate of conformance.

Receiving inspection of the light sources at Savage Systems, Inc. includes:

- Visual examination of packaging for any signs of external damage
- Batch swipe test (liquid scintillation counting) to check for leakage problems
- 100% inspection in dark-room

Only after satisfactory completion of the receiving inspection can the sources be placed into storage or released for production. A login, log-out system is used to maintain control of the inventory of H-3 vials to and from the H-3 storage area. The log sheets must include, but are not limited to the following:

(1) Date, quantity stored, by whom, purchase order number and batch lot number.
(2) Date, quantity removed, next assembly and by whom removed.

Prior to the installation of the H-3 vials, the sight housings are inspected to insure that they pass in-process inspection and are ready to accept the vials. Employee worksheets are maintained for trace ability of each H-3 vial and each sight. In addition to in-process inspection, a final inspection is conducted for damage, workmanship, and completeness of assembly.

For out going sales of archery sights containing H-3 final inspection is done to insure that each product is packaged with instructions for installation and use with a notification that they contain tritium in sealed sources, what the activity level is, and that no attempt should be made to disassemble them.

SECTION XVI. <u>Reports</u>

Savage Systems will file a report at the specified five year intervals with the U. S. Nuclear Regulatory Commission containing:

1. Name and address of each person to whom an exempt product was transferred.
2. Isotope and activity of each exempt product.

Records of exempt product transfers will be maintained for a least one year after filing the summary report containing the transfer.