

**smiths**

**Smiths Detection**

30 Technology Drive  
Warren, NJ 07059  
USA  
T: +1 908 222 9100 F: +1 908 222 0586  
www.smithsdetection.com

August 25, 2008

*Br. 2*

Licensing Assistance Team  
Division of Nuclear Materials Safety  
U.S. Nuclear Regulatory Commission, Region I  
475 Allendale Road  
King of Prussia, PA 19406-1415

Subject: LICENSE AMENDMENT

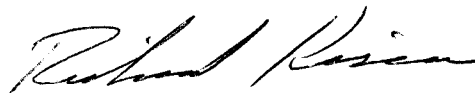
Re: License No. 29-28620-01 Docket No. 030-32123

Please amend our above referenced license to authorize the possession and use of Cf-252 as a sealed source. A signed NRC Form 313 and information for Items 5 through 11 of Form 311 is enclosed.

Also please remove Georgia Ranger from Item 11 of our license.

Please contact me if you have any questions or if you need any additional information.

Sincerely,



Richard Keosian  
Smiths Detection-Warren  
Radiation Safety Officer

RECEIVED  
REGION I  
7/29 AUG 28 AM 10:06

Smiths Detection - Warren Inc.  
A Smiths Group Company

142746

NMSS/RGNI MATER.ALS-002

**NRC FORM 313**  
(4-2008)  
10 CFR 30, 32, 33,  
34, 35, 36, 39, and 40

**U.S. NUCLEAR REGULATORY COMMISSION**

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 10/31/2008

Estimated burden per response to comply with this mandatory collection request: 4.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects@nrc.gov](mailto:infocollects@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

**APPLICATION FOR MATERIALS LICENSE**

**INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.**

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY  
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM  
DIVISION OF NUCLEAR MATERIALS SAFETY  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
612 E. LAMAR BOULEVARD, SUITE 400  
ARLINGTON, TX 76011-4125

03032123

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

- A. NEW LICENSE
- B. AMENDMENT TO LICENSE NUMBER 29-28620-02 <sup>01 RLJ</sup>
- C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)

Smiths Detection Inc.   
30 Technology drive   
Warren, NJ 07059

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

30 Technology drive   
Warren, NJ 07059

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Richard Keosian

TELEPHONE NUMBER

(908) 222-9100

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL

a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY AMOUNT ENCLOSED \$ 0.00

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

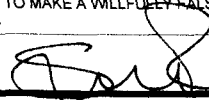
THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND 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/PRINTED NAME AND TITLE

Sally White, Vice President of Service Operations

SIGNATURE



DATE

8/27/08

**FOR NRC USE ONLY**

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	

**Smiths Detection Inc.**  
**Warren, NJ**  
**Amendment to License Number 029-28620-01**

**Introduction**

Smiths Detection Inc. is licensed for possession and use of nickel -63 for installation of ion mobility spectrometry assemblies in the manufacture of chemical agent instrumentation that use this technology and for instruction, training and demonstration of these devices.

Smiths Detection is requesting the amendment of this license to add the use of 252Cf sealed source(s) for research, development and testing of radiation detection instrumentation.

**5. Radioactive Material**

Element and Mass Number	Chemical and/or Physical Form	Maximum Amount that will be possessed at any one time under this license
252Cf	Sealed Source: QSA Global Product Code CVN101	6 microcuries per source Nominal 5 uCi +20% -10% Not to exceed 20 microcuries total

**6. Purpose for Which Licensed Material Will Be Used**

The purpose of the requested license amendment is for the use of a neutron source for research, development and testing of radiation detection instrumentation.

**7. Individuals Responsible for the Radiation Safety Program and Their Training and Experience**

The radiation safety officer for this license is Richard Keosian. His training and experience has been submitted with the initial license application.

**8. Training for Individuals**

Training provided to Employees That Use the 252Cf Sealed Source

Users' will complete a 4-hour course in radiation safety to include the topics listed below. Training records will be maintained by the Radiation Safety Officer, demonstrating that users have completed the required training.

- Basic Radiation Physics
- Quantities and Units
- Radiation Safety Fundamentals (ALARA Time, Distance and Shielding)
- Characteristics of 252Cf Sealed Sources
- Background Radiation
- Biological Effects and Risks
- Individual Dose Limits
- Personnel Dosimetry Program

- Smiths Detection Rules (Radiation Safety Officer, authorized areas of use, reporting unsafe conditions, Notices and Postings, emergency procedures)
- Radiation Surveys

## 9. Facilities and Equipment

The 252Cf sources will be used in a custom instrument test holder ("jig") of Smith Detection design. The jig has a approximately 10 cm of polycarbonate that provides neutron shielding to reduce the neutron dose rate from a nominal 5 uCi 252Cf source to less than 0.5 mrem per hour neutron and less than 0.5 mrem per h gamma at 20 cm from the outside surface of the jig.

We plan to keep and store the 252Cf in this jig. If other use or storage of sources is required we will use and store the sources in a manner to limit doses to unrestricted areas to less than 2 mrem per hour and keep doses to less than 100 mrem per year to members of the public.

## 10. Radiation Safety Program

1. Training - Personnel that use or handle the 252Cf sources, will receive the above described radiation safety training. We provide radiation safety refresher every 2 years.
2. Personnel Dosimetry - Our initial assessment of prospective doses is that users of the 252Cf sources will receive less than 10% of the occupational dose limits. However we will assign personnel dosimeters (NVLAP) with a neutron dose capability to the personnel that use or handle the 252Cf source. These dosimeters will be exchanged quarterly.
3. Radiation Surveys - Annually we will perform and document a neutron and gamma dose rate survey of the test jig, use areas and storage area.
4. Physical Inventory - We will perform a physical inventory of the 252Cf sources every 6 months (as per our license conditions).

## 11. Waste Management

Smith Detection will dispose of any unwanted 252Cf sources by one of the following means:

- Return to the manufacturer.
- Transfer for disposal at a licensed disposal site using the services of a licensed radioactive waste broker or equivalent.
- Transfer sources to other licensed/authorized persons.

This is to acknowledge the receipt of your letter/application dated

8/25/08, and to inform you that the initial processing which includes an administrative review has been performed.

Amendment (29-28620-01) There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 142746.  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.