



DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
2000 NAVY PENTAGON  
WASHINGTON, DC 20350-2000

IN REPLY REFER TO

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5104  
Ser N455C/N5U9011452  
11 October 2005

U.S. Nuclear Regulatory Commission (NRC)  
Region I  
475 Allendale Road  
King of Prussia, Pennsylvania 19406-1415  
(Attn: Ms. O. Bailey)

45-23645-01NA  
03029462

2005 OCT 17 14:12:22

RECEIVED

Ms. Masnyk-Bailey:

SUBJECT: TERMINATION OF NAVAL RADIOACTIVE MATERIALS PERMIT NO.  
46-00253-B1NP ISSUED TO NAVAL UNDERSEA WARFARE CENTER  
DIVISION, KEYPORT, WASHINGTON

Naval Undersea Warfare Center Division, Keyport, Washington has submitted an application to terminate Naval Radioactive Materials Permit (NRMP) No. 45-00253-B1NP, which authorized the use of krypton-85 in a RADIFLO leak test unit for the leak testing of electronic packages. The application documents the transfer and removal of the leak test unit and surveys that found no residual contamination.

The Naval Radiation Safety Committee (NRSC) has reviewed the termination application and determined that Decommissioning Group 2 is the appropriate decommissioning category. The NRSC requests you perform the environmental assessment and inform the NRSC when to proceed with termination of the NRMP. Enclosure (1) provides a summary of the termination application to assist in preparation of the environmental assessment.

If you have any further question regarding this action, please contact Mr. William Morris or Dr. Steve Doremus at NAVSEADET RASO: (757) 887-4692, or morriswj@raso.navy.mil or doremussw@raso.navy.mil.

Sincerely,

L. L. FRAGOSO  
By direction

Enclosure:

- (1) Summary of Naval Undersea Warfare Center Division, Keyport Request To Terminate NRMP No. 46-00253-B1NP

Copy to:  
COMNAVSEASYS COM (04N) (w/o encl)  
NAVSEADET RASO

137828  
NMSS/RGNI MATERIALS-002

**SUMMARY OF NAVAL UNDERSEA WARFARE CENTER DIVISION,  
KEYPORT, WASHINGTON  
REQUEST TO TERMINATE NRMP NO. 46-00253-B1NP**

Naval Undersea Warfare Center Division, Keyport, Washington (NAVUNSEAWARCENDIV Keyport) has submitted an NRC Form 314 with attached documentation to terminate NRMP No. 46-00253-B1NP. The NRMP authorized use of krypton-85 in a RADIFLO leak test unit in Building 5003, Naval Submarine Base, Bangor, Washington (SUBASE Bangor). The leak test detector was used from 1976 through 1993 after which the krypton-85 remained in storage until November 2004 when it was transferred to and removed by a contractor.

**LOCATION OF RADIOACTIVE MATERIAL USE AND IMPACTED AREAS**

The RADIFLO unit was installed in a room in Building 5003, at the Keyport Annex at SUBASE Bangor. Building 5003 is a one-story structure, approximately 60 feet by 31 feet, with one to two foot thick outer and inner concrete walls. The building is located in an isolated area of the base due to explosive considerations, as the main purpose of the building is x-ray radiography of torpedoes. The RADIFLO unit was contained in a 10 by 17 foot room that was ventilated by a separate air exhaust system leading to the roof and outer environs. Impacted areas were contained within the leak test unit. The leak test unit and exhaust venting within the room were removed as described below.

**HISTORY AND RECORDS**

NAVUNSEAWARCENDIV Keyport was issued an NRC License No. 46-09611-03 for 40 Curies (Ci) of krypton-85 in a RADIFLO unit in 1976. With the issuance of the Navy's NRC Master Materials License in April 1987, the NRC license was converted to Naval Radioactive Materials Permit (NRMP) No. No. 46-00253-B1NP. Records show that the leak test unit was used 254 times from 1976 through 1993, the last year system was used.

In November 2004, the RADIFLO unit and three tanks, containing approximately 1.35 Ci of krypton-85 each, were transferred to ISOVAC Engineering, Inc. for possession under their California License No. 1673-19, expiration date 27 February 2008. After transfer, ISOVAC Engineering removed the RADIFLO unit, tanks with krypton-85 and associated ventilation ducting within the room and shipped the items to their facility at 614 Justin Ave, Glendale CA. The krypton-85 was transferred into other RADIFLO equipment for recycling. The equipment was decommissioned at ISOVAC's facility and transferred for recycling. Resulting shipping papers, ISOVAC certificates of decommissioning, and radiation surveys were provided with the NRC Form 314.

## **RADIONUCLIDES OF CONCERN**

Krypton-85 is the only radionuclide of concern. It is a noble gas that only accumulates on inner surfaces of tubing and in grease in valves, tanks, and tubing maintained at high pressures by the RADIFLO system according to NRC Information Notice 96-51. Per ISOVAC Engineer George Neff, krypton-85 accumulation has never been observed on surfaces maintained at normal atmospheric pressure.

## **DECOMMISSIONING GROUP**

This decommissioning falls in Group 2. The system has been removed and surveys of the area after removal of the RADIFLO unit found no contamination on building surfaces.

## **ENVIRONMENTAL ASSESSMENT**

There is no impact on the environment for this decommissioning action. Surveys found no residual krypton-85 left in the facility.

## **SURVEY**

Krypton-85 does not have a generic screening level for release for unrestricted use. The contractor made survey measurements (equivalent to judgmental surveys) with a Radiation Alert Model 4EC Monitor (GM tube) after removal of the radioactive material and equipment. The measurements were made at previous equipment locations, work station and exhaust locations as well as areas adjacent to the room. Maximum radiation levels were detected at natural background levels, 0.015 mR/h.

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

10/11/2005, and to inform you that the initial processing which includes an administrative review has been performed.

Amendment 45-23645-01NA 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

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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** 137828.  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.