



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

**COMPETENT AUTHORITY CERTIFICATION
FOR A TYPE B(U)
RADIOACTIVE MATERIALS PACKAGE DESIGN
CERTIFICATE USA/9215/B(U), REVISION 13**

East Building, PHH-21
1200 New Jersey Ave., SE
Washington, D.C. 20590

This certifies that the radioactive material package design described has been certified by the Competent Authority of the United States as meeting the regulatory requirements for a Type B(U) packaging for radioactive material as prescribed in the regulations of the International Atomic Energy Agency¹ and the United States of America².

1. Package Identification - NPI-20WC-6 MkII.
2. Package Description and Authorized Radioactive Contents - as described in U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9215, Revision 13 (attached).
3. General Conditions -
 - a. Each user of this certificate must have in his possession a copy of this certificate and all documents necessary to properly prepare the package for transportation. The user shall prepare the package for shipment in accordance with the documentation and applicable regulations.
 - b. Each user of this certificate, other than the original petitioner, shall register his identity in writing to the Office of Hazardous Materials Technology, (PHH-23), Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Washington D.C. 20590-0001
 - c. This certificate does not relieve any consignor or carrier from compliance with any requirement of the Government of any country through or into which the package is to be transported.
 - d. Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations¹ shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the applicable requirements of Subpart H of 10 CFR 71.

¹ "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

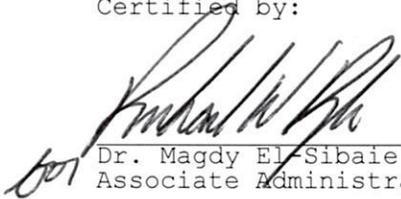
² Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

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4. Marking and Labeling - The package shall bear the marking USA/9215/B(U) in addition to other required markings and labeling.
5. Expiration Date - This certificate expires on May 31, 2018.

This certificate is issued in accordance with paragraph 816 of the IAEA Regulations and Section 173.471 of Title 49 of the Code of Federal Regulations, in response to the May 16, 2013 petition by Neutron Products, Inc., Dickerson, MD, and in consideration of other information on file in this Office.

Certified by:



Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

MAY 30 2013

(DATE)

Revision 13 - Issued to endorse U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9215, Revision 13.

NRC FORM 618 (5-2000) 10 CFR 71		U.S. NUCLEAR REGULATORY COMMISSION			
CERTIFICATE OF COMPLIANCE FOR RADIOACTIVE MATERIAL PACKAGES					
1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
9215	13	71-9215	USA/9215/B(U)	1	OF 4

2. PREAMBLE

- a. This certificate is issued to certify that the package (packaging and contents) described in Item 5 below meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."
- b. This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

3. THIS CERTIFICATE IS ISSUED ON THE BASIS OF A SAFETY ANALYSIS REPORT OF THE PACKAGE DESIGN OR APPLICATION

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| a. ISSUED TO <i>(Name and Address)</i>
Neutron Products, Inc.
22301 Mt. Ephraim Road
P.O. Box 68
Dickerson, MD 20842 | b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION
Neutron Products, Inc., application dated
September 14, 1992, as supplemented. |
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4. CONDITIONS

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

5.

(a) Packaging

- (1) Model No.: NPI-20WC-6 MkII
- (2) Description

A steel encased, lead shielded cask contained within a wooden overpack with a steel outer shell. The cask is 24 inches in diameter with a 3/8-inch thick steel spherical shell and a cavity formed by an 8-1/4-inch ID by 3/16-inch thick steel tube. Positive closure of the shielded cask is accomplished by bolted end covers at each end of the cavity. The overpack is approximately 49 inches in diameter and 59 inches high, including the lid lifting eye and the base support structure. The maximum package gross weight is 6,000 pounds.

(3) Drawings

The Model No. NPI-20WC-6 MkII packaging is constructed in accordance with Neutron Products, Inc., Drawing Nos. 240116, Rev. G; and 240122, Sheet 1 of 2, Rev. H, Sheet 2 of 2, Rev. H, except as noted in Condition No. 9 below.

(b) Contents

- (1) Type and form of material
- (i) Cobalt-60 as sealed sources which meet the requirements of special form radioactive material.

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1 a. CERTIFICATE NUMBER <p style="text-align: center;">9215</p>	b. REVISION NUMBER <p style="text-align: center;">13</p>	c. DOCKET NUMBER <p style="text-align: center;">71-9215</p>	d. PACKAGE IDENTIFICATION NUMBER <p style="text-align: center;">USA/9215/B(U)</p>	PAGE <p style="text-align: center;">2</p>	PAGES <p style="text-align: center;">OF 4</p>

5.(b) Contents (Continued)

(ii) Cesium-137 as sealed sources which meet the requirements of special form radioactive material.

(2) Maximum quantity of material per package

(i) For contents described in 5(b)(1)(i) and 5(b)(1)(ii):

For sources contained within drum assembly shown as Item 5 on Neutron Products, Inc., Drawing No. 240122, Sheet 1 of 2, Rev. H:

For contents described in 5(b)(1)(i):

Maximum activity not to exceed 15,000 curies, maximum decay heat not to exceed 240 watts.

For contents described in 5(b)(1)(ii):

Maximum activity not to exceed 20,600 curies, maximum decay heat not to exceed 97 watts.

(ii) For contents described in 5(b)(1)(i) and 5(b)(1)(ii):

For sources contained within drum assembly shown as Item 4 on Neutron Products, Inc., Drawing No. 240122, Sheet 2 of 2, Rev. H:

For contents described in 5(b)(1)(i):

Maximum activity not to exceed 9,500 curies, maximum decay heat not to exceed 150 watts.

For contents described in 5(b)(1)(ii):

Maximum activity not to exceed 20,600 curies, maximum decay heat not to exceed 97 watts.

(iii) For contents described in 5(b)(1)(i) and 5(b)(1)(ii):

For sources contained within drum assembly shown as Item 2 on Neutron Products, Inc., Drawing No. 240122, Sheet 2 of 2, Rev. H:

For contents described in 5(b)(1)(i):

Maximum activity not to exceed 6,300 curies, maximum decay heat not to exceed 100 watts.

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5.(b) Contents (Continued)

For contents described in 5(b)(1)(ii):

Maximum activity not to exceed 20,600 curies, maximum decay heat not to exceed 97 watts.

6. In addition to the requirements of Subpart G of 10 CFR Part 71:
- (a) The package must be maintained in accordance with Maintenance and Storage Procedure for USA/9215/B(U) Package, R-2019-G, Revision 2, provided in the supplement dated March 29, 2013.
 - (b) The package shall be prepared for shipment and operated in accordance with Unloading and Loading Procedure for USA/9215/B(U) Package, R-2014-G, Revision 2, provided in the supplement dated March 29, 2013.
7. The contents must be secured in the drum assembly so as to restrict movement in any direction to less than 0.25 inch, by lead, steel, or tungsten full diameter plugs and spacers.
8. The gross weight of the package must not exceed 6,000 pounds, and the inner shield cask shall be snug-fitting within the wooden overpack.
9. The two permanent package identification labels and the single temporary package identification holder are attached with 3/16 inch aluminum pop rivets. The two manufacturer's stamped name and date labels are attached with 1/8 inch aluminum pop rivets. The temporary identification labels are held in their holder with a single 1/4 - 20 stainless steel screw. The eight one-quarter inch holes remaining from previous permanent package identification labels and the twelve half inch vent holes are covered by waterproof tape.
10. Contents described in 5(b)(1)(i) and 5(b)(1)(ii) may not be shipped together in the same package.
11. Fabrication of new packagings is not authorized.
12. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.
13. Revision No. 12 of this certificate may be used until May 31, 2013.
14. Expiration date: May 31, 2018.

NRC FORM 619 (8-2000) 10 CFR 71		U.S. NUCLEAR REGULATORY COMMISSION			
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REFERENCES

Neutron Products, Incorporated, application dated September 14, 1992.

Supplements dated: October 29, 1992; November 17, 1993; September 8, 1997; September 5, 2002; May 1 and October 7, 2003, and February 16, and March 15, 2007; March 12, 2008; April 8, 2010; electronic correspondence dated April 15, 2010; February 9, and July 5, 2012; and March 29, 2013.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Michele Sampson, Acting Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Date: May 16, 2013



U.S. Department
of Transportation

East Building, PHH-23
1200 New Jersey Avenue SE
Washington, D.C. 20590

**Pipeline and
Hazardous Materials
Safety Administration**

CERTIFICATE NUMBER: USA/9215/B(U)-96, Revision 13

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