

**CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES**

1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
9215	15	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 or 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
May 1, 2018, 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 outer diameter, including the flanges which secures the lid to the body and the tie downs brackets, is approximately 55 inches in diameter. The overpack height, including the lid lifting eye and the base support structure, is approximately 59 inches. 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. J; and 240122, Sheet 1 of 2, Rev. I, Sheet 2 of 2, Rev. H.

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(b) Contents

(1) Type and form of material

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

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5.(b) Contents (Continued)

(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.

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. In addition to the shielding provided by the shipping/transfer cask (S/TC) and S/TC cover, a minimum of 2 inches of lead, 2 inches of tungsten, or 3 inches of steel shall be inserted between the source and the ST/C cover as axial shielding material in the drum assembly. This additional shielding material may be part of the plugs and spacers or part of the source drawer.
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. 14 of this certificate may be used until May 31, 2019.

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14. Expiration date: May 31, 2023.

REFERENCES

Neutron Products, Incorporated, application dated May 7, 2018.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

John McKirgan, Chief
Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

Date: 5/30/2018

