

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

1. a. CERTIFICATE NUMBER 9215	b. REVISION NUMBER 13	c. DOCKET NUMBER 71-9215	d. PACKAGE IDENTIFICATION NUMBER USA/9215/B(U)	PAGE 1	PAGES 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

- a. ISSUED TO (*Name and Address*)  
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.

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.

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

1 a. CERTIFICATE NUMBER 9215	b. REVISION NUMBER 13	c. DOCKET NUMBER 71-9215	d. PACKAGE IDENTIFICATION NUMBER USA/9215/B(U)	PAGE 2	PAGES OF 4
---------------------------------	--------------------------	-----------------------------	---	-----------	---------------

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.

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

1. a. CERTIFICATE NUMBER 9215	b. REVISION NUMBER 13	c. DOCKET NUMBER 71-9215	d. PACKAGE IDENTIFICATION NUMBER USA/9215/B(U)	PAGE 3	PAGES OF 4
----------------------------------	--------------------------	-----------------------------	---	-----------	---------------

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.

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

1 a. CERTIFICATE NUMBER 9215	b. REVISION NUMBER 13	c. DOCKET NUMBER 71-9215	d. PACKAGE IDENTIFICATION NUMBER USA/9215/B(U)	PAGE 4	PAGES OF 4
---------------------------------	--------------------------	-----------------------------	---	-----------	---------------

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



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

**SAFETY EVALUATION REPORT**  
**Docket No. 71-9215**  
**Model No. NPI-20WC-6 MKII**  
**Certificate of Compliance No. 9215**  
**Revision No. 13**

**SUMMARY**

By application dated March 29, 2013, Neutron Products, Inc., requested renewal of Certificate of Compliance No. 9215, for the Model No. NPI-20WC-6 MKII packages. Neutron Products did not request any changes to the package design or its authorized contents. In addition to the renewal request, Neutron Products submitted proposed changes to the package's operating and maintenance procedures. The certificate has been renewed for a five year term.

**EVALUATION**

The staff reviewed the documents referenced in the certificate and determined that the documentation was available and complete. The staff also reviewed the revised operating and maintenance procedures for the package submitted by the certificate holder, and found them to be complete and adequate. Accordingly, the new operating and maintenance procedures have been referenced in the certificate.

**CONDITIONS**

Condition No. 5(b)(2)(iii) was revised to include a statement clarifying the specific Cobalt-60 activity limits contained in the drum assembly described in Condition No. 5(b)(2)(iii).

Condition Nos. 6(a) and 6(b) were revised to reference the new maintenance and operating procedures.

A new Condition No. 11 was included to specify that no new fabrication of the package is authorized.

Conditions Nos. 12, 13, and 14 were re-numbered as a result of the addition of new Condition No. 11.

Condition No. 13 has been revised to authorize the use of Revision No. 12 of the certificate for the remaining period until expiration, ending on May 31, 2013.

Condition No. 14 has been updated to reflect the new expiration date.

## CONCLUSION

The certificate has been renewed for a five year term, which expires on May 31, 2018. Based on the statements contained in the application, and the conditions listed above, the staff concludes that the changes indicated do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9215, Revision No. 13,  
on May 16, 2013.