

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

1. a. CERTIFICATE NUMBER <b>9294</b>	b. REVISION NUMBER <b>6</b>	c. DOCKET NUMBER <b>71-9294</b>	d. PACKAGE IDENTIFICATION NUMBER <b>USA/9294/AF-96</b>	PAGE <b>1</b>	PAGES <b>OF 3</b>
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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

- a. ISSUED TO (*Name and Address*)
- b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

Global Nuclear Fuel - Americas, LLC  
P.O. Box 780  
Wilmington, NC 28402

Global Nuclear Fuel - Americas, LLC, application dated  
April 16, 2010.

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.: NPC
- (2) Description

A cubic stainless steel and foam outer packaging with nine cylindrical containment vessels for the transport of type A quantities of low-enriched uranium oxide powder, pellets, and compounds of uranium as defined in 5(b). The overall package dimensions are approximately 45 inches wide, 45 inches deep, and 44 inches high.

The outer packaging consists of a 10-gage stainless steel outer shell with a ceramic fiber board liner and rigid polyurethane foam filler. The foam filler has a three-by-three array of vertical cylindrical cutouts that accommodate stainless steel sleeves for placement of the containment vessels. The outer packaging is equipped with a top cover that is secured to the outer packaging body by a combination of 16 closure cap screws and four closure strips secured by 24 bolts.

The containment vessel is a maximum 8.515 inches in inner diameter and approximately 32 inches in overall length. The containment vessel is constructed of 18-gage stainless steel, surrounded by a cadmium sheet and polyethylene wrap within a 24-gage stainless steel jacket. The containment vessel is closed by a 16-gage closure lid, a silicone rubber gasket, and a band clamp assembly, which is composed of a 0.063-inch thick strap and retainer, a T-bolt, and a nut.

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The gross weight of the package (packaging and contents) is 1,302 kg (2,870 pounds). The maximum weight of the contents is 540 kg (1,190 pounds).

5.(a) (3) Drawings

The packaging is fabricated and assembled in accordance with the following Global Nuclear Fuel - Americas, LLC, Drawing Nos.:

177D4970, Sheet 1, Revision 1

177D4970, Sheet 2, Revision 0

177D4970, Sheet 3, Revision 0

177D4970, Sheet 4, Revision 0

177D4970, Sheet 5, Revision 0

177D4970, Sheet 6, Revision 0

177D4970, Sheet 7, Revision 0

177D4970, Sheet 8, Revision 1

SK105E4037, Sheet 2, Revision 1

(b) Contents

Type, Form, and Maximum Quantity of Material Per Package

Material Forms <sup>1</sup> (≤5.00 wt.% U-235)	Particle Size Restriction: Minimum OD (Inches)	Maximum Loading per ICCA (kgs)		Maximum Loading per NPC (kgs)	
		Net <sup>4</sup>	Uranium	Net <sup>4</sup>	Uranium
Homogenous Uranium Oxide/Compounds <sup>2</sup>	N/A	60.0	52.89	540.0	476.1
Heterogenous UO <sub>2</sub> Pellets (BWR)	0.342	60.0	40.54	540.0	364.8
Heterogenous UO <sub>2</sub> Pellets(PWR)	0.300	60.0	40.54	540.0	364.8
Heterogenous Uranium Compounds <sup>3</sup>	Unrestricted particle size	60.0	40.54	540.0	364.8

<sup>1</sup>No solutions or liquids are authorized and there shall be no free liquid present. The Material Form within any NPC must be the same.

<sup>2</sup>Homogenous compounds limited to UO<sub>2</sub>, U<sub>3</sub>O<sub>8</sub>, UO<sub>x, x>2</sub>, dried calcium-containing sludges, UO<sub>2</sub>(NO<sub>3</sub>)<sub>2</sub>·6H<sub>2</sub>O, and uranium oxide bearing ash.

<sup>3</sup>Heterogenous compounds limited to UO<sub>2</sub>, U<sub>3</sub>O<sub>8</sub>, and UO<sub>x, x>2</sub>.

<sup>4</sup>Maximum content weight of any Inner Containment Canister Assemblies (ICCA) including plastic or secondary packaging (i.e., dunnage). Materials with a hydrogen atom density greater than that of water are limited to a mass of 3.7 kg per ICCA.

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(c) Criticality Safety Index 0.7

6. In addition to the requirements of Subpart G of 10 CFR Part 71:

- (a) The package must be prepared for shipment and operated in accordance with the Operating Procedures in Chapter 7 of the application, as supplemented. Within each ICCA, the contents and secondary packaging (i.e., dunnage) must provide a snug fit. The payload may be enclosed in plastic receptacles (e.g., bags, bottles, etc.). For payloads in plastic bottles, empty bottles may be used to minimize movement of the bottles within the ICCA.
- (b) Each packaging must be acceptance tested and maintained in accordance with the Acceptance Tests and Maintenance Program in Chapter 8 of the application.

7. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.

8. Transport by air of fissile material is not authorized.

9. Revision No. 5 of this certificate may be used until June 30, 2011.

10. Expiration date: November 30, 2015.

REFERENCES

Global Nuclear Fuel - Americas, LLC, application dated May 11, 2010.

Supplements dated: May 19, 2010 and June 3, 2010.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Eric J. Benner, Chief  
Licensing Branch  
Division of Spent Fuel Storage and Transportation  
Office of Nuclear Material Safety  
and Safeguards

Date: June 10, 2010



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

**SAFETY EVALUATION REPORT**

Docket No. 71-9294  
Model No. NPC Package  
Certificate of Compliance No. 9294  
Revision No. 6

**SUMMARY**

By application dated April 16, 2010, as supplemented May 19, 2010, and June 3, 2010, Global Nuclear Fuel - Americas, LLC, requested renewal of Certificate of Compliance No. 9294, for the Model No. NPC package. Global Nuclear Fuel - Americas, LLC, did not request any changes to the package design or authorized contents. The certificate has been renewed for a five year term.

**EVALUATION**

By application dated April 16, 2010, as supplemented May 19, 2010, and June 3, 2010, Global Nuclear Fuel - Americas, LLC, requested renewal of Certificate of Compliance No. 9294, for the Model No. NPC package. Global Nuclear Fuel - Americas, LLC, did not request any changes to the package's design or authorized contents. The staff reviewed the documents referenced in the certificate and determined that the documentation was available and complete. The staff also reviewed the operating and maintenance procedures for the package and found them to be adequate.

The following changes have been made to the certificate:

Condition No. 3(b) was revised to add the date of the submitted consolidated application.

Condition No. 5(a)(3) was revised to correct the Revision number of the drawing SK105E4037, sheet 2.

Condition No. 9 was revised to authorize the use of the previous revision of the Certificate of Compliance for approximately one year.

Condition No. 10 was revised to reflect the new expiration date, November 30, 2015.

**CONCLUSION**

The certificate has been renewed for a five year term that expires on November 30, 2015. This change does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9294, Revision No. 6, on June 10, 2010.