

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
9294	4	71-9294	USA/9294/AF-85	1 OF	3

## 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  
January 29, 2001.

## 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 unirradiated, 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.

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).

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## 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 0  
 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 0

## (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	48.48	540.0	436.3
Heterogenous UO <sub>2</sub> Pellets(PWR)	0.300	60.0	46.71	540.0	420.4
Heterogenous Uranium Compounds <sup>3</sup>	Unrestricted particle size	60.0	40.54	540.0	364.8

<sup>1</sup>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</sub>, x>2, 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</sub>, x>2.

<sup>4</sup>Maximum content weight of any ICCA including plastic or metal receptacles (e.g., bags, bottles, cans).

Note: Uranium-bearing contents may be moderated by water or carbon to any degree and may be mixed with other non-fissile materials with the exception of deuterium, tritium, and beryllium. Materials such as uranium metal and uranium metal alloys are not covered by this certificate.

## (c) Criticality Safety Index

0.7

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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.
  - (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. Revision No. 3 of this certificate may be used until November 30, 2006.
9. Expiration date: November 30, 2010.

**REFERENCES**

Global Nuclear Fuel - Americas, LLC, application dated January 29, 2001.

Supplements dated: August 1, 23 and 27, 2001; March 4 and September 30, 2002; June 30 and October 3, 2005.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

Robert A. Nelson, Chief  
Licensing Section  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

Date: November 21, 2005