



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/9233/B(U)-96, REVISION 1**

East Building, PHH-23
1200 New Jersey Avenue Southeast
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 - TN-RAM.
2. Package Description and Authorized Radioactive Contents - as described in U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9233, Revision 12 (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.

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.

CERTIFICATE USA/9233/B(U)-96, REVISION 1

- 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.
4. Marking and Labeling - The package shall bear the marking USA/9233/B(U)-96 in addition to other required markings and labeling.
5. Expiration Date - This certificate expires on April 30, 2015.

This certificate is issued in accordance with paragraph 808 of the IAEA Regulations and Section 173.471 of Title 49 of the Code of Federal Regulations, in response to the July 09, 2014 petition by Areva - TN Inc, Columbia, MD, and in consideration of other information on file in this Office.

Certified By:



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

Jul 17 2014
(DATE)

Revision 1 - Issued to endorse U.S. Nuclear Regulatory Commission
Certificate of Compliance No. 9233, Revision 12.

**CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES**

a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
9233	12	71-9233	USA/9233/B(U)-96	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*)
AREVA Inc.
7135 Minstrel Way, Suite 300
Columbia, MD 21045
- b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION
Transnuclear, Inc. application
dated March 8, 2005, 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.: TN-RAM
- (2) Description

The package is a steel encased lead shielded cask with wood impact limiters attached at both ends. The cask is a right circular cylinder. The overall dimensions of the packaging are approximately 178 inches long and 92 inches diameter with the impact limiters installed. The cask body is approximately 129 inches long with an outer diameter of 51 inches. The cask cavity has a length of approximately 111 inches and an inside diameter of 35 inches. The cask body is made of a 0.75-inch stainless steel inner shell, a 5.88-inch thick lead annulus, a 1.5-inch thick stainless steel outer shell, a 0.5-inch thick inner bottom plate and a 2.5-inch thick outside bottom plate. The lead shielding is approximately 6 inches thick in the bottom end of the cask. The outer shell of the cask body is covered with a stainless steel thermal shield. The closure lid consists of a 2.5-inch thick outer stainless steel plate and a 0.5-inch thick inner stainless steel plate separated by approximately 6 inches of lead shielding. An optional lid, with the lead shielding in the form of a separate shielding disk, can also be used. The lid is secured by sixteen 1.5-inch diameter closure bolts. Two concentric silicone O-rings are installed in grooves on the underside of the lid. The cask is equipped with a sealed leak test port between the O-rings, a vent port in the closure lid and a sealed drain port in the bottom of the cask. Each impact limiter is attached to the cask by eight 1.75-inch diameter bolts. The cask is equipped with 6 trunnions, four at the top and two at the bottom. The gross weight of the package is approximately 80,000 pounds, including maximum contents of 9,500 pounds.

**CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES**

a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
9233	12	71-9233	USA/9233/B(U)-96	2 OF	3

5.(a) Packaging (continued)

(3) Drawings

The packaging is constructed in accordance with Transnuclear, Inc. Drawing Nos. 990-701, Rev. 9; 990-702, Rev. 8; 990-703, Rev. 10; 990-704, Rev. 6; 990-705, Rev. 7; 990-706, Rev. 4; 990-707, Rev. 4; 990-708, Rev. 8; 990-709, Rev. 2; and 990-710, Rev. 2.

(b) Contents

(1) Type and Form of Material

Dry irradiated and contaminated non-fuel-bearing solid materials contained within a secondary container.

(2) Maximum quantity of material per package

Greater than Type A quantities of radioactive material which may include fissile material provided that the fissile material does not exceed the mass limits of 10 CFR 71.15. The contents may not exceed 1,272 times an A₂ quantity. The decay heat of the contents may not exceed 300 watts. The maximum gross weight of the contents, secondary container, and shoring is limited to 9,500 pounds.

6. As appropriate, shoring must be used in the secondary container sufficient to prevent significant movement of the contents under accident conditions.
7. Both the inner cask cavity and the secondary container must be free of water when the package is delivered to a carrier for transport.
8. In addition to the requirements of Subpart G of 10 CFR Part 71:
 - (a) Prior to each shipment, the lid seals must be inspected. The seals must be replaced with new seals if inspection shows any defects or every 12 months, whichever occurs first;
 - (b) The package shall be prepared for shipment and operated in accordance with the Operating Procedures of Section 7.0 of the application; and
 - (c) The package must meet the Acceptance Tests and Maintenance Program of Section 8.0 of the application.
9. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.
10. Expiration date: April 30, 2015.

**CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES**

a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
9233	12	71-9233	USA/9233/B(U)-96	3	OF 3

REFERENCES

Transnuclear, Inc., application dated March 8, 2005.

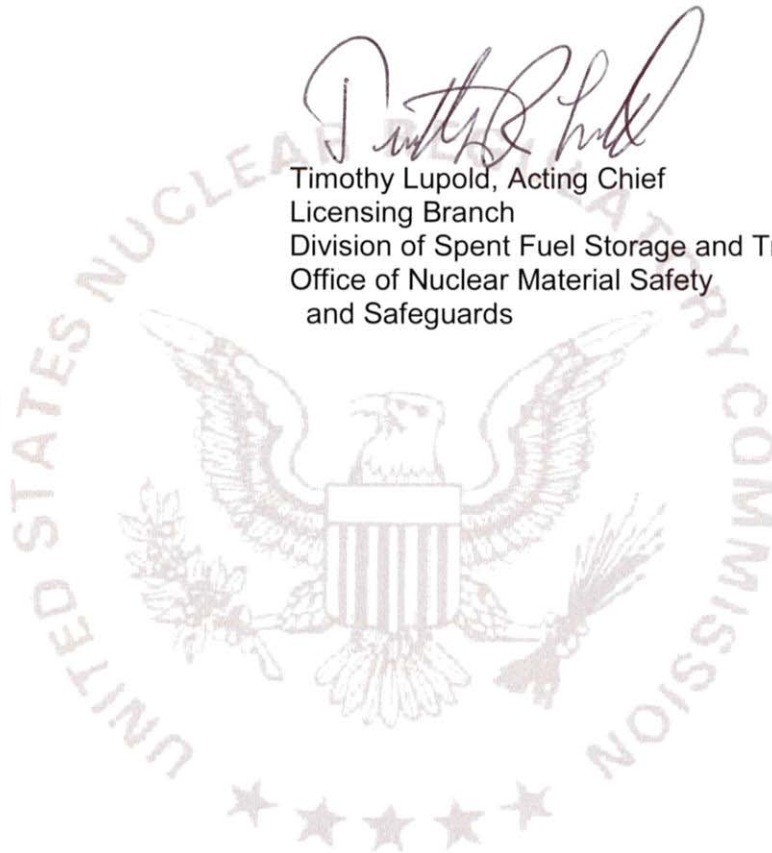
Supplements dated: May 4, 2007; October 19, 2007; September 30, 2008; February 16, 2009 and March 15, 2010; January 27, 2014; and June 11, 2014.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



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

Date: *July 3, 2014*





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/9233/B(U)-96, Revision 1

ORIGINAL REGISTRANT(S):

Mr. Jim Davis
Areva - TN Inc
2101 Horn Rapids Road
Richland, WA 99352

Ralf Witten
Areva - TN Inc
Abteilung ANF-LP
Advanced Nuclear Fuels GmbH
Postfach 1485
Lingen, Niedersachsen 49784
Germany

Mr. Robert Link
Areva - TN Inc
2101 Horn Rapids Road
Richland, 99352
USA

Glenn Mathues
Licensing Engineer (Transportation)
Areva - TN Inc
7135 Minstrel Way
Suite 300
Columbia, MD 21045

Mike Valenzano
Director of Transport Operations
Areva - TN Inc
7135 Minstrel Way
Suite 300
Columbia, MD 21045