U.S. Department
of Transportation
**Pipeline and
Hazardous Materials
Safety Administration**

**400 Seventh Street, S.W.
Washington, D.C. 20590**

**COMPETENT AUTHORITY CERTIFICATION
FOR A TYPE FISSILE
RADIOACTIVE MATERIALS PACKAGE DESIGN
CERTIFICATE USA/9196/AF-96, REVISION 24**

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 AF packaging for fissile radioactive material as prescribed in the regulations of the International Atomic Energy Agency[1] and the United States of America[2].

1. Package Identification - Model No. UX-30.

2. Package Description and Authorized Radioactive Contents - as described in U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9196, Revision 22 (attached).

3. Criticality - The minimum criticality safety index is 5.0 for the 30B cylinder; 0.0 for the 30C cylinder. The maximum number of packages per conveyance is determined in accordance with Table X of the IAEA regulations cited in this certificate.

4. 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.

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[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.

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d. Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations[1] shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.

5. Marking and Labeling - The package shall bear the marking USA/9196/AF-96 in addition to other required markings and labeling.

6. Expiration Date - This certificate expires on February 28, 2011. On November 01, 2006, this certificate supersedes all previous revisions of USA/9196/AF-**85**.

This certificate is issued in accordance with paragraph 814 of the IAEA Regulations and Section 173.471 and 173.472 of Title 49 of the Code of Federal Regulations, in response to the November 15, 2005 petition by Duratek, Columbia, SC and in consideration of other information on file in this Office.

Certified By:

for Robert A. McGuire
Associate Administrator for Hazardous Materials Safety

Dec 15 2005
(DATE)

Revision 24 - Issued to endorse U.S. Nuclear Regulatory Commission Certificate of Approval No. 9196, Revision 22.

CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES

1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE		PAGES
9196	22	71-9196	USA/9196/AF-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)*

Duratek
140 Stoneridge Drive
Columbia, South Carolina 29210

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

Duratek, Inc., application dated June 9, 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.: UX-30

(2) Description

Overpack for 30-inch enriched uranium hexafluoride (UF_6) cylinders. The overpack is a right circular cylinder constructed of two stainless steel shells with the volume between the shells filled with 6-inch thick foam (7.8 - 9.8 PCF). A stepped and gasketed horizontal joint permits the top half of the overpack to be removed from the base. The package "halves" are secured with ten indexed, cross-locking "ball lock" pins. The overpack is 43.5" in diameter by 96" long. The maximum gross weight of the package is 8270 lbs.

Two types of 30 inch uranium hexafluoride cylinders may be carried in the UX-30 overpack. These are (1) an ANSI N14.1 Standard 30B cylinder, or (2) an ANSI N14.1 Standard 30C cylinder.

The ANSI N14.1 Standard 30C cylinder is essentially a 30B cylinder equipped with a Valve Protective Cover (VPC) that bolts over and protects the cylinder valve during transport. The VPC is a special design feature that provides additional assurance against the inleakage of water to the containment system and is an enclosure that retains any leakage.

(3) Drawings

The Model No. UX-30 packaging is fabricated in accordance with Duratek, Inc., Drawing No. C-110-B-57922-0002, Sheets 1 through 3, Rev. 3.

(b) Contents

(1) Type and form of material

UF_6 enriched in the U-235 isotope.

(2) Maximum quantity of material per package

ANSI Standard N14.1 30B or 30C cylinder: 5,020 pounds UF_6 enriched to not more than 5 weight percent in the U-235 isotope. The maximum H/U atomic ratio for the UF_6 is 0.088.

(c) Criticality Safety Index (CSI)

Criticality safety index for the UX-30 overpack containing a standard ANSI N14.1 30B cylinder	5.0
Criticality safety index for the UX-30 overpack containing a standard ANSI N14.1 30C cylinder	0.0

6. The ANSI standard 30B, 30-inch diameter UF_6 cylinder, must be fabricated, inspected, tested and maintained in accordance with a) American National Standard N14.1-2001 or an earlier version of ANSI N14.1 in effect at the time of fabrication or b) American National Standard N14.1-2001 or an earlier version of ANSI N14.1 in effect at the time of fabrication and ISO 7195:1993(F). Cylinders must be fabricated in accordance with Section VIII, Division I, of the ASME (American Society of Mechanical Engineers) Boiler and Pressure Vessel Code and be ASME Code stamped.

7. The ANSI N14.1 Standard 30C cylinder (new or retrofitted cylinders) must be fabricated, inspected, tested, and maintained in accordance with ANSI N14.1-2001 Addendum 2-2004.

8. When the optional 4 lid lifting clips are used instead of the top lugs, the top lid (cover) must be lifted with a spreader bar (saddle).

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

(a) Prior to each shipment, the weather/dust seal gasket between the upper and lower shells must be inspected and must be replaced if inspection shows excessive wear or any defects to the gasket.

(b) Each packaging must meet the Acceptance Tests and Maintenance Program of Chapter 8 of the application, as supplemented.

(c) The package shall be prepared for shipment and operated in accordance with the Operating Procedures of Chapter 7 of the application, as supplemented.

(d) Prior to each shipment, the stainless steel components of the packaging must be visually inspected. Packagings in which stainless steel components show pitting, corrosion, cracking, or pinholes are not authorized for transport.

10. The 30-inch diameter UF_6 cylinder valve and plug threads may be tinned with ASTM B32, alloy 50A or Sn50 solder material, or a mixture of alloy 50A or Sn50 with alloy 40A or Sn40A material, provided the mixture has a minimum tin content of 45 percent.

11. Transport by air is not authorized.

12. Packagings may be marked with Package Identification Number USA/9196/AF-85 until October 31, 2007 and must be marked with Package Identification Number USA/9196/AF-96 after October 31, 2007.

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

14. Revision No. 21 of this certificate may be used until November 1, 2006.

15. Expiration date: February 28, 2011.

REFERENCES

Duratek Inc., application dated: June 9, 2005.

Duratek Inc., supplements dated: June 30 and September 9, 2005.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

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

Date: 10/14/05