U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

East Building, PHH-23
1200 New Jersey Ave, SE
Washington, D.C. 20590

COMPETENT AUTHORITY CERTIFICATION FOR A TYPE FISSILE RADIOACTIVE MATERIALS PACKAGE DESIGN CERTIFICATE USA/9362/AF-96, REVISION 0

The Competent Authority of the United States certifies that the radioactive material package design described in this certificate satisfies the regulatory requirements for a Type AF package for fissile material as prescribed in the regulations of the International Atomic Energy Agency[1] and the United States of America[2].

1. Package Identification - DN30.

2. Package Description and Authorized Radioactive Contents - as described in U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9362, Revision 2 (attached).

3. Criticality - The minimum criticality safety index is 0.0. The maximum number of packages per conveyance is determined in accordance with Table 11 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 Engineering and Research, (PHH-23), Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Washington D.C. 20590-0001.

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[1] "Regulations for the Safe Transport of Radioactive Material, 2012 Edition, No. SSR-6" 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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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.

d. Records of Management System activities required by Paragraph 306 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 in the United States exporting shipments under this certificate shall satisfy the applicable requirements of Subpart H of 10 CFR 71.

5. Marking and Labeling - The package shall bear the marking USA/9362/AF-96 in addition to other required markings and labeling.

6. Expiration Date - This certificate expires on July 31, 2024.

This certificate is issued in accordance with paragraph(s) 816 of the IAEA Regulations and Section 173.471 and 173.472 of Title 49 of the Code of Federal Regulations, in response to the January 7, 2020 petition by Transport Logistics International (DAHER - TLI), Fulton, MD, and in consideration of other information on file in this Office.

Certified By:

for William Schoonover
Associate Administrator for Hazardous Materials Safety

January 17, 2020
(DATE)

Revision 0 - Issued to endorse U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9362, Revision 2.

CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES

1 a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE		PAGES
9362	2	71-9362	USA/9362/AF-96	1	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 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)*

Daher Nuclear Technologies GmbH
Margarete-von-Wrangell-Straße 7
D-63457 Hanau – GERMANY

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

Safety Analysis Report of the DN30 Package 0023-BSH-2016-002-Rev 1, dated July 12, 2019, 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.: DN30

(2) Description

The DN30 packaging consists of the protective structural packaging (PSP) and the 30B uranium hexafluoride (UF_6) cylinder as specified in ANSI N14.1.

The DN30 PSP is a right circular cylinder constructed of two austenitic stainless steel shells: (i) the bottom half with integrated feet, a valve protecting device, a plug protecting device, two rotation preventing devices, lower part of the closure system (consisting of six devices), and handling attachment points, and (ii) the top half with the upper part of the closure system and integrated handling attachment points for the top half .

For both the bottom and top halves of the PSP, the cavity between the inner and outer shells and the flange is filled with a polyisocyanurate rigid (PIR) foam with a layer of 10 mm thermal insulation between the inner shell and the foam. All the surfaces of the inner shell of both the top and bottom halves are covered with a layer of intumescent material.

The valve protecting device, enclosing the valve of the 30B cylinder, and connected to the bottom half of the DN30 PSP by two hinges, consists of a casing of stainless steel filled with PIR foam and a protective housing with its inner walls covered with an intumescent material.

5.(a) Packaging (continued)

The two rotation protecting devices, welded at the sides of the inner flange of the bottom half of the PSP, are identical and consist of a pin, withdrawn into the flange during loading, and inserted, during transport, into the two holes in the skirt of the 30B cylinder.

The plug protecting device is welded to the inner shell of the bottom half of the PSP and allows the plug to move in the axial direction without making contact with any part of the PSP.

An elastomeric gasket, installed in the flange of the top half, prevents water inleakage during normal conditions of transport.

The PSP has a nominal length of 2,437 mm, a nominal external diameter of 1,216 mm, and a nominal height of 1,329 mm. The nominal gross weight of the package is 4,012 kg.

The 30B Cylinder, described in ANSI N14.1, is 2,070 mm long with a nominal diameter of 760 mm and a nominal wall thickness of 13 mm.

(3) Drawings

The Model No. DN30 packaging is fabricated in accordance with

Drawing No. 0023-ZFZ-1000-000, Rev. 2 – DN30 PSP
Drawing No. 0023-ZFZ-1000-100, Rev. 0 – Closure Device
Drawing No. 0023-ZFZ-1100-000, Rev. 4 – Bottom Half
Drawing No. 0023-ZFZ-1200-000, Rev. 3 – Top Half
Drawing No. 0023-ZFZ-1120-400, Rev. 0 – Rotation Preventing Device
Drawing No. 0023-ZFZ-1140-000, Rev. 3 – Valve Protecting Device
Part List No. 0023-STL-1000-000, Rev. 6

(b) Contents

(1) Type and form of material

Unirradiated commercial grade uranium, in the form of UF_6, with natural isotopic composition, and a U-235 mass percentage not to exceed 5 weight percent.

(2) Maximum quantity of material per package

2,277 kg UF_6 contained in an ANSI Standard N14.1 30B cylinder.
The maximum H/U atomic ratio for UF_6 is 0.088.

(c) Criticality Safety Index (CSI) 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 N14.1-2012 or an earlier version of ANSI N14.1 in effect at the time of fabrication or b) American National Standard N14.1-2012 or an earlier version of ANSI N14.1 in effect at the time of fabrication and ISO 7195:2005 or an earlier version of ISO 7195 in effect at the time of fabrication. 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. In addition to the requirements of Subpart G of 10 CFR Part 71:

   (a) The package shall be prepared for shipment and operated in accordance with the Operating Procedures of Chapter 1.7 of the application.

   (b) Each packaging must meet the Acceptance Tests and Maintenance Program of Chapter 1.8 of the application.

   (c) Packagings in which stainless steel components show pitting, corrosion, cracking, or pinholes are not authorized for transport.

8. 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.

9. Transport by air is not authorized.

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

11. Revision No. 1 of this certificate may be used until December 31, 2020.

12. Expiration date: July 31, 2024.

REFERENCES

Safety Analysis Report of the DN30 Package, 0023-BSH-2016-002-Rev.1, dated July 12, 2019.

Supplements dated September 6 and October 17, 2019.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Daniel I. Doyle, Acting Chief
Storage and Transportation Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Date: December 19, 2019

U.S. Department of
Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

**East Building, PHH-23
1200 New Jersey Ave, SE
Washington, D.C. 20590**

CERTIFICATE NUMBER: USA/9362/AF-96

ORIGINAL REGISTRANT(S):

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