



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 2**

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<sup>1</sup> and the United States of America<sup>2</sup> The package design is approved for use within the United States for import and export shipments made in accordance with applicable international and domestic transport regulations.

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 5 (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

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<sup>1</sup> "Regulations for the Safe Transport of Radioactive Material, 2012 Edition, No. SSR-6" published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

<sup>2</sup> Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

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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.
  - d. Records of Management System activities required by Paragraph 306 of the IAEA regulations<sup>1</sup> 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 June 30, 2029. Previous editions which have not reached their expiration date may continue to be used.

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 July 5, 2024 petition by Orano Nuclear Packages and Services, Hanau, Germany and in consideration of other information on file in this Office.

Certified By:



William Schoonover  
Associate Administrator for Hazardous  
Materials Safety

October 23, 2024  
(DATE)

Revision 2 - Issued to endorse U.S. Nuclear Regulatory Commission  
Certificate of Compliance No. 9362, Revision 5.

**CERTIFICATE OF COMPLIANCE  
FOR RADIOACTIVE MATERIAL PACKAGES**

| 1 a. CERTIFICATE NUMBER | b. REVISION NUMBER | c. DOCKET NUMBER | d. PACKAGE IDENTIFICATION NUMBER | PAGE | PAGES |
|-------------------------|--------------------|------------------|----------------------------------|------|-------|
| 9362                    | 5                  | 71-9362          | USA/9362/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 ( <i>Name and Address</i> )<br>Orano NCS GmbH<br>Margarete-von-Wrangell-Straße 7<br>D-63457 Hanau – GERMANY | b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION<br>Safety Analysis Report of the DN30 Package<br>0023-BSH-2016-002-Rev. 3. |
|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|

**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<sub>6</sub>) 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.

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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.

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. 3 – DN30 PSP  
 Drawing No. 0023-ZFZ-1000-100, Rev. 0 – Closure Device  
 Drawing No. 0023-ZFZ-1100-000, Rev. 5 – 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. 4 – Valve Protecting Device  
 Part List No. 0023-STL-1000-000, Rev. 9

(b) Contents

(1) Type and form of material

Unirradiated commercial grade uranium, in the form of UF<sub>6</sub>, 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<sub>6</sub> contained in an ANSI Standard N14.1 30B cylinder.  
 The maximum H/U atomic ratio for UF<sub>6</sub> is 0.088.

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(c) Criticality Safety Index (CSI) 0.0

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

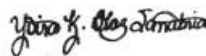
- (a) The package shall be prepared for shipment and operated in accordance with the Operating Procedures of Chapter 1.7 of the application.
- (b) Each packaging must meet the Acceptance Tests and Maintenance Program of Chapter 1.8 of the application.
- (c) Packagings in which stainless steel components show pitting, corrosion, cracking, or pinholes are not authorized for transport.

- 7. The 30-inch diameter UF<sub>6</sub> 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.
- 8. Transport by air is not authorized.
- 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: June 30, 2029.

REFERENCES

Safety Analysis Report of the DN30 Package, 0023-BSH-2016-002- Rev.3.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Signed by Diaz-Sanabria, Yoira  
on 06/11/24

Yoira Diaz-Sanabria, Chief  
Storage and Transportation Licensing Branch  
Division of Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

Date: June 11, 2024



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1200 New Jersey Ave, SE  
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**CERTIFICATE NUMBER:** USA/9362/AF-96

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