



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

**SAFETY EVALUATION REPORT  
Model No. DN30 Package  
Certificate of Compliance No. 9362  
Revision No. 3**

## **SUMMARY**

By letter dated July 8, 2021, Daher Nuclear Technologies, GmbH, (DNT, or the applicant) submitted an amendment request for Certificate of Compliance (CoC) No. 9362 for the Model No. DN30 package (ADAMS Accession No. ML21189A184)

The applicant proposed to reduce the number of dose rate measurement points for commercial grade UF6 because dose rate distribution is well known by experience after decades of transports and would therefore reduce personnel exposure.

The applicant also proposed to include, in the procedures, test radiation sources to calibrate the contamination measuring instruments other than Am-241 for  $\alpha$ -emitters and Cs-137 or Sr/Y-90 for  $\beta$ -emitters because not every site uses those sources and to exchange one thermal plug on each half shell of the PSP by a thermal pressure relief valve in order to avoid a pressure increase inside the half shells.

The applicant revised (i) the Parts List 0023-STL-1000-000 to Revision 7 and (ii) the test instructions 0023-PA-2015-017 to Revision 3.

Based on the statements and representations in the application, and the conditions listed in the CoC, the staff concludes that the package meets the requirements of 10 CFR Part 71.

## **EVALUATION**

The applicant proposed the following three changes:

1. Acceptance of test radiation sources to calibrate the contamination measuring instruments other than Am-241 for  $\alpha$ -emitters and Cs-137 or Sr/Y-90 for  $\beta$ -emitters.
2. Reduction of the number of dose rate measurement points at the surface of the DN30 package to respect ALARA.
3. Possibility to exchange one thermal plug on each half shell by a thermal pressure relief valve in order to avoid a pressure increase inside the half shells.

The staff reviewed the proposed changes to verify that the package continues to meet regulatory requirements for shielding performance and complies with regulatory dose rate limits. There is no change to the contents of the package or the shielding material.

In the operating procedures in Chapter 1.7 of the application, as referenced by the CoC, the applicant references the report "Contamination and Dose Rate Measurement at the DN30

Package, Test Instruction No. 0023 PA-2015-017.” This report provides a description and the basis for the first two proposed changes.

Regarding proposed change 1., the applicant updated the test instruction and has identified DIN ISO 7503 Part 3 “Measurement of Radioactivity – Measurement and evaluation of surface contamination – Part 3: Apparatus Calibration” or an equivalent standard to qualify test radiation sources. The staff found this standard, based on NUREG 1507 Rev.1, acceptable for calibration and as such has reasonable assurance that calibration sources different from Am-124, Cs-137 or Sr/Y-90 will not adversely affect the radiation protection as it relates to the package.

Regarding proposed change 2., the applicant updated the test instruction with a reduced number of measurement points, based on the type of contents loaded.

For contents where there is data available on dose rates at various measurement points, the applicant reduced the number of measurement points.

For contents where there is no data available on the dose rates, the applicant did not change the number of measurement points.

For contents where there is limited data available, the applicant will measure at all locations at the beginning of transportation and reduce the number of measurement points if it is determined that shielding safety will be maintained.

The staff found this approach reasonable for determining the number of measurement points for the Type A(F) DN30 package and, therefore, acceptable.

The staff has therefore determined that the updated test instruction, with proposed changes 1 and 2, continues to demonstrate that a user of the package would meet the requirements of 10 CFR 71.0(d)(3) and 71.81, which requires any licensee transporting licensed material to comply with operating control requirements to measure radiation and contamination level, as stated in 10 CFR 71.87(i) and (j).

Regarding proposed change 3, the staff reviewed the revised Part List No. 0023-STL-1000-000, Rev. 7 and determined that shielding is effectively the same as the previously approved cask, and therefore the staff has reasonable assurance that, with the proposed change, the package will continue to meet the regulatory dose requirements in 10 CFR 71.47 and 10 CFR 71.51(2)(2).

Based on these determinations, the staff concludes that the applicant’s proposed changes will not impact the shielding capability of the package and therefore continues to meet dose and radiation protection requirements of 10 CFR Part 71.

## **CONDITIONS**

The following changes were made to the CoC:

Item No. 3(b) identifies the application as supplemented.

Condition No. 5(a)(3) has been modified to include the new revision of the Parts List 0023-STL-1000-000.

Condition No. 11 has been modified to extend the previous revision of the certificate for approximately one year.

The expiration date of the certificate was not modified.

The References section of the certificate was updated to reference the supplemental information provided for this amendment request.

## **CONCLUSION**

Based on the statements and representations in the application, the staff finds that these changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9362, Revision No. 3.