



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

December 21, 2021

Mr. Dominik Bussmann,
Licensing Manager
Gesellschaft für Nuklear-Service mbH
Frohnhauser Straße 67
45127 Essen Germany

**SUBJECT: APPLICATION FOR CERTIFICATE OF COMPLIANCE FOR THE MODEL NO.
CASTOR® GEO69 PACKAGE – ACCEPTED FOR REVIEW**

Dear Mr. Bussmann:

By letter dated January 14, 2021 (Agencywide Documents Access and Management System {ADAMS} Accession No. ML21033A353), as supplemented on July 2, 2021 (ADAMS Accession No. ML21196A374), and August 25, 2021 (ADAMS Package Accession No. ML21245A234), Gesellschaft für Nuklear-Service mbH (GNS) submitted an application for a certificate of compliance for the Model No. CASTOR® geo69 spent fuel transportation package. The U.S. Nuclear Regulatory Commission (NRC) performed an acceptance review of your application to determine whether the application contains sufficient technical information in scope and depth to allow the NRC to complete a detailed technical review.

This letter is to advise you that, based on our acceptance review of the application, as supplemented, it appears to contain sufficient technical information for the NRC to start its technical review. However, in connection with our technical review, the NRC needs the information identified in the enclosure to this letter. GNS' response to this request for additional information should be submitted in the form of revised safety analysis report pages and, if appropriate, calculation reports. Please provide your response within 2 months from the date of this letter. If you are unable to meet this deadline, please notify the NRC no later than 2 weeks prior to the due date of your proposed response date and the reasons for the delay. The NRC will then assess the impact of the new response date and notify you of a revised schedule.

The NRC has established a schedule for the review of GNS' application, which presumes that NRC receives a response to the enclosed request for additional information in a timely manner. The schedule allows for the NRC to complete its initial technical review and issue a request for additional information by the end of July 2022, and, if a second request for additional information is not needed, issuance of a certificate of compliance by mid-April 2023, based on GNS responding to the NRC's request for additional information by the end of October 2022. In general, no additional changes to the application should be submitted except for changes resulting from your response to requests for additional information. The staff estimates that completing the safety review of this application will require approximately 1875 staff hours.

D. Bussmann

Please reference Docket No. 71-9383 and Enterprise Project Identifier (EPID) No. L-2021-NEW-0002 in future correspondence related to this request. The staff is available to meet to discuss your proposed responses. If you have any questions, I may be contacted at +1 (301) 415-6577 or via email at Bernard.White@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Bernard H. White IV".

Signed by White, Bernard
on 12/21/21

Bernard H. White IV, Senior Project Manager
Storage and Transportation Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-9383
EPID No. L-2021-NEW-0002

Enclosure: RAI

SUBJECT: APPLICATION FOR CERTIFICATE OF COMPLIANCE FOR THE MODEL NO.
 CASTOR® GEO69 PACKAGE – ACCEPTED FOR REVIEW
DOCUMENT DATED: December 21, 2021

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Non-Proprietary Request for Supplemental Information
Model No. No. CASTOR® geo69
Docket No. 71-9383

By letter dated January 14, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21033A353), as supplemented on July 2, 2021 (ADAMS Accession No. ML21196A374), and August 25, 2021 (ADAMS Package Accession No. ML21245A234), Gesellschaft für Nuklear-Service mbH applied for a certificate of compliance for the Model No. CASTOR® geo69 spent fuel transportation package.

This early request for additional information identifies information needed by the U.S. Nuclear Regulatory Commission (NRC) staff in connection with its technical review of the application. The requested information is listed by chapter number and title in the applicant's safety analysis report. The NRC staff used NUREG-2216, "Standard Review Plan for Transportation Packages for Spent Fuel and Radioactive Material: Final Report," in its review of the application.

3.0 Thermal Evaluation

1. In lieu of a structural analysis of low burnup fuel assemblies, provide thermal analyses and results that demonstrate the effects of failed fuel assemblies and rods at the design decay heat value of 18.5 kilowatts.

Appendix 3.5 of the safety analysis report provides thermal results for the CASTOR® geo69 transportation package with failed fuel rods at a reduced decay heat after 20 years of dry storage; however, demonstration of system performance (e.g., package component temperatures and internal pressures) with failed fuel should be based on the transportation package's maximum requested decay heat. The information in NUREG/CR-7203, "A Quantitative Impact Assessment of Hypothetical Spent Fuel Reconfiguration in Spent Fuel Storage Casks and Transportation Packages," issued September 2015 may be useful.

This information is needed to demonstrate compliance with Title 10 of the *Code of Federal Regulations* (10 CFR) 71.35(a), 10 CFR 71.41(a), 10 CFR 71.43, 10 CFR 71.71, and 10 CFR 71.73.

2. Provide the calculations and results demonstrating how the effective axial and radial properties of thermal conductivity, density, and heat capacity were determined.

Although Section 3.3.1.4 of the safety analysis report provided some discussion about the homogenized fuel assembly zones, a more detailed review of the calculations for determining the effective axial and radial properties of thermal conductivity, density, and heat capacity is needed because effective thermal properties can have a large impact on temperatures for those package components needed to meet the regulations in 10 CFR Part 71.

This information is needed to determine compliance with 10 CFR 71.31(a), 71.35(a), and 71.41(a), 10 CFR 71.43, 10 CFR 71.71, and 10 CFR 71.73.

Letter issuing RSI for CASTOR geo69 and non-proprietary enclosure for CASTOR geo69 DATE December 21, 2021

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