



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

May 7, 2024

Heath Baldner, Director,
Licensing Engineering
NAC International, Inc.
2 Sun Court, Suite 220
Peachtree Corners, GA 30092

SUBJECT: APPLICATION FOR AMENDMENT NO. 14 TO THE MODEL NO.
MAGNASTOR® STORAGE CASK – REQUEST FOR ADDITIONAL
INFORMATION

Dear Heath Baldner:

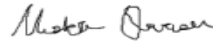
By letter dated July 24, 2023 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML23208A062), you submitted an application for Amendment No. 14 and Revisions to Amendment Nos. 0 through 12 of the Certificate of Compliance (CoC) No. 1031 for the NAC MAGNASTOR® System.

The enclosed request for additional information identifies information needed by the U.S. Nuclear Regulatory Commission (NRC) staff in connection with its review of these applications. Each question describes information needed by the staff for it to complete its review of the application and to determine whether the applicant has demonstrated compliance with regulatory requirements.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 2, "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room (PDR) or from the Publicly Available Records component of the NRC's ADAMS. ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html>. The PDR is open by appointment. To make an appointment to visit the PDR, please send an email to PDR.Resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time (ET), Monday through Friday, except Federal holidays.

In order to complete our technical review on schedule, your response should be provided within 60 days from the date of this letter. If you have any questions regarding this matter, I may be contacted at (301) 415-5196.

Sincerely,



Signed by Devaser, Nishka
on 05/07/24

Nishka Devaser, Project Manager
Storage and Transportation Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-1031
EPID L-2023-LLA-0105
and L-2024-LLA-0158

Enclosure:
Request for Additional Information

SUBJECT: APPLICATION FOR AMENDMENT NO. 14 TO THE MODEL NO. MAGNASTOR® STORAGE CASK – REQUEST FOR ADDITIONAL INFORMATION

DOCUMENT DATE: May 7, 2024

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ADAMS Accession No : ML24120A036

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

Request for Additional Information
Docket No. 72-1031
Certificate of Compliance No. 1031
Model No. MAGNASTOR® Storage System
Amendment No. 14

By letter dated July 24, 2023 (Agencywide Documents Access and Management System Accession No. ML23208A062), you submitted an application for Amendment No. 14 and Revisions to Amendment Nos. 0 through 12 of the Certificate of Compliance (CoC) No. 1031 for the NAC MAGNASTOR® System. You requested to (1) assess changes to the CoC and technical specifications resulting from the error corrected in the non-mechanistic tip-over accident condition, (2) revise technical specification definitions to provide clarification regarding the applicability of the pressurized-water reactor grid damage allowance to be consistent with fuel rod evaluations, and (3) revise limiting condition for operation 3.1.2 to provide system users clarification on inlet and outlet vent blockage and surveillance requirements.

The questions below describe information needed by the staff for it to complete its review of the application and to determine whether the applicant has demonstrated compliance with regulatory requirements.

Chapter 3: Structural Evaluation

RAI 3-1. Using dimensional and mass information about each cask model and the associated fuel assemblies included in the CoC, show that the G-values used in the ANSYS tip over analysis is bounding for all the configurations of the dry cask storage systems.

The non-mechanistic tip over analysis conserves the potential energy generated by the change in the position of the center of gravity of the cask into rotational kinetic energy during a tip over. The kinetic energy represented by an acceleration time-history (ATH) is converted to a response spectrum for a static analysis in ANSYS. A static load on the fuel rod is then defined using a dynamic load factor (DLF), which represents the dynamic response characteristics of the fuel rod. This static load results in the computed stresses in the rod.

This information is required under 10 CFR Part 72, for use in the evaluation of the fuel rods integrity during a non-mechanistic tip over scenario.

RAI 3-2. Explain if the assumptions made in Calc. No.: 71160-2049 Rev. 1, Section 5.0 "Assumptions" (referenced in the safety analysis report are new assumptions or if they are the same as in the original calculation, where the incorrect diameter was used. If different, how do these identified assumptions effect the presented stress results.

The assumptions in the design are a part of the analysis input as much as the other physical design inputs. The staff wants to understand the impact of the assumptions on the results.

Since the initial analysis underestimated the stress in the rod the staff wants to be assured that the revised stress results are a result of the change in the design input or a combination of the design assumptions and design input.

This information is required under 10 CFR Part 72, for use in the evaluation of the fuel rods integrity during a non-mechanistic tip over scenario.