



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

June 15, 2016

Mr. Wren Fowler
Director, Licensing
NAC International
3930 East Jones Bridge Road,
Suite 200
Norcross, GA 30092

SUBJECT: AMENDMENT REQUEST NO. 7 TO CERTIFICATE OF COMPLIANCE NO.
1031 – REQUEST FOR ADDITIONAL INFORMATION NO. 2 (CAC No. L25045)

Dear Mr. Fowler:

By application dated August 7, 2015, as supplemented April 15, 2016, NAC International (NAC) submitted an amendment request to the U.S. Nuclear Regulatory Commission (NRC) to revise Certificate of Compliance (CoC) No. 1031 for the MAGNASTOR® Storage System.

The NRC staff has reviewed your application and has determined that a request for additional information (RAI) is required to complete its detailed technical review. The RAI is provided in the enclosure to this letter. We request that you provide the information by July 10, 2016. Please inform us in writing at your earliest convenience, but no later than June 24, 2016, if you are not able to provide the information by the requested date. You should also include a new proposed submittal date and the reasons for the delay to assist us in re-scheduling your review.

Please reference Docket No. 72-1031 and TAC No. L25045 in any future correspondence related to this certification action. If you have any questions regarding this matter, please contact me at (301) 415-6933.

Sincerely,

/RA/

John M. Goshen, P.E., Project Manager
Spent Fuel Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-1031

CAC No. L25045

Enclosure: As stated

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Director, Licensing
NAC International
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DATE	6/3/2016	6/ 3 /2016	6/15/2016	6/15/2016		

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**REQUEST FOR ADDITIONAL INFORMATION
NAC INTERNATIONAL
DOCKET NO. 72-1031
AMENDMENT NO. 7
MAGNASTOR® STORAGE SYSTEM**

By application dated August 7, 2015, NAC International submitted an amendment request to the U.S. Nuclear Regulatory Commission (NRC) to revise Certificate of Compliance (CoC) No. 1031 for the MAGNASTOR® Storage System. The NRC staff reviewed the application in accordance with NUREG-1536, Revision, "Standard Review Plan for Spent Fuel Dry Storage Systems at a General License Facility." The NRC staff (staff) has reviewed your application and has determined that a request for additional information (RAI) is required to complete its detailed technical review. The RAI is provided below.

REQUEST FOR ADDITIONAL INFORMATION

Chapter 4 Thermal Evaluation

RAI 4.1 Perform a targeted sensitivity analysis for the helium backfill phase and transfer phase.

The comparison tables of key parameters provided in RAI1 responses 4.1 and 4.2 showed the following with respect to fluid flow:

- A. Vacuum Phase (2-D Axisymmetric FLUENT to determine Canister shell temperature profile, Steady State Analysis)
 - 1. Fluid Flow Model in Annulus: Laminar flow; Standard k-omega turbulence model (shear flow corrections).
 - 2. Mesh for water in the annulus: Mesh for laminar flow; Finer mesh for the turbulence flow.

- B. Model Comparison for Helium Backfill Phase (24-hr Cooling, Transient Analysis)
 - 1. Turbulence model in the annulus water: Laminar flow (MTC); Standard k-omega turbulence model (PMTC) (shear flow corrections).
 - 2. Mesh for water in the annulus: Mesh for laminar flow (MTC); Finer mesh for the turbulence flow (PMTC).

- C. Model Comparison for Transfer Phase (Air in Annulus, Transient and Steady State Analysis)
 - 1. Turbulence model in the annulus air: Laminar flow (MTC), Standard k-omega turbulence model (PMTC) (transitional flows and shear flow corrections).
 - 2. Mesh for air in the annulus: Mesh for laminar flow (MTC); Finer mesh for the turbulence flow (PMTC).

The staff requests that a targeted sensitivity analysis be performed for the PMTC which illustrates the effect on the fuel and the basket of replacing the turbulent flow model with a laminar flow model for the annulus water in Case B and the annulus air in Case C.

This information is necessary to determine compliance with 72.236 (I).

ENCLOSURE