



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

PRELIMINARY SAFETY EVALUATION REPORT

DOCKET No. 72-1031  
NAC International  
MAGNASTOR Cask System  
Certificate of Compliance No. 1031  
Amendment No. 6

**1 SUMMARY AND DESCRIPTION**

By letter dated December 11, 2015 (ADAMS Accession No. ML15349A941), NAC International (NAC) submitted an application in accordance with Title 10 of the *Code of Federal Regulations* Part 72 for an amendment to Certificate of Compliance (CoC) No. 1031 for the MAGNASTOR® Cask System. The amendment request seeks to revise the technical specifications (TS) to align the TS with the NAC-MPC and NAC-UMS TS. Specifically, the CoC No. 1031 TS require that a program be established and maintained for loading, unloading, and preparing fuel for storage without any indication of duration for the program. NAC is requesting that the requirement to maintain this program be limited until all spent fuel is removed from the spent fuel pool and transport operations are completed, and that related training and radiation protection program requirements be modified accordingly.

The specific TS changes required to support the request are:

- A. 5.2 TSC [Transportable Storage Canister] Loading, Unloading, and Preparation Program – Revise to add “The program requirements for UNLOADING OPERATIONS shall be maintained until all spent fuel is removed from the spent fuel pool and TRANSPORT OPERATIONS have been completed on the last CONCRETE CASK”.
- B. 5.5.1 Radiation Protection Program – Clarify by adding “as applicable.”
- C. 5.7 Training Program – Clarify by adding “as applicable to the status of ISFSI operations.”

The applicant’s letter dated December 11, 2015, also included a request to the NRC to incorporate in Amendment No. 6 the change to Limiting Condition for Operation (LCO) 3.1.1 previously approved by the NRC in Amendment No. 4.

Amendment requests Nos. 4 and 5 were submitted to the NRC for evaluation at approximately the same time and made changes to Amendment No. 3. Due to this, the Amendment No. 4 request that changed LCO 3.1.1 was not included in Amendment No. 5. CoC No. 1031, Amendment No. 4 was approved April 14, 2015 (ADAMS Accession No. ML15107A467), and CoC No. 1031, Amendment No. 5 was approved on June 29, 2015 (ADAMS Accession No. ML15180A364). In electronic correspondence dated May 13 and 15, 2015 (ADAMS Accession No. ML16138A373), the applicant clarified that it is requesting to add the previously approved LCO 3.1.1 change from Amendment 4 to Amendment 6.

This safety evaluation report (SER) documents the review and evaluation of the proposed amendment. The staff followed the guidance of NUREG-1536, Rev. 1, "Standard Review Plan for Dry Cask Storage Systems."

The staff's assessment is based on a review of NAC's application and whether it meets the applicable requirements in 10 CFR part 72. The staff's assessment focused only on modifications requested in the amendment and did not reassess previously approved portions of the FSAR. The staff determined that the thermal review previously performed for Amendment No. 4 SER (ADAMS Accession No. ML15107A472) is not affected by this amendment. The NRC staff also determined that areas of the Amendment No. 5 SER (ADAMS Accession No. ML15180A381) that are not affected by this amendment include: general description, principal design criteria, structural, confinement, thermal, shielding, criticality, materials, operating procedures, acceptance test and maintenance, radiation protection, accident analyses, and quality assurance. Thus, the staff's evaluation below focuses on the requested Amendment 6 TS modifications.

### **13 TECHNICAL SPECIFICATIONS AND OPERATING CONTROLS AND LIMITS EVALUATION**

#### **13.1 Objective**

The review of the TS, and its operating controls and limits, ensures that the operating controls and limits of the TS, including their bases and justification, meet the requirements of 10 CFR Part 72. The applicant requested the following TS changes:

- A. 5.2 TSC [Transportable Storage Canister] Loading, Unloading, and Preparation Program – Revise to add "The program requirements for UNLOADING OPERATIONS shall be maintained until all spent fuel is removed from the spent fuel pool and TRANSPORT OPERATIONS have been completed on the last CONCRETE CASK."
- B. 5.5.1 Radiation Protection Program – Clarify by adding "as applicable."
- C. 5.7 Training Program – Clarify by adding "as applicable to the status of ISFSI operations."

According to the applicant, CoC No. 1031 TS 5.2, 5.5.1, and 5.7 imply that a spent fuel pool be maintained indefinitely. The applicant also stated that this would require cask users to maintain the spent fuel pool, including other equipment relied on for wet unloading operations, indefinitely. The applicant noted that in its experience, the intent of implementing dry cask storage was to be able to decommission as much of the existing 10 CFR part 50 structures as possible, including the spent fuel pool. Accordingly, the applicant seeks to amend its TS to clarify that programs related to spent fuel loading, unloading, and preparation need only be maintained until all spent fuel is removed from the spent fuel pool and transport operations have been completed on all casks.

The staff reviewed the requested 5.5, 5.5.1, and 5.7 TS changes and determined that with these changes, the CoC 1031 system will continue to provide safe storage of fuel because the proposed revisions would clarify the applicability of the TS requirements depending on the status of operations. For example, if transport operations on all casks are complete, fuel is no longer being stored in the spent fuel pool and thus there is no longer a need for spent fuel pool operational programs. The revised TS would not require a user to maintain spent fuel pool

related programs when a spent fuel pool no longer exists. Alternatively, if transport operations have not yet been completed, the TS would still require a user to maintain spent fuel pool related programs. Therefore, the staff concludes that these proposed changes will not impact safe dry cask storage under 10 CFR part 72 because the amended TS would require spent fuel pool related programs be maintained in appropriate situations.

The applicant is also requesting that the reviewed and approved changes to LCO 3.1.1 from Amendment 4 be included in Amendment 6. The applicant stated that this change was not incorporated into Amendment 5 due to administrative reasons. The NRC staff reviewed this request and determined that the proposed LCO 3.1.1 changes were previously reviewed and approved by NRC in Amendment No. 4 (ADAMS Accession No. ML15107A467). The SER supporting Amendment No. 4 included a thermal evaluation of this change (ADAMS Accession No. ML15107A472). As noted above in Section 1, proposed Amendment 6 does not affect the thermal evaluation in Amendment 4. Accordingly, the staff finds the proposed LCO 3.1.1 change acceptable because it was previously reviewed and approved and that previous staff analysis remains valid.

### **13.2 Evaluation Findings**

F13.1 The staff concludes that the conditions for use of the MAGNASTOR Cask System identify necessary TS to satisfy 10 CFR Part 72 and that the applicable acceptance criteria have been satisfied. The TS provide reasonable assurance that the system will continue to provide for safe storage of spent fuel.

## **14 CONCLUSION**

Based on its review of CoC No. 1031, Amendment No. 6, the staff has determined that there is reasonable assurance that: (i) the activities authorized by the revised certificate can be conducted without endangering the health and safety of the public and (ii) these activities will be conducted in compliance with the applicable regulations of 10 CFR Part 72. Therefore, the amendment should be approved.

Dated: June 21, 2016