

September 18, 2018

U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852-2738

Attn: Document Control Desk

Subject: Submission of a Request to Amend the U.S. Nuclear Regulatory Commission
Certificate of Compliance No. 1015 for the NAC-UMS[®] Cask System

Docket No. 72-1015

- References:
1. U.S. Nuclear Regulatory Commission (NRC) Certificate of Compliance (CoC) No. 1015 for the NAC International Universal Storage System (UMS) Cask System, Amendment No. 5, January 12, 2009
 2. NAC-UMS Cask System Final Safety Analysis Report (FSAR), Revision 11, NAC International, November 2016

NAC International (NAC) hereby submits a request to revise Reference 2. The following summarizes the requested:

1. Reference 2, Page 12C3-31,
 - a. Clarify the Technical Specifications surveillance requirements bases to state that "A minimum of two outlet air temperatures must be measured to provide an average outlet temperature to comply with Technical Specification surveillance requirement 3.1.6.1."

Consistent with NAC administrative practice, this proposed FSAR revision is numbered to uniquely identify the applicable changed pages. Revision bars mark the FSAR text changes on the Revision 18A pages. The included List of Effective Pages identifies the revision level of all pages in the Reference 2 FSAR with Revision 18A pages.

In order to better facilitate the review process, NAC is providing the Revision 18A change pages with appropriate backing pages. In accordance with NAC's administrative practices, upon final acceptance of this application, the 18A changed pages will be reformatted and incorporated into the next revision of the NAC-UMS FSAR. This submittal package only includes a non-proprietary version.

U.S. Nuclear Regulatory Commission
September 18, 2018

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If you have any comments or questions, please contact me on my direct line at 678-328-1236.

Sincerely,



Wren Fowler
Director, Licensing
Engineering

Enclosures:

- Enclosure 1 – List of FSAR Changes for the NAC-UMS FSAR, Amendment 7
- Enclosure 2 – FSAR Changed Pages and LOEP for NAC-UMS FSAR, Amendment 7

September 2018

Revision 18A

NAC-UMS

Universal MPC System

SAFETY ANALYSIS REPORT

TS Bases Clarification
Amendment 7 Initial Application

Docket No. 72-1015



Enclosure 1

List of Changes

for the

**NAC-UMS FSAR
Amendment 7
Revision 18A
(Docket No 72-1015)**

NAC International

September 2018

List of Changes for the NAC-UMS FSAR, Amendment 7, Revision 18A

Chapter/Page/ Figure/Table	Description of Change
Note: The List of Effective Pages and the Chapter Table of Contents, List of Figures and List of Tables have been revised accordingly to reflect the list of changes detailed below.	
Chapters 1 thru 11 – no changes	
Chapter 12	
Page 12C3-31	Added last sentence to the first paragraph of Surveillance Requirement SR 3.1.6.1.
Chapter 13 – no changes	

Enclosure 2

**FSAR Changed Pages
NAC-UMS
Amendment 7
(Docket No 72-1015)**

NAC International

September 2018

September 2018

Revision 18A

NAC-UMS

Universal MPC System

FINAL SAFETY ANALYSIS REPORT

for the UMS Universal Storage System

Docket No. 72-1015



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CONCRETE CASK Heat Removal System
C 3.1.6

SURVEILLANCE
REQUIREMENTS

SR 3.1.6.1

The long-term integrity of the stored fuel is dependent on the ability of the CONCRETE CASK to reject heat from the CANISTER to the environment. Visual observation that all four air inlet and outlet screens are unobstructed and intact ensures that air flow past the CANISTER is occurring and heat transfer is taking place. However, partial blockage of less than two air inlet or outlet screens or the equivalent effective screen area does not result in the heat removal system being unable to provide adequate heat removal. Corrective actions should be taken promptly to remove the obstruction and restore full flow through the affected air inlet and outlet screens. Alternatively, based on the analyses, if the air temperature rise is less than the limits stated in the SR, adequate air flow and, therefore, adequate heat transfer is occurring to provide assurance of long-term fuel cladding integrity. The reference ambient temperature used to perform this Surveillance shall be measured at the ISFSI facility. A minimum of two outlet air temperatures must be measured to provide an average outlet temperature to comply with Technical Specification SURVEILLANCE REQUIREMENT 3.1.6.1.

The Frequency of 24 hours is reasonable based on the time necessary for CONCRETE CASK and CANISTER components to heat up to unacceptable temperatures assuming design basis heat loads, and allowing for corrective actions to take place upon discovery of the blockage of the air inlet and outlet screens.

SR 3.1.6.2

The initial confirmation of the OPERABILITY of the CONCRETE CASK is established based on air temperature measurements at the CONCRETE CASK outlets and the ISFSI ambient, and verification that the air temperature rise is less than the limits stated in the SR. Following the initial confirmation, the continued OPERABILITY of the CONCRETE CASK shall be confirmed by one of the verification methods specified in SR 3.1.6.1.

The specified Frequency of once between 5 and 30 days after beginning STORAGE OPERATIONS is reasonable and ensures that the CONCRETE CASK has reached thermal equilibrium and, therefore, the outlet air temperature measurements will reflect expected temperatures under normal operations. Completion of the measurements within 30 days of placement of the CONCRETE CASK into STORAGE OPERATIONS ensures that corrective actions can be taken to establish the OPERABLE status of the CONCRETE CASK within a reasonable period of time.

REFERENCES

1. FSAR Chapter 4 and Chapter 11, Section 11.1.2 and Section 11.2.13.

CANISTER Surface Contamination
C 3.2.1

C 3.2 NAC-UMS® SYSTEM Radiation Protection

C 3.2.1 CANISTER Surface Contamination

BASES

BACKGROUND

A TRANSFER CASK containing an empty CANISTER is immersed in the spent fuel pool in order to load the spent fuel assemblies. The external surfaces of the CANISTER are maintained clean by the application of clean water to the annulus of the TRANSFER CASK. However, there is potential for the surface of the CANISTER to become contaminated with the radioactive material in the spent fuel pool water. Contamination exceeding LCO limits is removed prior to moving the CONCRETE CASK containing the CANISTER to the ISFSI in order to minimize the radioactive contamination to personnel or the environment. This allows the ISFSI to be entered without additional radiological controls to prevent the spread of contamination and reduces personnel dose due to the spread of loose contamination or airborne contamination. This is consistent with ALARA practices.

APPLICABLE
SAFETY ANALYSIS

The radiation protection measures implemented at the ISFSI are based on the assumption that the exterior surfaces of the CANISTER are not significantly contaminated. Failure to decontaminate the surfaces of the CANISTER to below the LCO limits could lead to higher-than-projected occupational dose and potential site contamination.

LCO

Removable surface contamination on the exterior surfaces of the CANISTER is limited to 10,000 dpm/100 cm² from beta and gamma sources and 100 dpm/100 cm² from alpha sources. Only loose contamination is controlled, as fixed contamination will not result from the CANISTER loading process. Experience has shown that these limits are low enough to prevent the spread of contamination to clean areas and are significantly less than the levels that could cause significant personnel skin dose.

(continued)