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July 22, 2022

U.S. Nuclear Regulatory Commission
11555 Rockville Pike
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Attn: Document Control Desk

Subject: Supplement to the Submission of Responses to the Nuclear Regulatory Commission's (NRC) Request for Additional Information for the Request to Renew the NRC Certificate of Compliance No. 1025 for the NAC-MPC Cask System

Docket No. 72-1025

CAC/EPID Nos. 001028/L-2020-RNW-0031

- References:**
1. ED20190141, Submission of a Request to Renew the U.S. Nuclear Regulatory Commission Certificate of Compliance No. 1025 for the NAC-MPC Cask System, December 18, 2019
 2. Request for Additional Information for the Technical Review of the Application for Renewal of the Certificate of Compliance No. 1025 (CAC/EPID NOS. 001028/L-2019-RNW-0029), March 23, 2021
 3. Submission of Responses to the Nuclear Regulatory Commission's (NRC) Request for Additional Information for the Request to Renew the NRC Certificate of Compliance No. 1025 for the NAC-MPC Cask System, August 10, 2021
 4. Request for Additional Information for the Technical Review of the Application for Renewal of the Certificate of Compliance No. 1015 (CAC/EPID Nos. 001028/L-2020-RNW-0031), December 21, 2021
 5. ED20220034, Submission of Responses to the Nuclear Regulatory Commission's (NRC) Request for Additional Information for the Request to Renew the NRC Certificate of Compliance No. 1025 for the NAC-MPC Cask System, March 18, 2022

NAC International Inc. (NAC) herein submits a supplement to the NRC Request for Additional Information (RAI) issued on December 21, 2021 (Reference 4). This supplement includes minor changes to the renewal application (Reference 1), and changes to Appendices D and F of the Renewal Application. NAC is only submitting those portions of the application with changes.

The changes to the renewal application are being made to Section 1.1.2 to identify that Yankee Atomic Electric Company's Yankee Rowe nuclear plant and CY-MPC for the Connecticut Yankee Haddam Neck nuclear plant have adopted the latest NAC-MPC CoC Amendment and the latest revision of the Final Safety Analysis Report (FSAR). This change only affects two pages and is being supplied on a changed page basis instead of an entire resubmittal of the renewal application, as was done previously.



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Appendix C of the Renewal application, which contains FSAR changes, is being updated to include provisions for general licensees which addresses NRC's Enforcement Guidance Memo (EGM) 22-001 issued on April 15, 2022 for the potential scenario of adverse weather events during ISFSI handling operations conducted outside. Administrative controls were added to FSAR Chapter 8, which include actions that may be used prior to and during ISFSI handling operations conducted outside. This will place important to safety structures, systems, and components in an analyzed condition should there be a severe weather hazard (e.g., weather advisory, warning, or watch) predicted or issued for the area. Only the new changes to Chapter 8 are being submitted no other FSAR pages or chapters are being resubmitted.

Appendix D which contains our proposed Certificate of Compliance and Technical Specification Changes, has been revised to clarify the timeframe allowed for general licensees to establish and implement aging management programs.

Additionally, NAC has prepared a supplement to Appendix F, the NAC-MPC Design Basis Documents Review to include design basis documents generated to support the first inspection of an NAC-MPC system at the Yankee Rowe ISFSI. The NAC-MPC design basis documents reviewed as part of the NAC-MPC CoC renewal application includes design drawings, specifications, calculations, non-conforming condition reports, 10 CFR 72.48 evaluations, and FSARs. The documents were evaluated using the criteria established in NUREG-1927 to identify if any Time Limited Aging Analyses (TLAAs) were generated. The supplement provided in Enclosure 7 only includes the newly reviewed design basis documents. None of the documents reviewed met all six NUREG-1927 TLAA criteria. Therefore, NAC's review of these design documents re-confirmed there had been no TLAAs in the original design.

In accordance with NAC's administrative practices, upon final acceptance of this application, the 19A, 21A, 22A and 22B FSAR changed pages will be reformatted and incorporated into the next revision of the NAC-MPC FSAR.

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

Sincerely,

Wren Fowler Digitally signed by Wren Fowler
Date: 2022.07.22 13:03:35 -04'00'

Wren Fowler
Director, Licensing
Engineering

Enclosures:

Note, enclosure numbers are out of sequence in order to match the original renewal submittal (i.e., Reference 1)

1. Application for Renewal of the NAC-MPC System CoC – Supplement 01
4. Appendix C – Final Safety Analysis Report Changed Pages and LOEP for NAC-MPC FSAR 22B
5. Appendix D – Proposed Certificate of Compliance and Technical Specification Changes
7. Appendix F – NAC-MPC Design Basis Document Review

Enclosure 1

APPLICATION FOR RENEWAL OF THE NAC-MPC SYSTEM CoC

ENCLOSURE 1

APPLICATION FOR RENEWAL OF THE NAC-MPC SYSTEM CoC

On April 18, 2022 Yankee Atomic Electric Company, has reconciled YR-MPC TSC and VCC Units 1-15 and Damaged Fuel Cans 1-11 to NRC CoC No. 1025, Amendment 8, and Final Safety Analysis Report (FSAR) Revision 12. This reconciliation is documented in revision 16 of the YNPS ISFSI 10 CFR 72.212 Evaluation.

Table 1.1-1 YR-MPC Components CoC Compliance Matrix

YR-MPC System Number	Registered Amendment Usage by the Licensee per 10 CFR 72.212(b)(2)			
	TSC Fabrication	VCC Fabrication	DFC Fabrication	System Loading
1-15	Amendment 8	Amendment 8		Amendment 8
DFC 1-11			Amendment 8	

YR-MPC System Number	NAC-MPC CoC Original As-Fabricated Amendment			
	TSC	VCC	DFC Fabrication	System Loading
TSC 1-5	Amendment 1	Amendment 0		
TSC 6	Amendment 2	Amendment 0		Amendment 2
TSC 7-9	Amendment 1	Amendment 0		Amendment 2
TSC 10-12	Amendment 2	Amendment 0		Amendment 2
TSC 13-14	Amendment 2, with two Exemptions	Amendment 0		Amendment 2
TSC 15	Amendment 1	Amendment 0		Amendment 2
DFC 1-11			Amendment 2	Amendment 2

CY-MPC Loading Operations

NAC-MPC System loading operations began at Connecticut Yankee's Haddam Neck Nuclear Station with the first system placed into service on May 21, 2004 and the final system placed into service on March 26, 2005. A total of forty (40) CY-MPC units were loaded using two Transfer Casks. The spent fuel assemblies at CY had both zirconium alloy and stainless-steel cladding. The lowest decay heat load was fuel loading operation number's 31 and 32 at 6.13 kW on February 6 and 9, 2005, and the highest was fuel loading operation number 12 at 12.28 kW on August 18, 2004. The maximum fuel burnup loaded for the CY 15x15 W PWR SFA (W47) was 42,955 MWd/MTU in loading sequence number 18 (TSC No. 12) on October 5, 2004. All damaged fuel assemblies and fuel debris were pre-loaded into Damaged Fuel Cans (DFCs) prior to loading into the TSC. A total of seventy-one (71) damaged fuel assemblies were loaded in DFCs in nineteen (19) of the 40 CY-MPC TSCs loaded.

The Connecticut Yankee NAC-MPC Systems were initially fabricated and constructed under the NRC CoC No. 1025 amendments as indicated in the second section of Table 1.1-2 below. NAC International subsequently performed an NRC CoC No. 1025 reconciliation in NAC Calculation

ENCLOSURE 1

APPLICATION FOR RENEWAL OF THE NAC-MPC SYSTEM CoC

No. 12414-9000, Connecticut Yankee Atomic Power Company ISFSI Spent Fuel Storage Project, “NAC-MPC Certificate of Compliance Amendment Reconciliation of Fabrication & Construction of CY-MPC Transportable Storage Canisters, Vertical Concrete Casks, and Transfer Systems, Operational Procedures, and Fuel Contents” [1.3.5]. Revision 0 was issued on January 15, 2010 reconciling CY-MPC TSC and VCC Units 1-40, Damaged Fuel Cans 1-72 and Transfer Casks 1 and 2 to NRC CoC No. 1025, Amendment 5 and NAC-MPC Final Safety Analysis Report (FSAR), Revision 7.

As a result of the reconciliation calculation NAC issued NAC International Supplemental Certificate of Conformance CY-COC-TSC-VCC-DFC-TFR for Connecticut Yankee Atomic Electric Company, January 22, 2010 [1.3.6]. All CY-MPC TSCs, VCCs, TFRs and DFCs were certified to be in full compliance with CoC No. 1025, Revision 5, and NAC-MPC FSAR, Revision 7.

On November 18, 2021 Connecticut Yankee Atomic Power Company, has reconciled All CY-MPC TSCs, VCCs, TFRs and DFCs to be in full compliance to NRC CoC No. 1025, Amendment 8, and Final Safety Analysis Report (FSAR) Revision 12. This reconciliation is documented in revision 15 of the CY-MPC, 10 CFR 72.212 Evaluation as indicated in the first section of Table 1.1-2.

Table 1.1-2 CY-MPC Components CoC Compliance Matrix

CY-MPC System Number	Registered Amendment Usage by the Licensee per 10 CFR 72.212(b)(2)				
	TSC Fabrication	VCC Fabrication	Transfer Cask	DFC Fabrication	System Loading
CY-MPC 1-40	Amendment 8	Amendment 8			Amendment 8
DFC 1-72				Amendment 8	Amendment 8
CY-MPC Transfer Cask 1 & 2			Amendment 8		Amendment 8

CY-MPC System Number	NAC-MPC CoC Original As-Fabricated Amendment				
	TSC	VCC	Transfer Cask	DFC Fabrication	System Loading
TSC 1-40	Amendment 2	Amendment 2			Amendment 3
DFC 1-11, 13-33, 36-39, and 41-42				Amendment 2	Amendment 3
DFCs 12, 34, 35, 40, and 43-72				Amendment 3	Amendment 3
CY-MPC Transfer Cask 1			Amendment 2		Amendment 3
CY-MPC Transfer Cask 2			Amendment 3		Amendment 3

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ENCLOSURE 4
APPLICATION FOR RENEWAL OF THE NAC-MPC SYSTEM CoC

Appendix C

Final Safety Analysis Report Changed Pages and LOEP for,
NAC-MPC FSAR, 22B

ENCLOSURE 4
APPLICATION FOR RENEWAL OF THE NAC-MPC SYSTEM CoC

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Appendix C - Updated Safety Analysis Report Supplement and Changes

C1.0 INTRODUCTION

This appendix provides a supplement and identifies pertinent changes to the NAC-MPC Updated Final Safety Analysis Report (UFSAR). Section C2.0 of this appendix contains proposed changes to the existing UFSAR. Section C3.0 of this appendix contains a proposed new Chapter 14 to the UFSAR entitled “Aging Management Program”. The new Chapter 14, Aging Management Programs, provides a summarized description of the activities for managing the effects of aging of NAC-MPC ITS systems, structures, and components. This proposed new UFSAR Chapter will also present the results of the evaluations of time-limited aging analyses (TLAAs) for the renewed license period. Chapter 14 is newly added as a result of the CoC Renewal and does not contain revision bars throughout the chapter. The headers do however indicate Revision 19A and the submittal month and year.

ENCLOSURE 4

APPLICATION FOR RENEWAL OF THE NAC-MPC SYSTEM CoC

C2.0 CHANGES TO EXISTING UFSAR INFORMATION

List of Changes for the NAC-MPC FSAR, Revision 22B

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. Editorial changes made throughout the document have not been tracked.		
<u>Chapter 1 – no changes</u>		
<u>Chapter 2 – no changes</u>		
<u>Chapter 3 – no changes</u>		
<u>Chapter 4 – no changes</u>		
<u>Chapter 5 – no changes</u>		
<u>Chapter 6 – no changes</u>		
<u>Chapter 7 – no changes</u>		
<u>Chapter 8</u>		
Page 8-2		Revised where indicated to add adverse weather administrative controls
Page 8.A-2		Revised where indicated to add adverse weather administrative controls
<u>Chapter 9 – no changes</u>		
<u>Chapter 10 – no changes</u>		
<u>Chapter 11 – no changes</u>		
<u>Chapter 12 – no changes</u>		
<u>Chapter 13 – no changes</u>		
<u>Chapter 14 – no changes</u>		

ENCLOSURE 4

Appendix C - Updated Safety Analysis Report Supplement and Changes

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8.0 OPERATING PROCEDURES

This chapter provides general guidance for using the NAC-MPC spent fuel storage system configured for the Yankee-MPC and the CY-MPC for storage operations. MPC-LACBWR operations are addressed in Appendix 8.A. Three operating conditions are addressed. The first is loading the transportable storage canister (canister), installing it in the vertical concrete cask (concrete cask), and transferring it to the storage (ISFSI) pad. The second is the removal of the loaded canister from the concrete cask. The third is opening the canister to remove spent fuel in the unlikely event that this should be necessary. The procedures provided describe acceptable methods of performing the NAC-MPC system loading, unloading and recovery operations. Users may alter these procedures to allow alternate methods and operations to be performed in parallel or out of the given sequence as long as the general intent of the procedure is met. The procedures provided in Sections 8.1, 8.2 and 8.3 can also be appropriately revised to allow dry loading and unloading of the NAC-MPC system.

The operating procedure for transferring a loaded canister from a concrete cask to the NAC Storage Transport Cask (NAC-STC) is described in Section 7.2.2 of the NAC-STC Final Safety Analysis Report, Docket 71-9235.

In accordance with the Standard Review Plan (NUREG-1536), the operating sequences described in this chapter are intended to provide an effective basis for the development of the more detailed operating and test procedures required by the NAC-MPC system user. The user will use procedures provided by NAC as guidance when preparing and implementing detailed site procedures. The procedures in this chapter show the sequence in which limiting conditions established by the LCOs and Certificate of Compliance should be met, but mechanical operations may be performed in an appropriate sequence. Further, site procedures are expected to include the additional detailed activities that are required to perform the operation sequences.

Operation of the NAC-MPC system requires the use of ancillary equipment items. The ancillary equipment supplied with the system is shown in Table 8.1-1. The system does not rely on the use of bolted closures, but bolts are used to secure retaining rings and lids. The hoist rings used for lifting the shield lid and the canister, have threaded fittings. Table 8.1-2 provides the torque values for installed bolts and hoist rings. In addition, supplemental shielding may be employed to reduce radiation exposure for certain tasks specified by these procedures. The use of supplemental shielding is at the discretion of the User.

The design of the NAC-MPC is such that the potential for spread of contamination during handling and future transport of the canister is minimized. The concrete cask is constructed of new materials. The canister is loaded in the spent fuel pool, but is protected from gross contact with pool water by a jacket of clean water while it is in the transfer cask. Clean water is processed or filtered pool water, or any water external to the spent fuel pool that has water chemistry that is compatible with use in the pool. Only the top of the open canister is exposed to contaminated pool water. The top of the canister is closed by the structural lid, which is not contaminated when it is installed. Consequently, the canister external surface is expected to be essentially clean.

When the NAC-MPC system is used in accordance with these procedures, the user dose is As Low As Reasonably Achievable (ALARA).

A training program is described in Section A5.0 of Appendix A of the Certificate of Compliance that is intended to assist the User in complying with the training and dry run requirements of 10 CFR 72. This program addresses the NAC-MPC storage system operational features and requirements.

At the option of the NAC-MPC user and prior to the beginning of ISFSI handling operations, as defined below, general licensees may implement administrative controls to preclude conducting operations during periods of adverse weather. The administrative controls shall include at a minimum; establishing safe condition and forecast, as defined below where there are no adverse weather warnings, watches, and advisories for the oncoming 8 hours. Additionally, the administrative controls shall include compensatory measures to place important to safety structures, systems, and components in an analyzed condition if the safe condition and forecast can no longer be met.

- ISFSI Handling Operations – All activities associated with the lifting, placement, and movement of a loaded transportable storage canister, vertical concrete cask, or other structures, systems, and components important to safety.
- Safe Condition and Forecast – A safe condition and forecast is considered to be the absence of tornado and severe thunderstorm watches, tornado and severe thunderstorm warnings, hazardous weather outlook indicating a moderate or high risk of severe thunderstorms or where the predicted wind speeds would qualify for a severe thunderstorm watch (58 mph or greater) for the oncoming 8 hours. Weather forecasts will be accessed from the NOAA Weather Forecast Office nearest to each ISFSI.

8.A OPERATING PROCEDURES FOR THE MPC-LACBWR STORAGE SYSTEM

This chapter provides general procedural guidance for the loading, unloading and recovery of the MPC-LACBWR system. This information shall be used to prepare the detailed, site-specific procedures for loading, handling, storing and unloading the MPC-LACBWR system. Users may add, delete or change the sequence of specific steps of the procedures to accommodate site-specific requirements provided that the intent of the tasks associated with Transportable Storage Canister (TSC) closure and storage is preserved and that the specific numerical acceptance criteria, such as: fastener torque values, temperature limits for operations and other defined values in these procedure are also met.

All facility-specific procedures prepared by users must fully comply with the applicable requirements of the NAC-MPC Certificate of Compliance (CoC) and Technical Specifications, including the approved contents and design features.

Equipment and operating requirements will be established by the user prior to implementation. Refer to Table 8.A.1-1 for a listing of the major ancillary equipment generally required by the user to load and close or to open and unload the system. The MPC-LACBWR system provides effective shielding for operations personnel; however, the licensee/user may utilize supplemental shielding to further reduce operator radiation exposure. The planned location, type and possible interactions of the temporary supplemental shielding with MPC-LACBWR components shall be appropriately evaluated by the licensee/user. The MPC-LACBWR system, when operated by properly trained personnel in accordance with the generic procedures provided herein, will meet As Low As Reasonably Achievable (ALARA) guidance for personnel exposure control.

The design features of the MPC-LACBWR system minimize the potential for contamination of the TSC during fuel loading, canister preparation and transfer. The TSC is loaded in the fuel pool, but the external surfaces of the canister are protected from contact with the contaminated pool water by clean water maintained in the annulus between the transfer cask and the TSC. For purposes of the operating procedures, clean water is defined as demineralized, processed or filtered pool water, or any water external to the fuel pool that has water chemistry compatible for use in spent fuel pools. During loading operations, only the TSC closure lid is exposed to the spent fuel pool water. The smooth top surface of the closure lid can be readily decontaminated. Therefore, the TSC external surfaces are expected to be essentially free of removable contamination during long-term storage operations.

Tables in Chapter 3, Appendix 3.A provide the handling weights for the major components of the MPC-LACBWR system and the loads to be lifted during various phases of the loading and unloading operations. Licensees/users must perform appropriate reviews and evaluations to ensure that the lifted loads do not exceed rated load limits of user-supplied lifting equipment and comply with the facility's heavy-load control program.

At the option of the MPC-LACBWR user and prior to the beginning of ISFSI handling operations, as defined below, general licensees may implement administrative controls to preclude conducting operations during periods of adverse weather. The administrative controls shall include at a minimum; establishing safe condition and forecast, as defined below where there are no adverse weather warnings, watches, and advisories for the oncoming 8 hours. Additionally, the administrative controls shall include compensatory measures to place important to safety structures, systems, and components in an analyzed condition if the safe condition and forecast can no longer be met.

- ISFSI Handling Operations – All activities associated with the lifting, placement, and movement of a loaded transportable storage canister, vertical concrete cask, or other structures, systems, and components important to safety.
- Safe Condition and Forecast – A safe condition and forecast is considered to be the absence of tornado and severe thunderstorm watches, tornado and severe thunderstorm warnings, hazardous weather outlook indicating a moderate or high risk of severe thunderstorms or where the predicted wind speeds would qualify for a severe thunderstorm watch (58 mph or greater) for the oncoming 8 hours. Weather forecasts will be accessed from the NOAA Weather Forecast Office nearest to each ISFSI.

ENCLOSURE 5
APPLICATION FOR RENEWAL OF THE NAC-MPC SYSTEM CoC

Appendix D

**Proposed Certificate of Compliance (CoC)
and Technical Specification (TS) Changes**

NAC-MPC CoC 72-1025

ENCLOSURE 5

Appendix D – Certificate of Compliance and Technical Specification Changes

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ENCLOSURE 5

Appendix D – Certificate of Compliance and Technical Specification Changes

D1.0 INTRODUCTION

The Nuclear Regulatory Commission guidance for the renewal of 10 CFR Part 72 Certificate of Compliance (CoC), NUREG-1927, states that an application for a CoC license renewal will include any CoC and Technical Specification changes or additions that are necessary to manage the effects of aging during the license renewal period. Review of the information provided in this license renewal application and in the CoC and Technical Specifications has confirmed that the following changes to the current CoC and Technical Specifications are proposed.

D.1.1 Certificate of Compliance (CoC) Proposed Changes

Add the following sections to the CoC:

8. FSAR UPDATE FOR RENEWED COC

The CoC holder shall submit an updated FSAR to the Commission, in accordance with 10 CFR 72.4, within 90 days after the renewal of the CoC has been approved by the Commission. The updated FSAR shall reflect the changes and CoC holder commitments resulting from the review and approval of the renewal of the CoC. The CoC holder shall continue to update the FSAR pursuant to the requirements of 10 CFR 72.248.

9. 72.212 EVALUATIONS FOR RENEWED COC USE

Any general licensee that initiates spent fuel dry storage operations with the NAC-MPC System after the effective date of the renewal of the CoC and any general licensee operating a NAC-MPC System as of the effective date of the renewal of the CoC, including those that put additional storage systems into service after that date, shall:

- a. as part of the evaluations required by 10 CFR 72.212(b)(5), include evaluations related to the terms, conditions, and specifications of this CoC amendment as modified (i.e., changed or added) as a result of the renewal of the CoC;
- b. as part of the document review required by 10 CFR 72.212(b)(6), include a review of the FSAR changes resulting from the renewal of the CoC and the NRC Safety Evaluation Report related to the renewal of the CoC, and;
- c. ensure that the evaluations required by 10 CFR 72.212(b)(7) and (8) capture the evaluations and review described in (a.) and (b.) of this CoC condition.

10. AMENDMENTS AND REVISIONS FOR RENEWED COC

All future amendments and revisions to this CoC shall include evaluations of the impacts to aging management activities (i.e., time-limited aging analyses and aging management programs) to assure they remain adequate for any changes to SSCs within the scope of renewal.

ENCLOSURE 5

Appendix D – Certificate of Compliance and Technical Specification Changes

D.1.2 Technical Specification Proposed Changes

Add the following section to Appendix A of the Technical Specifications, as follows:

5.0 Administrative Controls (continued)

5.X Aging Management Program (AMP) Procedures and Reporting

General licensees shall have a program to establish, implement, and maintain written procedures for each AMP described in the FSAR. The program shall include provisions for changing AMP elements as necessary, and within the limitations of the approved licensing bases to address new information on aging effects based on inspection findings and/or industry operating experience provided to the general licensee during the renewal period. Each procedure shall contain a reference to the specific aspect of the AMP element implemented by that procedure, and that reference shall be maintained even if the procedure is modified.

The general licensee shall establish and implement this program document prior to entering the period of extended operation or no later than one year after the effective date of the CoC renewal, whichever is later. The general licensee shall maintain these written procedures for as long as the general licensee continues to operate NAC-MPC Systems in-service for longer than 20 years.

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ENCLOSURE 7
APPLICATION FOR RENEWAL OF THE NAC-MPC SYSTEM CoC

Appendix F

Design Basis Document Review
NAC-MPC CoC 72-1025



MEMORANDUM

TO: Project 30013.00 Files

FROM: Heath M. Baldner and Eric G. Shewbridge
Digitally signed by Heath M. Baldner
Date: 2022.07.14 13:09:55 -04'00' Digitally signed by Eric G. Shewbridge
Date: 2022.07.14 14:22:36 -04'00'

DATE: July 14, 2022

SUBJECT: Supplemental Review of NAC-MPC Design Basis Documents against Time Limited Aging Analyses Criteria

REFERENCE:

1. U.S. NRC NUREG-1927, "Standard Review Plan for Renewal of Specific Licenses and Certificates of Compliance for Dry Storage of Spent Nuclear Fuel", Revision 1, June 2016.
2. ED20190024, Review of NAC-MPC Design Basis Documents against Time Limited Aging Analyses Criteria, March 11, 2019

This memo along with Reference 2 constitute all of the NAC-MPC design basis documents (e.g., design drawings, specifications, calculations, non-conforming condition reports, 10CFR72.48 evaluations, and Final Safety Analysis Reports (FSARs) reviewed in accordance with Reference 1 to identify and document any existing Time Limited Aging Analyses (TLAAs) in the original design as part of the NAC-MPC CoC Renewal.

For a design basis document to be considered a TLAA, all six of the following criteria taken from Reference 1 needed to be met-i.e., answered in the affirmative.

1. *Involves Structures, Systems, and Components (SSCs) important to safety within the scope of the CoC renewal.*
2. *Considers the effects of aging.* The effects of aging include but are not limited to loss of material, change in dimension, change in material properties, loss of strength, settlement, and cracking. Any analyses or calculations relying on environmental susceptibility criteria should be supported by a valid technical basis, such as NRC endorsed criteria or operating experience.
3. *Involves time-limited assumptions defined by the current operating term of twenty (20) years.* The defined operating term should be explicit in the analysis.
4. *Was determined to be relevant by NAC in making a safety determination.* A calculation or analysis is relevant if: a) it can be shown to have a direct bearing on the action taken as a result of the analysis performed; or b) it provides the basis for a safety determination.

5. *Involves conclusions or provides the basis for conclusions related to the capability of the SSC to perform its intended function.*
6. *Is contained or incorporated by reference in the design basis.* TLAAs should be contained or incorporated by reference in the design bases documents. Such documentation includes: a) the Safety Analysis Report (SAR); b) technical specifications; c) correspondence to and from the NRC; d) quality assurance plan; and e) topical reports included as references in the SAR or FSAR.

None of the design basis documents reviewed met all six of the above TLAA criteria. Therefore, it was concluded that there were no TLAAs generated in the original NAC-MPC design.

Details of the review for each of the NAC-MPC Design Basis Documents are found in the attached document.

Attachment: Cask Design Document Review Details-NAC-MPC

Cask Design Documents Review Details

NAC Multi-Purpose Cask System

AMP Review NOT Required

DB ID	Document Type	Document No.	Revision No.	Document Name	TLAA Question #1 Review	TLAA Question #2 Review	TLAA Question #3 Review	TLAA Question #4 Review	TLAA Question #5 Review	TLAA Question #6 Review
1350	72.48 Change	NAC-22-MPC-001	0	DCR(L) 455-862-9A 10 CFR 72.48 Determination	Yes, this document involves systems, structures, and components (SSCs) important to safety (ITS) within the scope of the CoC renewal.	No, this document does not consider the effects of aging on the ITS SSC.	No, this document does not involve time-limited assumptions defined by the current operating term.	Yes, the analyses/design basis document was determined to be relevant in making a safety determination by the CoC Holder.	Yes, the analysis/design basis document involves conclusions or provides a basis of conclusions related to the capability of the SSC to perform its intended safety function.	No, the design document/analysis is not contained or incorporated by reference in the design basis.

AMP Review NOT Required

DB ID	Document Type	Document No.	Revision No.	Document Name	TLAA Question #1 Review	TLAA Question #2 Review	TLAA Question #3 Review	TLAA Question #4 Review	TLAA Question #5 Review	TLAA Question #6 Review
1351	72.48 Change	NAC-22-MPC-002	0	NAC Procedure 30101-P-01 10 CFR 72.48 Determination	Yes, this document involves systems, structures, and components (SSCs) important to safety (ITS) within the scope of the CoC renewal.	No, this document does not consider the effects of aging on the ITS SSC.	No, this document does not involve time-limited assumptions defined by the current operating term.	Yes, the analyses/design basis document was determined to be relevant in making a safety determination by the CoC Holder.	Yes, the analysis/design basis document involves conclusions or provides a basis of conclusions related to the capability of the SSC to perform its intended safety function.	No, the design document/analysis is not contained or incorporated by reference in the design basis.

AMP Review NOT Required

DB ID	Document Type	Document No.	Revision No.	Document Name	TLAA Question #1 Review	TLAA Question #2 Review	TLAA Question #3 Review	TLAA Question #4 Review	TLAA Question #5 Review	TLAA Question #6 Review
1352	72.48 Change	NAC-22-MPC-003	0	DCR(L) 455-866-6A 10 CFR 72.48 Determination	Yes, this document involves systems, structures, and components (SSCs) important to safety (ITS) within the scope of the CoC renewal.	No, this document does not consider the effects of aging on the ITS SSC.	No, this document does not involve time-limited assumptions defined by the current operating term.	Yes, the analyses/design basis document was determined to be relevant in making a safety determination by the CoC Holder.	Yes, the analysis/design basis document involves conclusions or provides a basis of conclusions related to the capability of the SSC to perform its intended safety function.	No, the design document/analysis is not contained or incorporated by reference in the design basis.

Cask Design Documents Review Details

AMP Review NOT Required

		Revision			
DB ID	Document Type	Document No.	No.	Document Name	
1353	Drawing	455-862	10	Loaded Vertical Concrete Cask (VCC) MPC-Yankee	
TLAA Question #1 Review		TLAA Question #2 Review		TLAA Question #3 Review	TLAA Question #4 Review
Yes, this document involves systems, structures, and components (SSCs) important to safety (ITS) within the scope of the CoC renewal.		No, this document does not consider the effects of aging on the ITS SSC.		No, this document does not involve time-limited assumptions defined by the current operating term.	Yes, the analyses/design basis document was determined to be relevant in making a safety determination by the CoC Holder.
				TLAA Question #5 Review	TLAA Question #6 Review
				Yes, the analysis/design basis document involves conclusions or provides a basis of conclusions related to the capability of the SSC to perform its intended safety function.	No, the design document/analysis is not contained or incorporated by reference in the design basis.

AMP Review NOT Required

		Revision			
DB ID	Document Type	Document No.	No.	Document Name	
1354	Drawing	455-866	10	Reinforcing Bar and Concrete Placement, Vertical Concrete Cask (VCC) MPC-Yankee	
TLAA Question #1 Review		TLAA Question #2 Review		TLAA Question #3 Review	TLAA Question #4 Review
Yes, this document involves systems, structures, and components (SSCs) important to safety (ITS) within the scope of the CoC renewal.		No, this document does not consider the effects of aging on the ITS SSC.		No, this document does not involve time-limited assumptions defined by the current operating term.	Yes, the analyses/design basis document was determined to be relevant in making a safety determination by the CoC Holder.
				TLAA Question #5 Review	TLAA Question #6 Review
				Yes, the analysis/design basis document involves conclusions or provides a basis of conclusions related to the capability of the SSC to perform its intended safety function.	No, the design document/analysis is not contained or incorporated by reference in the design basis.