

RS-22-062  
April 26, 202210 CFR 72.7  
10 CFR 72.212  
10 CFR 72.214ATTN: Document Control Desk  
Director, Division of Fuel Management  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Three Mile Island Nuclear Station, Unit 1, Unit 1  
Renewed Facility Operating License No. DPR-50  
NRC Docket Nos. 50-289, and 72-0077

Subject: Supplemental Information to Exemption to the Requirements of Certificate of Compliance No. 1031 for the NAC MAGNASTOR® Storage System

- References:
1. Letter from P. Simpson (Constellation Energy Generation, LLC) to U. S. NRC, "Request for an Exemption to the Requirements of Certificate of Compliance No. 1031 for the NAC MAGNASTOR® Storage System," dated March 31, 2022 (Adams Accession No. ML22090A182)
  2. Letter from W. Fowler (NAC International) to U. S. NRC, "RAI Response to NAC's Amendment Request for the NAC International MAGNASTOR® Cask System Amendment No. 12," dated April 18, 2022 (Adams Accession No. ML22108A197)

By letter dated March 31, 2022 (Reference 1), Constellation Energy Generation, LLC (CEG) requested an exemption to the requirements of Certificate of Compliance No. 1031 for the NAC International (NAC) MAGNASTOR® Storage System, for Three Mile Island Nuclear Station, Unit 1, (TMI-1). This letter provides the NRC with supplemental information for the exemption request.

On April 21, 2022, the NRC contacted CEG via telephone to request a letter confirming that the concrete cask lids for the five (5) MAGNASTOR® Vertical Concrete Casks (VCCs) at TMI-1, described in Reference 1, conform with the requirements that NAC included as part of the RAI Response to NAC's Amendment Request for the NAC International (NAC) MAGNASTOR® Cask System Amendment No. 12 (Reference 2). On April 25, 2022, CEG received a letter from NAC (Attachment 1), providing an update on what submittals NAC had filed with the NRC for Amendment No. 12. CEG requests the NRC to consider Reference 2 as a supplement to the technical basis of the exemption request (Reference 1).

Additionally, CEG confirms that the concrete cask lids for the five (5) VCCs, described in Reference 1, conform with the requirements included in Reference 2. Attachment 2 provides certification from NAC to CEG that the above concrete cask lids conform with the associated requirements in Reference 2.

There are no regulatory commitments contained in this letter. Should you have any questions concerning this letter, please contact Mrs. Linda Palutis at (630) 657-2821.

Respectfully,



Patrick R. Simpson  
Sr. Manager Licensing  
Constellation Energy Generation, LLC

- Attachments:
1. NAC Memo ED20220062, Re: MAGNASTOR Concrete Cask Upper Segment ACI-318 Non-Compliance for Units TMI-VCC-043 thru TMI-VCC-047
  2. NAC Memo ED20220064, NAC Issuance of Compliance Letter for TMI Upper Segment Units 43 – 47

cc: NRC Regional Administrator, Region I  
Director, Bureau of Radiation Protection – PA Department of Environmental Resources

**ATTACHMENT 1**

**NAC Memo ED20220062**

**Re: MAGNASTOR Concrete Cask Upper Segment ACI-318  
Non-Compliance for Units TMI-VCC-043 thru TMI-VCC-047**

April 25, 2022

Mr. Craig Smith  
Constellation Energy Corporation  
Three Mile Island Nuclear Station  
Route 441 South  
Middletown, PA 17057

Subject: Re: MAGNASTOR Concrete Cask Upper Segment ACI-318 Non-Compliance for  
Units TMI-VCC-043 thru TMI-VCC-047

References:

1. U.S. Nuclear Regulatory Commission Inspection Report No. 72-1015/2021-201, January 21, 2022
2. ED20220020, NAC Issuance of Compliance Letter, February 4, 2022
3. ED20220024, MAGNASTOR Concrete Cask Upper Segment ACI-318 Compliance Letter, February 24, 2022
4. ML22024A374, Submission of an Amendment Request for the NAC International MAGNASTOR Cask System Amendment No. 12, January 24, 2022
5. ED20220033, MAGNASTOR Concrete Cask Upper Segment ACI-318 Compliance for Units TMI-VCC-043 thru TMI-VCC-047, March 9, 2022
6. ML22077A769, Supplement to NAC's Amendment Request for the NAC International MAGNASTOR Cask System Amendment No. 12, ML22077A770 (Non-Proprietary Enclosure) & ML22077A771 (Proprietary Enclosure), March 18, 2022
7. ML22108A197, RAI Response to NAC's Amendment Request for the NAC International MAGNASTOR Cask System Amendment No. 12, April 18, 2022

Dear Mr. Smith,

As described in Reference 5, NAC provided a summary of a review we conducted on the concrete cask upper segments for TMI that were fabricated at Doosan. In that summary, we concluded that we lacked the necessary information to ensure the concrete in those affected upper segments were in compliance with the requirements of ACI 318, as currently interpreted in the MAGNASTOR Technical Specifications (TS).

For TMI units TMI-VCC-043 thru TMI-VCC-47, NAC concluded that TMI would be required to apply for and receive an NRC exemption request referencing the technical basis provided in NAC's Amendment 12 application prior to using these upper segments. The purpose of this letter is to update you on what submittals we have made with the NRC. For your exemption request to be complete, it needs to reference all our submittals for Amendment 12 since all these submittals form the technical basis for the NRC accepting your exemption request.

NAC has submitted a total of three packages to the NRC, which forms the entire technical basis for the amendment request (References 4, 6, and 7). It is NAC's understanding that your exemption request currently references only Reference 4 and 6. If that is the case, the TMI exemption request needs to be supplemented with an additional reference to our latest submittal (i.e., Reference 7).

For your information, the latest submittal (Reference 7) primarily contains changes that clarify our previous submittals. However, one additional item was added that specifically addresses the Type II portland cement issue as discussed in Reference 5. This additional item adds an alternative option to complying with Type II portland cement. This change specifically addresses those upper segments fabricated at Doosan for TMI.

NAC is committed to keeping you informed of our Amendment 12 application and its impact on your exemption request. If you have any questions or comments, please contact me at 678-328-1236.

Sincerely yours,

**Wren Fowler** Digitally signed by Wren Fowler  
Date: 2022.04.25 09:38:15 -04'00'

Wren Fowler  
Director, Licensing  
Engineering

CC:  
George Carver, V.P. Engineering and Licensing, NAC  
Doug Jacobs, V.P. Projects, NAC

**ATTACHMENT 2**

**NAC Memo ED20220064**

**NAC Issuance of Compliance Letter for TMI Upper Segment Units 43 - 47**

April 25, 2022

Mr. Craig Smith  
Constellation Energy Corporation  
Three Mile Island Nuclear Station  
Route 441 South  
Middletown, PA 17057

Subject: NAC Issuance of Compliance Letter for TMI Upper Segment Units 43-47

- References:
1. U.S. Nuclear Regulatory Commission Inspection Report No. 72-1015/2021-201, January 21, 2022
  2. ED20220020, NAC Issuance of Compliance Letter, February 4, 2022
  3. ED20220024, MAGNASTOR Concrete Cask Upper Segment ACI-318 Compliance Letter, February 24, 2022
  4. ED20220033, MAGNASTOR Concrete Cask Upper Segment ACI-318 Non-Compliance for Units TMI-VCC-043 thru TMI-VCC-047, March 9, 2022
  5. ML22024A374, Submission of an Amendment Request for the NAC International MAGNASTOR Amendment No. 12, January 24, 2022
  6. ED20220032, Supplement to NAC's Amendment Request for the NAC International MAGNASTOR® Cask System Amendment No. 12, March 18, 2022
  7. ED20220060, RAI Response to NAC's Amendment Request for the NAC International MAGNASTOR® Cask System Amendment No. 12, April 18, 2022

Dear Mr. Smith,

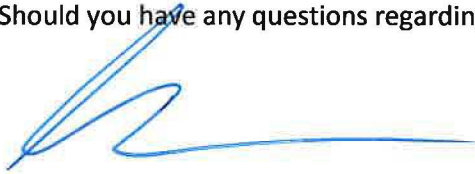
As a follow up to our correspondence (References 2-4) concerning compliance of the TMI-1 MAGNASTOR Concrete Cask Upper Segments (lids), NAC is providing this additional compliance letter regarding upper segments for TMI units TMI-VCC-043 thru TMI-VCC-047, which were manufactured by Doosan Heavy Industries. As stated in Reference 4, NAC was unable to demonstrate full compliance of the subject lids with the MAGNASTOR FSAR Revision 0 Table 1.3-3 concrete requirements. As such, NAC recommended submittal of an NRC exemption request to allow for impending use of the subject lids based on the technical basis of the submitted MAGNASTOR Amendment 12 (A12) Request (Reference 5) and supplement (Reference 6).

NAC believes we have reached concurrence with the NRC on the technical content of A12 and On April 18, 2022, NAC submitted RAI responses for the A12 submittal providing final clarifications on the requirements for the concrete used in the storage cask lids. NAC preceded this response package with a conference call with the NRC to ensure the responses provided are acceptable.

With the resolved RAI's for Amendment 12, NAC can now provide assurance of compliance of the Doosan manufactured lids (TMI-VCC-043 thru TMI-VCC-047) with the content of the A12 submittal, as supplemented, and by our response to RAI's (References 5-7). More specifically, the supporting fabrication documentation contained within the respective final documentation packages for the subject hardware includes adequate detail of the commercial ready-mix concrete used, placement procedures, curing requirements, and weight inspection (pre and post pour) records used to

demonstrate density exceeding the requirement. These records demonstrate full compliance with the A12 technical specifications.

Should you have any questions regarding this communication, please contact me directly.



George C Carver  
Vice President, Engineering & Support Services  
NAC International

CC: Doug Jacobs, Vice President – Projects, NAC International  
Samuel Fowler, Director – Licensing, NAC International