

October 9, 2019

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. 1031 for the NAC International MAGNASTOR®  
Cask System

Docket No. 72-1031

- References:
1. U.S. Nuclear Regulatory Commission (NRC) Certificate of Compliance (CoC) No. 1031 for the NAC International MAGNASTOR Cask System, Amendment No. 7, March 24, 2019
  2. MAGNASTOR Cask System Final Safety Analysis Report (FSAR), Revision 10, NAC International, February 2019

NAC International (NAC) hereby submits a request to amend Reference 1. The following provides a brief summary of the amendment application:

1. Changes have been made throughout the FSAR adding a new concrete overpack (CC6) which provides for additional structural strength (e.g., aircraft impact), four new zoned loading patterns and associated maximum heat loads that are specific to Babcock and Wilcox (B&W) 15 x 15 fuel assemblies. Note, these zoned loading patterns are only authorized for use in CC6 and the stainless steel transfer cask (MTC2).
2. Added a new hybrid B&W 15 x 15 fuel assembly (BW15H5). Also, a new maximum enrichment level for hybrid BW15H2 (5.0%) has been added which requires a new minimum soluble boron concentration of 2650 ppm. This is specific to absorber panels that have a minimum areal density of  $0.036 \text{ }^{10}\text{B g/cm}^3$ .
3. In an effort to consolidate all previously approved undamaged and damaged PWR loading patterns with the four new B&W 15 x 15 zoned loading patterns, FSAR Figure 2.2-1 was revised to show the DFC storage locations and to show A, B, and C zoned nomenclature.
4. The table at the bottom of FSAR Figure 2.2-1 was replaced with a version that now includes all the zone loading patterns and maximum heat loads per storage location. Note, patterns A, B, C, and D have been previously approved by the NRC. Patterns E, F, G, and H are the new loading patterns for B&W 15 x 15 fuel. It is highly recommended that the NRC review team start their review by reading FSAR Chapter 2, Section 2.2.1, paragraphs 3 and 4 so that they will understand the naming convention NAC has chosen when referring to all PWR loading patterns in the Technical Specifications and FSAR evaluations.
5. FSAR Figure 2.2-3 was deleted. This information is now in FSAR Figure 2.2-1.

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6. In general, Technical Specification, Appendix B has been significantly revised for undamaged and damaged PWR fuel. The vast majority of the changes are not technical changes to what has been previously approved. Rather, the undamaged and damaged sections were consolidated in an effort to simplify the appendix since a lot of the information was duplicative between the two.
7. Technical Specification, Appendix B, Figure B2-1, was replaced to show a damaged fuel basket instead of the standard PWR fuel basket as part of the loading pattern consolidation.
8. The PWR fuel assembly characteristic table (Technical Specification, Appendix B, Table B2-2) has been removed which is consistent with current industry and NRC efforts to simplify the Technical Specifications by removing unnecessary information. This table was replaced with a new table summarizing the PWR loading patterns and associated maximum heat loads, etc. A note has been added at the bottom of the table to connect the reader to the naming convention of each pattern in the FSAR and its designation in the technical specifications (i.e., A through H). A similar reference has been made in the FSAR which refers the reader back to the technical specification designation. This has been added to FSAR Chapter 2 as previously described in bullet #4 of this letter.
9. Technical Specification, Appendix B has added a new Table B2-8 which summarizes where the cool time tables are located for each fuel assembly heat load storage location and associated loading pattern. The addition of this table makes it easier for the cask user to locate the required cool time tables in the appendix. Note, NAC has elected to request NRC approval of the four new B&W 15 x 15 loading patterns without cool time tables being in the appendix. Rather this requirement is being passed to the cask user for evaluation and verification that the assembly to be loaded meets the heat load limits, as specified in the appendix. The requirement is a note at the bottom of the table.

The following additional changes unrelated to the new loading patterns for B&W 15 x 15 fuel are being made to the FSAR for clarification:

1. Chapter 2, Table 2.1-2 "Components" TSC was revised to Code NB-6200 was NB-6111
2. Table 2.2-1, added Note, "b. Minimum cool time of 2.5 years for WE 14x14 PWR fuel for uniform and four-zone preferential loading." which was approved in CoC Amendment 5 and was inadvertently left out of previous submittals.
3. Table 2.2-1, "Max Decay Heat (Watts) per Preferential Storage Location", the entries for the 14x14 and 16x16 Fuel Classes were revised to 1800 from 1200, which was approved in CoC Amendment 5 and was inadvertently left out of previous submittals.



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In addition, there are numerous drawing revisions being submitted with the application. Some of the changes made were done via 10 CFR 72.48 and others are pending NRC regulatory approval, herewith. For convenience, the list of drawing changes delineates those changes made via 10 CFR 72.48 versus those that need NRC approval. Enclosed in this amendment package are the Revision 19B changed pages to Reference 2 that support revising Reference 1. In addition, NAC is providing supporting proprietary calculations for the listed changes. This submittal includes one proprietary and non-proprietary version of this submittal package. Attached to this letter is a signed affidavit requesting all proprietary information be withheld from public disclosure via 10 CFR 2.390.

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 19B pages (Enclosure 5). The included List of Effective Pages (Enclosure 5) identifies the revision level of all pages in the Reference 3 FSAR with Revision 19B incorporated. Enclosure 3 contains the proposed Technical Specification changes for this amendment. Since the Amendment 8 approval package is in the rulemaking process, the proposed Technical Specification changes, contained herein, were based off the Amendment 8 Technical Specifications. In order to better facilitate the review process, NAC is providing the Revision 19B changed pages with appropriate backing pages. In accordance with NAC's administrative practices, upon final acceptance of this application, the 19B changed pages will be reformatted and incorporated into the next revision of the MAGNASTOR FSAR. NAC is requesting an effective date for this amendment to be prior to March 2021.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Wren Fowler', written over a white background.

Wren Fowler  
Director, Licensing  
Engineering

Enclosures:

- Enclosure 1 – List of Changes for MAGNASTOR FSAR, Amendment 9
- Enclosure 2 – List of Drawing Changes for MAGNASTOR FSAR, Amendment 9
- Enclosure 3 – Proposed Changes for MAGNASTOR Technical Specifications, Amendment 9
- Enclosure 4 – Supporting Calculations for MAGNASTOR FSAR, Amendment 9
- Enclosure 5 – FSAR Changed Pages and LOEP for MAGNASTOR FSAR, Amendment 9



**NAC INTERNATIONAL  
AFFIDAVIT PURSUANT TO 10 CFR 2.390**

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George Carver (Affiant), Vice President, Engineering and Licensing, of NAC International, hereinafter referred to as NAC, at 3930 East Jones Bridge Road, Norcross, Georgia 30092, being duly sworn, deposes and says that:

1. Affiant has reviewed the information described in Item 2 and is personally familiar with the trade secrets and privileged information contained therein, and is authorized to request its withholding.
2. The information to be withheld includes the following NAC Proprietary Information that is being provided to support the technical review of NAC's Request for a Certificate of Compliance (CoC) (No. 1031) for the NAC International MAGNASTOR Cask System.
  - Enclosure 2, List of Drawing Changes, Page 2 thru 6 of 7
  - Enclosure 4, NAC International Proprietary Calculations
    - 30076-2020, Rev. 0 and Data Disk 1 of 2
    - 30076-3001, Rev. 1 and Data Disk 2 of 2
    - 30076-3005, Rev. 1 and Data Disk 1 of 2
    - 30076-3010, Rev. 1 and Data Disk 1 of 2
    - 30076-3025, Rev. 0 and Data Disk 1 of 2
    - 30076-5002, Rev. 1 and Data Disk 1 of 2
    - 30076-5004, Rev. 1 and Data Disk 1 of 2
    - 30076-5005, Rev. 1 and Data Disk 1 of 2
    - 30076-6001, Rev. 0 and Data Disk 1 of 2
    - 71160-3001, Rev. 5 and Data Disk 1 of 2
    - 71160-3027, Rev. 3 and Data Disk 1 of 2
    - 71160-5016, Rev. 1 and Data Disk 1 of 2
  - Enclosure 5, MAGNASTOR FSAR, Revision 19B, – Proprietary Version

NAC is the owner of the information contained in the above documents. Thus, all of the above identified information is considered NAC Proprietary Information.

3. NAC makes this application for withholding of proprietary information based upon the exemption from disclosure set forth in: the Freedom of Information Act ("FOIA"); 5 USC Sec. 552(b)(4) and the Trade Secrets Act; 18 USC Sec. 1905; and NRC Regulations 10 CFR Part 9.17(a)(4), 2.390(a)(4), and 2.390(b)(1) for "trade secrets and commercial financial information obtained from a person, and privileged or confidential" (Exemption 4). The information for which exemption from disclosure is herein sought is all "confidential commercial information," and some portions may also qualify under the narrower definition of "trade secret," within the meanings assigned to those terms for purposes of FOIA Exemption 4.
4. Examples of categories of information that fit into the definition of proprietary information are:
  - a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by competitors of NAC, without license from NAC, constitutes a competitive economic advantage over other companies.
  - b. Information that, if used by a competitor, would reduce their expenditure of resources or improve their competitive position in the design, manufacture, shipment, installation, assurance of quality or licensing of a similar product.
  - c. Information that reveals cost or price information, production capacities, budget levels or commercial strategies of NAC, its customers, or its suppliers.

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- d. Information that reveals aspects of past, present or future NAC customer-funded development plans and programs of potential commercial value to NAC.
- e. Information that discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information that is sought to be withheld is considered to be proprietary for the reasons set forth in Items 4.a, 4.b, and 4.d.

- 5. The information to be withheld is being transmitted to the NRC in confidence.
- 6. The information sought to be withheld, including that compiled from many sources, is of a sort customarily held in confidence by NAC, and is, in fact, so held. This information has, to the best of my knowledge and belief, consistently been held in confidence by NAC. No public disclosure has been made, and it is not available in public sources. All disclosures to third parties, including any required transmittals to the NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements, which provide for maintenance of the information in confidence. Its initial designation as proprietary information and the subsequent steps taken to prevent its unauthorized disclosure are as set forth in Items 7 and 8 following.
- 7. Initial approval of proprietary treatment of a document/information is made by the Vice President, Engineering, the Project Manager, the Licensing Specialist, or the Director, Licensing – the persons most likely to know the value and sensitivity of the information in relation to industry knowledge. Access to proprietary documents within NAC is limited via “controlled distribution” to individuals on a “need to know” basis. The procedure for external release of NAC proprietary documents typically requires the approval of the Project Manager based on a review of the documents for technical content, competitive effect and accuracy of the proprietary designation. Disclosures of proprietary documents outside of NAC are limited to regulatory agencies, customers and potential customers and their agents, suppliers, licensees and contractors with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.
- 8. NAC has invested a significant amount of time and money in the research, development, engineering and analytical costs to develop the information that is sought to be withheld as proprietary. This information is considered to be proprietary because it contains detailed descriptions of analytical approaches, methodologies, technical data and/or evaluation results not available elsewhere. The precise value of the expertise required to develop the proprietary information is difficult to quantify, but it is clearly substantial.
- 9. Public disclosure of the information to be withheld is likely to cause substantial harm to the competitive position of NAC, as the owner of the information, and reduce or eliminate the availability of profit-making opportunities. The proprietary information is part of NAC’s comprehensive spent fuel storage and transport technology base, and its commercial value extends beyond the original development cost to include the development of the expertise to determine and apply the appropriate evaluation process. The value of this proprietary information and the competitive advantage that it provides to NAC would be lost if the information were disclosed to the public. Making such information available to other parties, including competitors, without their having to make similar investments of time, labor and money would provide competitors with an unfair advantage and deprive NAC of the opportunity to seek an adequate return on its large investment.

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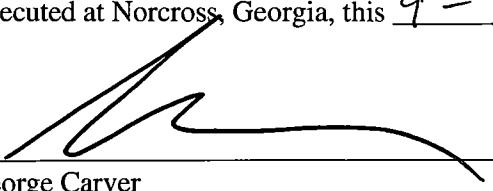
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STATE OF GEORGIA, COUNTY OF GWINNETT

Mr. George Carver, being duly sworn, deposes and says:

That he has read the foregoing affidavit and the matters stated herein are true and correct to the best of his knowledge, information and belief.

Executed at Norcross, Georgia, this 9<sup>th</sup> day of October, 2019.

  
George Carver  
Vice President, Engineering and Licensing  
NAC International

Subscribed and sworn before me this 9<sup>th</sup> day of October, 2019.

  
Notary Public

