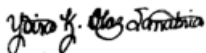




UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 7, 2023

MEMORANDUM TO: Jill Shepherd, Chief
Materials Rulemaking
and Project Management Branch
Division of Rulemaking, Environmental,
and Financial Support Branches
Office of Nuclear Material Safety
and Safeguards

FROM: Yoira K. Diaz Sanabria, Chief  Signed by Diaz-Sanabria, Yoira
on 03/07/23
Storage and Transportation Licensing Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

SUBJECT: USER NEED FOR RULEMAKING FOR AMENDMENT NOS. 11 AND
12, AND REVISION TO AMENDMENT NOS. 0 THROUGH 9 FOR THE
MAGNASTOR® STORAGE SYSTEM

The following information is being provided to request rulemaking support for the following Division of Spent Fuel Management certification activity to amend Title 10, *Code of Federal Regulations* (10 CFR) Part 72:

1. Changes to 10 CFR 72.214 rule text (changes appear in bold):

Certificate Number: 1031.

Initial Certificate Effective Date: February 4, 2009, superseded by Initial Certificate, Revision 1, on February 1, 2016, **superseded by Initial Certificate, Revision 2 on TBD.**

Initial Certificate, Revision 2, Effective Date: **TBD.**

Amendment Number 1 Effective Date: August 30, 2010, superseded by Amendment Number 1, Revision 1, on February 1, 2016, **superseded by Amendment Number 1, Revision 2, on TBD.**

Amendment Number 1, Revision 2, Effective Date: **TBD.**

Amendment Number 2 Effective Date: January 30, 2012, superseded by Amendment Number 2, Revision 1, on February 1, 2016, **superseded by Amendment Number 2, Revision 2 on TBD.**

Amendment Number 2, Revision 2, Effective Date: **TBD.**

CONTACT: Bernard White, NMSS/DFM
301-415-6577

Amendment Number 3 Effective Date: July 25, 2013, superseded by Amendment Number 3, Revision 1, on February 1, 2016, **superseded by Amendment Number 3, Revision 2 on TBD.**

Amendment Number 3, Revision 2, Effective Date: **TBD.**

Amendment Number 4 Effective Date: April 14, 2015, **superseded by Amendment Number 4, Revision 1, on TBD.**

Amendment Number 4, Revision 1 Effective Date: TBD

Amendment Number 5 Effective Date: June 29, 2015, **superseded by Amendment Number 5, Revision 1, on TBD.**

Amendment Number 5, Revision 1 Effective Date: TBD

Amendment Number 6 Effective Date: December 21, 2016, **superseded by Amendment Number 6, Revision 1, on TBD.**

Amendment Number 6, Revision 1 Effective Date: TBD.

Amendment Number 7 Effective Date: August 21, 2017, as corrected (ADAMS Accession No. ML19045A346), **superseded by Amendment Number 7, Revision 1, on TBD.**

Amendment Number 7, Revision 1 Effective Date: TBD.

Amendment Number 8, Effective Date: March 24, 2020, **superseded by Amendment Number 8, Revision 1, on TBD.**

Amendment Number 8, Revision 1 Effective Date: TBD.

Amendment Number 9, Effective Date: December 7, 2020, **superseded by Amendment Number 9, Revision 1, on TBD.**

Amendment Number 9, Revision 1 Effective Date: TBD.

Amendment Number 10, Effective Date: TBD¹

Amendment Number 11, Effective Date: TBD

Amendment Number 12, Effective Date: TBD

SAR Submitted by: NAC International, Inc.

SAR Title: Final Safety Analysis Report for the MAGNASTOR® System.

Docket Number: 72-1031.

Certificate Expiration Date: February 4, 2029.

Model Number: MAGNASTOR®.

2. Purpose and scope of the amendments and Revisions:

Amendment No 11:

By letter dated July 14, 2020 (Agencywide Documents Access and Management System Package Accession No. ML20210M079), as supplemented on August 23, 2021 (ML21242A053), January 11, 2022 (ML22018A059), April 18, 2022 (ML22108A197), and July 15, 2022 (ML22196A022), NAC International, Inc. (NAC) submitted an application for Amendment No. 11 to the Model No. MAGNASTOR® storage cask. In support of the application, the NAC applicant submitted revised safety analysis reports (SARs), Revision Nos. 20A, and 21B. The applicant proposes to:

- add a new concrete overpack (CC7) and a lightweight MAGNASTOR® transfer cask (LMTC),
- increase the maximum heat load for the system when using CC7 and the LMTC,
- new loading patterns,

¹ Amendment No. 10 was sent to the Division of Division of Rulemaking, Environmental, and Financial Support (REFS) on June 29, 2022 (ADAMS Accession No. ML22026A519).

- add new 81 and 89 boiling-water reactor (BWR) spent fuel basket designs, and associated loading patterns,
- remove existing BWR basket designs,
- add a new BWR damaged fuel basket design with a capacity of up to 81 undamaged BWR fuel assemblies, and
- add a new damaged fuel can for BWR fuel.

In addition, by application dated March 18, 2022 (ML22077A769), as supplemented on April 18, 2022 (ML22108A197), NAC also proposed to add a definition for the storage cask, concrete cask lid, conforming changes to the definition of concrete cask and throughout the Appendix A of the technical specifications, and change to Section 4.2 for the concrete cask lid to include:

- the minimum concrete density,
- the allowable methods for measuring the density of the cask concrete lid, and
- requirements for the concrete mix, placement, and curing methods used in the construction of the concrete cask lid.

Amendment No. 12:

By application dated January 24, 2022 (ML22024A374), as supplemented on March 18, 2022 (ML22077A769), and April 18, 2022 (ML22108A197), NAC submitted an application for Amendment No. 12 to the Model No. MAGNASTOR® storage cask. NAC proposed to revise the definitions in Technical Specification, Appendix A, Section 1.1 to add definitions for the storage cask and concrete cask lid and make conforming changes to the definition of the concrete cask and Appendix A of the technical specification, and change to Section 4.2 for the concrete cask lid to include:

- the minimum concrete density,
- the allowable methods for measuring the density of the cask concrete lid, and
- requirements for the concrete mix, placement, and curing methods used in the construction of the concrete cask lid.

Revision to Amendments Nos. 0–9:

By application dated March 18, 2022 (ML22077A769), as supplemented on April 18, 2022 (ML22108A197), August 4, 2022 (ML22216A110), NAC requested revision to Amendment No. 9 for the Model No. MAGNASTOR® storage cask. NAC proposed to revise the certificates of compliance by adding a definition for the storage cask, concrete cask lid, conforming changes to the definition of concrete cask and throughout the Appendix A of the technical specifications, and revise Section 4.2 for the concrete cask lid to include:

- the minimum concrete density,
- the allowable methods for measuring the density of the cask concrete lid, and
- requirements for the concrete mix, placement, and curing methods used in the construction of the concrete cask lid.

3. Proposed Backfitting Discussion for the Direct Final Rule for the Revisions to Amendments 0–9

For the following reasons, the NRC has determined that the backfit rule (10 CFR 72.62) does not apply to this direct final rule. Therefore, a backfit analysis is not required. This

direct final rule revises Amendment Nos. 0–9 for CoC No. 1031 for the MAGNASTOR® storage system, as currently listed in 10 CFR 72.214, “List of approved spent fuel storage casks.” Revision 2 to Amendment Nos. 0–3 and revision 1 amendment nos. 4–9 to CoC No. 1031 adds a definition for the storage cask, the concrete cask lid, conforming changes to the definition of concrete cask throughout appendix A of the technical specifications, and revises section 4.2 to add fabrication requirements for the concrete cask lid.

Although NAC has manufactured casks under existing CoC No. 1031, Amendment Nos. 0–9, that are being revised by this final rule, NAC, as the vendor, is not subject to backfitting under 10 CFR 72.62. Moreover, NAC requested these changes and has requested to apply it to the existing casks manufactured under Amendment Nos. 0–9. Therefore, even if the vendor were deemed to be an entity protected from backfitting, this request represents a voluntary change and is not backfitting for the vendor.

Under 10 CFR 72.62, general licensees are entities that are subject to the backfitting regulations. However, according to NAC (ML22216A110), no general licensees have purchased the MAGNASTOR® systems under CoC No. 1031, amendment nos. 0–5 and amendment no. 8, which are, in part, the subject of these revisions. Therefore, the changes in CoC No. 1031, amendment Nos. 0–5 and amendment no. 8, which are approved in this direct final rule do not fall within the definition of backfitting under 10 CFR 72.62 or 10 CFR 50.109(a)(1), or otherwise represent an inconsistency with the issue finality provisions applicable to combined licenses in 10 CFR part 52.

Dominion Energy Kewaunee at the Kewaunee independent spent fuel storage installation and ZionSolutions at its independent spent fuel storage installation are the two general licensee using amendment no. 6 that could be negatively affected by issuance of revision 1 to amendment no. 6. In its letter to NAC, Dominion Energy Kewaunee stated that would voluntarily adopt revision 1 to amendment no. 6. ZionSolutions stated it intends to rely on issuance of revision 1 to amendment no. 6 and amendment no. 12 to reconcile its licensing issues and close the open action in its correction action program. Since neither licensee opposes issuance of the revisions, issuance of revision 1 to amendment no. 6 does not fall within the definition of backfitting under 10 CFR 72.62 or 10 CFR 50.109(a)(1), or otherwise represent an inconsistency with the issue finality provisions applicable to combined licenses in 10 CFR part 52.

Arizona Public Service Company at the Palo Verde independent spent fuel storage installation and Duke Energy at the Catawba and McGuire independent spent fuel storage installations are the general licensee using amendment no. 7 that could be negatively affected by issuance of revision 1 to amendment no. 7. In its letter to NAC, Arizona Public Service Company, and Duke Energy both stated that it intends to implement revision 1 to amendment no. 7. Therefore, since the licensees do not oppose issuance of the revision, issuance of revision 1 to amendment no. 7 does not fall within the definition of backfitting under 10 CFR 72.62 or 10 CFR 50.109(a)(1), or otherwise represent an inconsistency with the issue finality provisions applicable to combined licenses in 10 CFR part 52.

Constellation Energy Generation at its Three Mile Island Unit 1 independent spent fuel storage installation is the only general licensee using amendment no. 9 that could be negatively affected by issuance of revision 1 to amendment no. 9. In its letter to NAC, Constellation Energy Generation stated that it intends to implement revision 1 to

amendment no. 9, in a timely manner after issuance of the revision. Therefore, since the licensee does not oppose issuance of the revision, issuance of revision 1 to amendment no. 9 does not fall within the definition of backfitting under 10 CFR 72.62 or 10 CFR 50.109(a)(1), or otherwise represent an inconsistency with the issue finality provisions applicable to combined licenses in 10 CFR part 52.

4. The proposed certificate of compliance (CoC), Technical Specifications (TS), and preliminary safety evaluation report (SER) have been placed in ADAMS (see references below) and are available for your use in the rulemaking package. The Division of Fuel Management will designate these documents as Official Agency Records after the Executive Director for Operations has approved the rulemaking package (ML22220A149).

The Office of the General Counsel has reviewed this memorandum with its referenced documents and has no legal objection to its contents.

Docket No. 72-1031

ADAMS References:

- | | |
|-------------|--|
| ML22220A150 | 1. Rulemaking Memo MAGNASTOR issuance of Amendment Nos 11 and 12 and Revision of Amendment Nos 0 through 9 |
| ML22220A151 | 2. Proposed CoC 1031 Amendment 0 Revision 2 |
| ML22220A152 | 3. Proposed CoC 1031 Amendment 0 Revision 2 TS Appendix A |
| ML22220A154 | 4. Proposed CoC 1031 Amendment 0 Revision 2 TS Appendix B |
| ML22220A156 | 5. Proposed CoC 1031 Amendment 1 Revision 2 |
| ML22220A157 | 6. Proposed CoC 1031 Amendment 1 Revision 2 TS Appendix A |
| ML22220A158 | 7. Proposed CoC 1031 Amendment 1 Revision 2 TS Appendix B |
| ML22220A159 | 8. Proposed CoC 1031 Amendment 2 Revision 2 |
| ML22220A160 | 9. Proposed CoC 1031 Amendment 2 Revision 2 TS Appendix A |
| ML22220A161 | 10. Proposed CoC 1031 Amendment 2 Revision 2 TS Appendix B |
| ML22220A163 | 11. Proposed CoC 1031 Amendment 3 Revision 2 |
| ML22220A164 | 12. Proposed CoC 1031 Amendment 3 Revision 2 TS Appendix A |
| ML22220A165 | 13. Proposed CoC 1031 Amendment 3 Revision 2 TS Appendix B |
| ML22220A166 | 14. Proposed CoC 1031 Amendment 4 Revision 1 |
| ML22220A167 | 15. Proposed CoC 1031 Amendment 4 Revision 1 TS Appendix A |
| ML22220A168 | 16. Proposed CoC 1031 Amendment 4 Revision 1 TS Appendix B |
| ML22220A169 | 17. Proposed CoC 1031 Amendment 5 Revision 1 |
| ML22220A170 | 18. Proposed CoC 1031 Amendment 5 Revision 1 TS Appendix A |
| ML22220A171 | 19. Proposed CoC 1031 Amendment 5 Revision 1 TS Appendix B |
| ML22220A172 | 20. Proposed CoC 1031 Amendment 6 Revision 1 |
| ML22220A173 | 21. Proposed CoC 1031 Amendment 6 Revision 1 TS Appendix A |
| ML22220A174 | 22. Proposed CoC 1031 Amendment 6 Revision 1 TS Appendix B |
| ML22220A175 | 23. Proposed CoC 1031 Amendment 7 Revision 1 |
| ML22220A176 | 24. Proposed CoC 1031 Amendment 7 Revision 1 TS Appendix A |
| ML22220A177 | 25. Proposed CoC 1031 Amendment 7 Revision 1 TS Appendix B |
| ML22220A178 | 26. Proposed CoC 1031 Amendment 8 Revision 1 |
| ML22220A179 | 27. Proposed CoC 1031 Amendment 8 Revision 1 TS Appendix A |
| ML22220A180 | 28. Proposed CoC 1031 Amendment 8 Revision 1 TS Appendix B |
| ML22227A174 | 29. Preliminary SER for CoC 1031 Revision to Amendment Nos. 0–8 |
| ML22220A181 | 30. Proposed CoC 1031 Amendment 9 Revision 1 |
| ML22220A182 | 31. Proposed CoC 1031 Amendment 9 Revision 1 TS Appendix A |

- ML22220A183 32. Proposed CoC 1031 Amendment 9 Revision 1 TS Appendix B
- ML22220A184 33. Preliminary SER for CoC 1031 Revision to Amendment 9
- ML22220A185 34. Proposed CoC 1031 Amendment 11
- ML22220A186 35. Proposed CoC 1031 Amendment 11 TS Appendix A
- ML22220A187 36. Proposed CoC 1031 Amendment 11 TS Appendix B
- ML22220A188 37. Preliminary SER for CoC 1031 Amendment 11
- ML22220A189 38. Proposed CoC 1031 Amendment 12
- ML22220A190 39. Proposed CoC 1031 Amendment 12 TS Appendix A
- ML22220A191 40. Proposed CoC 1031 Amendment 12 TS Appendix B
- ML22220A192 41. Preliminary SER for CoC 1031 Amendment 12

SUBJECT: USER NEED FOR RULEMAKING FOR AMENDMENT NOS. 11 AND 12, AND REVISION TO AMENDMENT NOS. 0 THROUGH 9 FOR THE MAGNASTOR® STORAGE SYSTEM

DATED: March 7, 2023

DISTRIBUTION:

DFM r/f
 K. Jamerson, NMSS
 H. Lindsay, NMSS

ADAMS Accession Nos.: ML22220A149 (pkg), ML22220A150 (memo), ML22220A151–ML22220A192 (enclosures)

OFFICE	NMSS/DFM	NMSS/DFM	NMSS/DFM	NMSS/DFM	NMSS/DFM
NAME	BWhite	WWheatley	YKim	LHowe	CBajwa
DATE	8/18/2022	8/23/2022	9/1/2022	9/1/2022	9/7/2022
OFFICE	NMSS/DFM	NMSS/DFM	NMSS/DFM	NMSS/DFM	NMSS/DFM
NAME	ELove	ASotomayor-Rivera	JSmith	JChang	SSamaddar
DATE	8/31/2022	9/6/2022	9/8/2022	8/31/2022	9/6/2022
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NAME	MLearn	CSydnor	DMarcano	JColaccino	ARivera-Verona
DATE	9/6/2022	9/12/2022	9/26/2022	9/23/2022	9/19/2022
OFFICE	NMSS/DFM	OGC	NMSS/DFM		
NAME	ZLi	CEngland	YDiaz-Sanabria		
DATE	9/20/2022	3/3/2023	3/7/2023		

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