



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

April 14, 2022

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

FROM: Yoira K. Diaz-Sanabria, Chief  
Storage and Transportation Licensing Branch  
Division of Fuel Management  
Office of Nuclear Material Safety  
and Safeguards

A handwritten signature in black ink, appearing to read "Yoira K. Diaz-Sanabria".

Signed by Diaz-Sanabria, Yoira  
on 04/14/22

SUBJECT: USER NEED FOR RULEMAKING FOR RENEWAL OF THE  
CERTIFICATE OF COMPLIANCE NO. 1014, INITIAL ISSUE  
(AMENDMENT NUMBER 0), AMENDMENT NUMBERS 1 – 15 TO  
HI-STORM 100 CASK SYSTEM

On January 31, 2020, as supplemented on October 16, 2020, October 29, 2020, April 19, 2021, and April 23, 2021, Holtec International applied for renewal of Certificate of Compliance (CoC) No. 1014 for the HI-STORM 100 Cask System, for an additional 40 years beyond the initial certificate term [Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML20049A081, ML20290A819, ML20303A254, ML21109A367, and ML21113A201].

The following information is being provided to request rulemaking support for the following Division of Fuel Management (DFM) licensing action under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 72:

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

Certificate Number: 1014.

Initial Certificate Effective Date: May 31, 2000, **superseded by Renewed Initial Certificate, on [insert 75 days from date of FR publication].**

Amendment Number 1 Effective Date: July 15, 2002, **superseded by Renewed Amendment Number 1, on [insert 75 days from date of FR publication].**

Amendment Number 2 Effective Date: June 7, 2005, **superseded by Renewed Amendment Number 2, on [insert 75 days from date of FR publication].**

CONTACT: Kristina L. Banovac, NMSS/DFM  
301-415-7116

Amendment Number 3 Effective Date: May 29, 2007, **superseded by Renewed Amendment Number 3, on [insert 75 days from date of FR publication].**

Amendment Number 4 Effective Date: January 8, 2008, **superseded by Renewed Amendment Number 4, on [insert 75 days from date of FR publication].**

Amendment Number 5 Effective Date: July 14, 2008, **superseded by Renewed Amendment Number 5, on [insert 75 days from date of FR publication].**

Amendment Number 6 Effective Date: August 17, 2009, **superseded by Renewed Amendment Number 6, on [insert 75 days from date of FR publication].**

Amendment Number 7 Effective Date: December 28, 2009, **superseded by Renewed Amendment Number 7, on [insert 75 days from date of FR publication].**

Amendment Number 8 Effective Date: May 2, 2012, as corrected on November 16, 2012 (ADAMS Accession No. ML12213A170); superseded by Amendment Number 8, Revision 1, Effective Date: February 16, 2016, **superseded by Renewed Amendment Number 8, Revision 1, on [insert 75 days from date of FR publication].**

Amendment Number 8, Revision 1, Effective Date: February 16, 2016, **superseded by Renewed Amendment Number 8, Revision 1, on [insert 75 days from date of FR publication].**

Amendment Number 9 Effective Date: March 11, 2014, superseded by Amendment Number 9, Revision 1, on March 21, 2016, **superseded by Renewed Amendment Number 9, Revision 1, on [insert 75 days from date of FR publication].**

Amendment Number 9, Revision 1, Effective Date: March 21, 2016, as corrected (ADAMS Accession No. ML17236A451), **superseded by Renewed Amendment Number 9, Revision 1, on [insert 75 days from date of FR publication].**

Amendment Number 10 Effective Date: May 31, 2016, as corrected (ADAMS Accession No. ML17236A452), **superseded by Renewed Amendment Number 10, on [insert 75 days from date of FR publication].**

Amendment Number 11 Effective Date: February 25, 2019, as corrected (ADAMS Accession No. ML19343B024), **superseded by Renewed Amendment Number 11, on [insert 75 days from date of FR publication].**

Amendment Number 12 Effective Date: February 25, 2019, as corrected on May 30, 2019 (ADAMS Accession No. ML19109A111); further corrected December 23, 2019 (ADAMS Accession No. ML19343A908), **superseded by Renewed Amendment Number 12, on [insert 75 days from date of FR publication].**

Amendment Number 13 Effective Date: May 13, 2019, as corrected on May 30, 2019 (ADAMS Accession No. ML19109A122); further corrected December 23, 2019 (ADAMS Accession No. ML19343B156), **superseded by Renewed Amendment Number 13, on [insert 75 days from date of FR publication].**

Amendment Number 14 Effective Date: December 17, 2019, as corrected (ADAMS Accession No. ML19343B287), **superseded by Renewed Amendment Number 14, on [insert 75 days from date of FR publication].**

Amendment Number 15 Effective Date: June 14, 2021, **superseded by Renewed Amendment Number 15, on [insert 75 days from date of FR publication].**

Safety Analysis Report (SAR) Submitted by: Holtec International.

SAR Title: Final Safety Analysis Report for the HI-STORM 100 Cask System.

Docket Number: 72-1014.

**Renewed** Certificate Expiration Date: May 31, **2060**.

Model Number: HI-STORM 100.

## **Certificate of Compliance Conditions and Technical Specifications: Proposed Changes**

### **CHANGES TO CERTIFICATE OF COMPLIANCE**

1. Added the following condition to the initial CoC (Amendment 0) and Amendments 1 – 15:

#### *FSAR [FINAL SAFETY ANALYSIS REPORT] 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 effective date of the renewal. The updated FSAR shall reflect the changes resulting from the review and approval of the renewal of the CoC, including the HI-STORM 100 FSAR supplement, as documented in Appendix D of the HI-STORM 100 CoC renewal application, Revision 1, dated April 23, 2021 (ADAMS Accession No. ML21113A203). The CoC holder shall continue to update the FSAR pursuant to the requirements of 10 CFR 72.248.*

The applicant stated that it will make changes to the FSAR to address aging management activities resulting from the renewal of the CoC. The applicant submitted the proposed FSAR supplement in Revision 1 of the renewal application, Appendix D (Holtec 2021a, 2021b), which reflects the final proposed FSAR supplement to address the aging management activities described in the renewal application. This condition ensures that FSAR changes are made in a timely fashion to enable general licensees using the storage system during the period of extended operation to develop and implement necessary procedures related to renewal and aging management activities.

2. Added the following condition to the initial CoC (Amendment 0) and Amendments 1 – 15:

#### *10 CFR 72.212 EVALUATIONS FOR RENEWED CoC USE*

*Any general licensee that initiates spent fuel dry storage operations with the HI-STORM 100 Cask System after the effective date of the renewal of the CoC and any general licensee operating a HI-STORM 100 Cask 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 the 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.*
- 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.*
- d. *Complete this condition prior to entering the period of extended operation or no later than 365 days after the effective date of the renewal of the CoC, whichever is later.*

The staff considers it important to ensure that a general licensee's report prepared under 10 CFR 72.212, "Conditions of general license issued under § 72.210," evaluates the appropriate considerations for the period of extended operation. These considerations arise from the analyses and assumptions in the renewal application regarding operations during the period of extended operation. This includes potential use by general licensees that may use a new HI-STORM 100 Cask System after the CoC has been renewed, whether at a new or at an existing general-licensed ISFSI. The renewal of the CoC is based on assumptions and analyses regarding the dry storage system and the sites where it is used. Licensees considering the use of the HI-STORM 100 system must evaluate it for use at their respective sites. This condition also makes it clear that to meet the requirements in 10 CFR 72.212(b)(11), general licensees that currently use a HI-STORM 100 Cask System will need to update their 10 CFR 72.212 reports, even if they do not put additional dry storage systems into service after the renewal's effective date. The staff notes that the applicant proposed the above condition, which the staff modified to include a reference to the NRC safety evaluation report related to the CoC renewal.

3. Added the following condition to the initial CoC (Amendment 0) and Amendments 1 – 15:

*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 ensure they remain adequate for any changes to structures, systems, and components within the scope of renewal.*

The CoC may continue to be amended after it has been renewed. This condition ensures that future amendments to the CoC address the renewed design bases for the CoC, including aging management impacts that may arise from the changes to the system in proposed future amendments.

4. Revised initial CoC (Amendment 0) and Amendments 1 – 15 to address the language change in 10 CFR 72.210 and other updates to the regulations.

This revision was made for consistency with the language currently in 10 CFR 72.210 and other cited regulations and is not pertinent to the safety review conducted for the renewal application. Changes to the text are in bold, which only involves adding new text.

## 11. AUTHORIZATION

*The HI-STORM 100 Cask System, which is authorized by this certificate, is hereby approved for general use by holders of 10 CFR Part 50 and 10 CFR Part 52 licenses for nuclear reactors at reactor sites under the general license issued pursuant to 10 CFR 72.210, subject to the conditions specified by 10 CFR 72.212, this certificate, and the attached Appendices A, B, A-100U, B 100U, C, and D as applicable....*

The NRC modified any CoC and technical specification language that discusses licensees under 10 CFR Part 50, "Domestic licensing of production and utilization facilities," to also include licensees under 10 CFR Part 52, "Licenses, certifications, and approvals for nuclear power plants." In addition, the NRC updated the regulation citations referenced in the applicable CoC and technical specifications to reflect citations currently in the regulations.

## **CHANGES TO TECHNICAL SPECIFICATIONS**

1. Added new Technical Specification 5.8/5.4, "Aging Management Program," associated with the initial CoC (Amendment 0) and Amendments 1–15:

### *Aging Management Program (AMP)*

*Each general licensee 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 design bases to address new information on aging effects based on inspection findings and/or industry operating experience. 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 these written procedures prior to entering the period of extended operation or no later than 365 days after the effective date of the renewal of the CoC, whichever is later. The general licensee shall maintain these written procedures for as long as the general licensee continues to operate HI-STORM 100 Cask Systems in service for longer than 20 years.*

*Each general licensee shall perform tollgate assessments as described in Chapter 9 of the FSAR.*

This technical specification addition is similar to the current CoC conditions and technical specifications related to operating procedures for loading and operating dry storage systems under this CoC and extends the requirement for operating procedures to address AMP activities. This technical specification ensures that procedures address AMP activities required in the period of extended operation. The timeframe (1 year) in the condition is to ensure operating procedures are developed in a timely manner; this timeframe is consistent with the guidance in NUREG-1927. The tollgate assessments in the AMPs provide assurance that the results of those assessments will inform AMP procedures. The staff notes that the applicant proposed this technical specification,

which the staff modified to state that procedures shall include AMP references and procedures should be maintained as long as the general licensee operates the HI-STORM 100 Cask System.

The proposed renewed CoC amendments and technical specifications, and preliminary safety evaluation report have been placed in ADAMS (see references below) and are available for your use in the rulemaking package. DFM will designate these documents as Official Agency Records after the Executive Director for Operations has approved the package (ADAMS Package No. ML22098A233).

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

Docket No.: 72-1014  
CAC No.: 001208  
EPID: L-2020-RNW-0007

**ADAMS References:**

1. User Need Memo for Renewal of CoC No. 1014 (HI-STORM 100 Cask System).docx (ML22098A234)
2. Proposed CoC No. 1014, Renewed Amendment No. 0.docx (ML22098A235)
3. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 0.pdf (ML22098A236)
4. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 0.pdf (ML22098A237)
5. Proposed CoC No. 1014, Renewed Amendment No. 1.docx (ML22098A238)
6. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 1.pdf (ML22098A239)
7. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 1.pdf (ML22098A240)
8. Proposed CoC No. 1014, Renewed Amendment No. 2.docx (ML22098A241)
9. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 2.pdf (ML22098A242)
10. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 2.pdf (ML22098A243)
11. Proposed CoC No. 1014, Renewed Amendment No. 3.docx (ML22098A244)
12. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 3.pdf (ML22098A245)
13. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 3.pdf (ML22098A246)
14. Proposed CoC No. 1014, Renewed Amendment No. 4.docx (ML22098A247)
15. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 4.pdf (ML22098A248)
16. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 4.pdf (ML22098A249)

17. Proposed CoC No. 1014, Renewed Amendment No. 5.docx (ML22098A250)
18. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 5.pdf (ML22098A251)
19. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 5.pdf (ML22098A252)
  
20. Proposed CoC No. 1014, Renewed Amendment No. 6.docx (ML22098A253)
21. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 6.pdf (ML22098A254)
22. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 6.pdf (ML22098A255)
  
23. Proposed CoC No. 1014, Renewed Amendment No. 7.docx (ML22098A256)
24. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 7.pdf (ML22098A257)
25. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 7.pdf (ML22098A258)
26. Proposed Technical Specifications (Appendix A-100U) for CoC No. 1014, Renewed Amendment No. 7.pdf (ML22098A259)
27. Proposed Technical Specifications (Appendix B-100U) for CoC No. 1014, Renewed Amendment No. 7.pdf (ML22098A260)
  
28. Proposed CoC No. 1014, Renewed Amendment No. 8.docx (ML22098A261)
29. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 8.pdf (ML22098A262)
30. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 8.pdf (ML22098A263)
31. Proposed Technical Specifications (Appendix A-100U) for CoC No. 1014, Renewed Amendment No. 8.pdf (ML22098A264)
32. Proposed Technical Specifications (Appendix B-100U) for CoC No. 1014, Renewed Amendment No. 8.pdf (ML22098A265)
  
33. Proposed CoC No. 1014, Renewed Amendment No. 9.docx (ML22098A266)
34. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 9.pdf (ML22098A267)
35. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 9.pdf (ML22098A268)
36. Proposed Technical Specifications (Appendix A-100U) for CoC No. 1014, Renewed Amendment No. 9.pdf (ML22098A269)
37. Proposed Technical Specifications (Appendix B-100U) for CoC No. 1014, Renewed Amendment No. 9.pdf (ML22098A270)
  
38. Proposed CoC No. 1014, Renewed Amendment No. 10.docx (ML22098A271)
39. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 10.pdf (ML22098A272)
40. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 10.pdf (ML22098A273)
41. Proposed Technical Specifications (Appendix A-100U) for CoC No. 1014, Renewed Amendment No. 10.pdf (ML22098A274)

42. Proposed Technical Specifications (Appendix B-100U) for CoC No. 1014, Renewed Amendment No. 10.pdf (ML22098A275)
43. Proposed CoC No. 1014, Renewed Amendment No. 11.docx (ML22098A276)
44. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 11.pdf (ML22098A277)
45. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 11.pdf (ML22098A278)
46. Proposed Technical Specifications (Appendix A-100U) for CoC No. 1014, Renewed Amendment No. 11.pdf (ML22098A279)
47. Proposed Technical Specifications (Appendix B-100U) for CoC No. 1014, Renewed Amendment No. 11.pdf (ML22098A280)
48. Proposed CoC No. 1014, Renewed Amendment No. 12.docx (ML22098A281)
49. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 12.pdf (ML22098A282)
50. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 12.pdf (ML22098A283)
51. Proposed Technical Specifications (Appendix A-100U) for CoC No. 1014, Renewed Amendment No. 12.pdf (ML22098A284)
52. Proposed Technical Specifications (Appendix B-100U) for CoC No. 1014, Renewed Amendment No. 12.pdf (ML22098A285)
53. Proposed CoC No. 1014, Renewed Amendment No. 13.docx (ML22098A286)
54. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 13.pdf (ML22098A287)
55. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 13.pdf (ML22098A288)
56. Proposed Technical Specifications (Appendix A-100U) for CoC No. 1014, Renewed Amendment No. 13.pdf (ML22098A289)
57. Proposed Technical Specifications (Appendix B-100U) for CoC No. 1014, Renewed Amendment No. 13.pdf (ML22098A290)
58. Proposed CoC No. 1014, Renewed Amendment No. 14.docx (ML22098A291)
59. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 14.pdf (ML22098A292)
60. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 14.pdf (ML22098A293)
61. Proposed Technical Specifications (Appendix A-100U) for CoC No. 1014, Renewed Amendment No. 14.pdf (ML22098A294)
62. Proposed Technical Specifications (Appendix B-100U) for CoC No. 1014, Renewed Amendment No. 14.pdf (ML22098A295)
63. Proposed CoC No. 1014, Renewed Amendment No. 15.docx (ML22098A296)
64. Proposed Technical Specifications (Appendix A) for CoC No. 1014, Renewed Amendment No. 15.pdf (ML22098A297)
65. Proposed Technical Specifications (Appendix B) for CoC No. 1014, Renewed Amendment No. 15.pdf (ML22098A298)
66. Proposed Technical Specifications (Appendix A-100U) for CoC No. 1014, Renewed Amendment No. 15.pdf (ML22098A299)



67. Proposed Technical Specifications (Appendix B-100U) for CoC No. 1014, Renewed Amendment No. 15.pdf (ML22098A300)
68. Proposed Technical Specifications (Appendix C) for CoC No. 1014, Renewed Amendment No. 15.pdf (ML22098A301)
69. Proposed Technical Specifications (Appendix D) for CoC No. 1014, Renewed Amendment No. 15.pdf (ML22098A302)
  
70. Preliminary Safety Evaluation Report for Renewed CoC No. 1014, Amendment Nos. 0-15.docx (ML22098A303)

SUBJECT: USER NEED FOR RULEMAKING FOR RENEWAL OF THE CERTIFICATE OF COMPLIANCE NO. 1014, INITIAL ISSUE (AMENDMENT NUMBER 0), AMENDMENT NUMBERS 1 – 15 TO HI STORM 100 CASK SYSTEM

DOCUMENT DATE: April 14, 2022

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**ADAMS Accession Nos.: ML22098A233 (Pkg), ML22098A234 (Memo)**

**ML22098A235 – ML22098A303 (Encls)**

**\* concurrence via email**

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Rulemaking for the Renewal of CoC No. 1014, HI-STORM 100 Cask System DATE April 14, 2022

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