



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

May 23, 2017

MEMORANDUM TO: Kimyata Morgan-Butler, Chief  
Rulemaking and Project Management Branch  
Division of Material Safety, State, Tribal  
and Rulemaking Programs, NMSS

FROM: John McKirgan, Chief **/RA/**  
Spent Fuel Licensing Branch  
Division of Spent Fuel Management, NMSS

SUBJECT: USER NEED FOR RULEMAKING FOR CERTIFICATE OF  
COMPLIANCE RENEWAL, INITIAL ISSUE (AMENDMENT NUMBER 0),  
AMENDMENT NUMBERS 1 THROUGH 11, 13 AND 14 TO  
STANDARDIZED NUHOMS® HORIZONTAL MODULAR STORAGE  
SYSTEM

On November 4, 2014 (Agencywide Documents Access and Management System (ADAMS) accession number ML14309A341), as supplemented October 16, 2015 (ML15295A354), June 6, 2016 (ML16169A025), and September 29, 2016 (ML16279A368), AREVA Inc. submitted a renewal application for the Standardize NUHOMS® Horizontal Modular Storage System, Certificate of Compliance (CoC) No. 1004, for a period of 40 years beyond the initial certificate term.

The following information is being provided to request rulemaking support for the following Spent Fuel Management (SFM) 10 CFR Part 72 licensing activity:

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

Certificate Number: 1004.

Initial Certificate Effective Date: January 23, 1995, superseded by Initial Certificate, Revision 1, on April 25, 2017.

**Renewed Initial Certificate Amendment Number 0, Revision 1, Effective Date: [insert 75 days from date of FR publication]**

Amendment Number 1 Effective Date: April 27, 2000, superseded by Amendment Number 1, Revision 1 on April 25, 2017.

**Renewed Amendment Number 1, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 2 Effective Date: September 5, 2000, superseded by Amendment Number 2, Revision 1 on April 25, 2017.

CONTACT: Christian Jacobs, NMSS/DSFM  
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**Renewed Amendment Number 2, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 3 Effective Date: September 12, 2001, superseded by Amendment Number 3, Revision 1 on April 25, 2017.

**Renewed Amendment Number 3, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 4 Effective Date: February 12, 2002, superseded by Amendment Number 4, Revision 1 on April 25, 2017.

**Renewed Amendment Number 4, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 5 Effective Date: January 7, 2004, superseded by Amendment Number 5, Revision 1 on April 25, 2017.

**Renewed Amendment Number 5, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 6 Effective Date: December 22, 2003, superseded by Amendment Number 6, Revision 1 on April 25, 2017.

**Renewed Amendment Number 6, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 7 Effective Date: March 2, 2004, superseded by Amendment Number 7, Revision 1 on April 25, 2017.

**Renewed Amendment Number 7, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 8 Effective Date: December 5, 2005, superseded by Amendment Number 8, Revision 1 on April 25, 2017.

**Renewed Amendment Number 8, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 9 Effective Date: April 17, 2007, superseded by Amendment Number 9, Revision 1 on April 25, 2017.

**Renewed Amendment Number 9, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 10 Effective Date: August 24, 2009, superseded by Amendment Number 10, Revision 1 on April 25, 2017.

**Renewed Amendment Number 10, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 11 Effective Date: January 7, 2014, superseded by Amendment Number 11, Revision 1 on April 25, 2017.

**Renewed Amendment Number 11, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 12 Effective Date: Amendment not issued by the NRC.

Amendment Number 13 Effective Date: May 24, 2014, superseded by Amendment Number 13, Revision 1 on April 25, 2017.

**Renewed Amendment Number 13, Revision 1, Effective Date: [insert 75 days from date of FR publication].**

Amendment Number 14 Effective Date: April 25, 2017.

**Renewed Amendment Number 14 Effective Date: [insert 75 days from date of FR publication].**

SAR Submitted by: Transnuclear, Inc.

SAR Title: Final Safety Analysis Report for the Standardized NUHOMS® Horizontal Modular Storage System for Irradiated Nuclear Fuel.

Docket Number: 72-1004.

Certificate Expiration Date: January 23, 2015

**Renewed Certificate Expiration Date: January 23, 2055**

Model Number: NUHOMS®-24P, -24PHB, -24PTH, -32PT, -32PTH1, -37PTH, -52B, -61BT, -61BTH, and -69BTH.

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

**CHANGES TO CERTIFICATE OF COMPLIANCE**

- 1. Added the following condition to the Initial CoC (Amendment 0) and Amendments 1 through 11, 13 and 14:**

*“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 of the effective date of the renewal. 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.”*

The CoC holder has indicated that changes will be made to the UFSAR to address aging management activities resulting from the renewal of the CoC. This condition ensures that the UFSAR 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.

- 2. Added the following condition to the Initial CoC (Amendment 0) and Amendments 1 through 11, 13 and 14:**

*“72.212 EVALUATIONS FOR RENEWED COC USE*

*Any general licensee that initiates spent fuel dry storage operations with the Standardized NUHOMS® Horizontal Modular Storage System after the effective date of the renewal of the CoC and any general licensee operating a Standardized NUHOMS® Horizontal Modular Storage 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.”*

The staff considers it important to ensure that appropriate considerations for the period of extended operation are evaluated in the general licensee’s 72.212 report. 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 new Standardized NUHOMS® Horizontal Modular Storage System after the CoC has been renewed whether at a new or at an existing general license ISFSI. The renewal of the CoC is based on assumptions and analyses regarding the dry storage system and the sites where it is used that licensees considering the use of the Standardized NUHOMS® Horizontal Modular Storage System should evaluate for use at their respective sites. This condition also makes it clear that general licensees that currently use a Standardized NUHOMS® Horizontal Modular Storage 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 in order to meet the requirements in 10 CFR 72.212(b)(11).

**3. Added the following condition to the Initial CoC (Amendment 0) and Amendments 1 through 11, 13 and 14:**

*“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.”*

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

**4. Revised Initial CoC (Amendment 0) and Amendments 1 through 11, 13 and 14 to address change to language in 10 CFR 72.210 and other updates to the regulations:**

This change is 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. For expediency, the pertinent CoC revisions and associated Technical Specifications have been addressed as part of the CoC renewal. The following is an example of the change from CoC Amendment 1, Revision 1. Changes to the text are in bold, which only involves adding new text.

“Casks authorized by this certificate are hereby approved for use by holders of 10 CFR Part 50 **and 10 CFR Part 52** licenses for nuclear power 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 and the attached technical specifications.”

Any CoC and technical specification language that discusses 10 CFR Part 50 licensees was modified to also include 10 CFR Part 52 licensees. In addition, updates to the regulation citations referenced in the applicable CoC and technical specifications have been changed to reflect citations currently in the regulations.

## **CHANGES TO TECHNICAL SPECIFICATIONS**

### **1. Revised Technical Specification (TS) 1.1.2, “Operating Procedures,” associated with the Initial CoC (Amendment 0) and Amendments 1 through 10, as follows:**

Added the following new header and paragraphs to the end of TS 1.1.2:  
*Operating and Aging Management Program Procedures and Reporting*

*Each general licensee shall have a program to establish, implement, and maintain written procedures for each aging management program (AMP) described in the Updated Final Safety Analysis Report (UFSAR). 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 these written procedures within 180 days of the effective date of the renewal of the CoC or 180 days of the 20th anniversary of the loading of the first dry storage system at its site, whichever is later. The general licensee shall maintain these written procedures for as long as the general licensee continues to operate Standardized NUHOMS® Horizontal Modular Storage Systems in service for longer than 20 years.*

The above TS revision is similar in nature to the currently existing CoC conditions and TS regarding operating procedures for loading and operating dry storage systems under this CoC and extends the requirement for operating procedures to address AMP activities. The timeframe in the condition is to ensure operating procedures are developed in a timely manner and is consistent with conditions placed in specific

licenses that have been renewed. The tollgate assessments in the AMPs assure that AMP procedures will be informed by the results of those assessments.

The staff notes that the applicant proposed the above technical specification, which the staff modified to include an AMP implementation timeframe and require AMP referencing in the implementation procedures.

**2. Revised TS 1.2.4 (Bases paragraph, first two sentences) associated with the Initial CoC (Amendment 0) and Amendments 1 through 10, as follows:**

*If the DSC leaked at the maximum acceptable rate of  $1.0 \times 10^{-4}$  atm cm<sup>3</sup>/s for a period of 60 years, about 189,600 cc of helium would escape from the DSC. This is about 3.25% of the  $5.83 \times 10^6$  cm<sup>3</sup> of helium initially introduced in the DSC.*

The above TS revision was proposed by the applicant, which revises the analyzed period to 60 years, consistent with the initial approved period (20 years) added to the renewed period (40 years).

**3. Revised TS 5.1, “Procedures,” associated with the Amendments 11, 13 and 14:**

Added the following new subsection:

**5.1.3 Aging Management Program Procedures and Reporting**

*Each general licensee shall have a program to establish, implement, and maintain written procedures for each AMP described in the UFSAR. 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 these written procedures within 180 days of the effective date of the renewal of the CoC or 180 days of the 20th anniversary of the loading of the first dry storage system at its site, whichever is later. The general licensee shall maintain these written procedures for as long as the general licensee continues to operate Standardized NUHOMS® Horizontal Modular Storage Systems in service for longer than 20 years.*

The above TS revision is similar in nature to the currently existing CoC conditions and TS regarding operating procedures for loading and operating dry storage systems under this CoC and extends the requirement for operating procedures to address AMP activities. The timeframe in the condition is to ensure operating procedures are developed in a timely manner and is consistent with conditions placed in specific licenses that have been renewed. The tollgate assessments in the AMPs assure that AMP procedures will be informed by the results of those assessments.

The staff notes that the applicant proposed the above technical specification, which the staff modified to include an AMP implementation timeframe and require AMP referencing in the implementation procedures.

Docket No.: 72-1004

ADAMS References:

1. Memo to RPMB requesting Rulemaking (ML17131A005). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/User Need MEMO - TN 1004 Renewal.docx)
2. Draft SER for Renewed CoC 1004, Amendment Nos. 0-11, 13 and 14 (ML17131A121). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/Draft 1004 SER (with OGC NLO).docx).
3. Preliminary Certificate of Compliance No. 1004, Renewed Amendment 0, Revision 1 (ML17131A126). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 0 Revision 1 Certificate.docx)
4. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 0, Revision 1 (ML17131A160). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 0 Revision 1 Tech Specs.docx)
5. Preliminary Certificate of compliance No. 1004, Renewed Amendment 1, Revision 1 (ML17131A195). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 1 Revision 1 Certificate.docx)
6. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 1, Revision 1 (ML17131A196). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 1 Revision 1 Tech Specs.docx)
7. Preliminary Certificate of compliance No. 1004, Renewed Amendment 2, Revision 1 (ML17131A204). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 2 Revision 1 Certificate.docx)
8. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 2, Revision 1 (ML17131A205). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 2 Revision 1 Tech Specs.docx)
9. Preliminary Certificate of compliance No. 1004, Renewed Amendment 3, Revision 1 (ML17131A217). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 3 Revision 1 Certificate.docx)
10. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 3, Revision 1 (ML17131A216). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 3 Revision 1 Tech Specs.docx)
11. Preliminary Certificate of compliance No. 1004, Renewed Amendment 4, Revision 1 (ML17131A228). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 4 Revision 1 Certificate.docx)
12. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 4, Revision 1 (ML17131A229). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 4 Revision 1 Tech Specs.docx)

13. Preliminary Certificate of compliance No. 1004, Renewed Amendment 5, Revision 1 (ML17131A235). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 5 Revision 1 Certificate.docx)
14. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 5, Revision 1 (ML17131A236). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 5 Revision 1 Tech Specs.docx)
15. Preliminary Certificate of compliance No. 1004, Renewed Amendment 6, Revision 1 (ML17135A045). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 6 Revision 1 Certificate.docx)
16. Preliminary Technical Specifications for CoC 1004. Renewed Amendment No. 6, Revision 1 (ML17135A046). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 6 Revision 1 Tech Specs.docx)
17. Preliminary Certificate of compliance No. 1004, Renewed Amendment 7, Revision 1 (ML17135A045). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 7 Revision 1 Certificate.docx)
18. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 7, Revision 1 (ML17135A055). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 7 Revision 1 Tech Specs.docx)
19. Preliminary Certificate of compliance No. 1004, Renewed Amendment 8, Revision 1 (ML17135A056). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 8 Revision 1 Certificate.docx)
20. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 8, Revision 1 (ML17135A057). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 8 Revision 1 Tech Specs.docx)
21. Preliminary Certificate of compliance No. 1004, Renewed Amendment 9, Revision 1 (ML17135A064). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 9 Revision 1 Certificate.docx)
22. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 9, Revision 1 (ML17135A065). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 9 Revision 1 Tech Specs.docx)
23. Preliminary Certificate of compliance No. 1004, Renewed Amendment 10, Revision 1 (ML17135A066). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 10 Revision 1 Certificate.docx)
24. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 10, Revision 1 (ML17135A067). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 10 Revision 1 Tech Specs.docx)
25. Preliminary Certificate of compliance No. 1004, Renewed Amendment 11, Revision 1 (ML17135A074). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 11 Revision 1 Certificate.docx)



26. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 11, Revision 1 (ML17135A057). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/ CoC 1004 Renewed Amendment 11 Revision 1 Tech Specs.docx)
27. Preliminary Certificate of compliance No. 1004, Renewed Amendment 13, Revision 1 (ML17135A076). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 13 Revision 1 Certificate.docx)
28. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 13, Revision 1 (ML17135A077). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 13 Revision 1 Tech Specs.docx)
29. Preliminary Certificate of compliance No. 1004, Renewed Amendment 14 (ML17135A090). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 14 Certificate.docx)
30. Preliminary Technical Specifications for CoC 1004, Renewed Amendment No. 14 (ML17135A091). File located at (G:\SFST\Jacobs\CoC 1004 RENEWAL/Rulemaking Package/CoC 1004 Renewed Amendment 14 Tech Specs.docx)

SUBJECT: USER NEED FOR RULEMAKING FOR CERTIFICATE OF COMPLIANCE RENEWAL, INITIAL ISSUE (AMENDMENT NUMBER 0), AMENDMENT NUMBERS 1 THROUGH 11, 13 AND 14 TO STANDARDIZED NUHOMS® HORIZONTAL MODULAR STORAGE SYSTEM, DOCUMENT DATE MAY 23, 2017

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