



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

October 31, 2023

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

FROM: Yaira 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 "Yaira K. Diaz-Sanabria".

Signed by Diaz-Sanabria, Yaira
on 10/31/23

SUBJECT: USER NEED FOR RULEMAKING FOR RENEWAL OF THE
CERTIFICATE OF COMPLIANCE NO. 1026, INITIAL ISSUE
(AMENDMENT NUMBER 0), AMENDMENT NUMBERS 1 – 4 TO
FUELSOLUTIONS™ SPENT FUEL MANAGEMENT SYSTEM

On November 6, 2020, as supplemented on March 30, 2021, June 30, 2022, and September 13, 2022, Westinghouse Electric Company LLC (WEC), submitted an application to the U.S. Nuclear Regulatory Commission (NRC, the Commission) for the renewal of Certificate of Compliance (CoC) No. 1026 for the FuelSolutions™ Spent Fuel Management System for an additional 40 years beyond the initial certificate term (Agencywide Documents Access and Management System [ADAMS] Accession Nos. ML20315A012, ML21090A201, ML22186A053, and ML22256A286).

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:

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

Certificate Number: 1026.

Initial Certificate Effective Date: February 15, 2001, **superseded by Renewed Initial Certificate, on [insert 75 days from date of FR publication].**

Amendment Number 1 Effective Date: May 14, 2001, **superseded by Renewed Amendment Number 1, on [insert 75 days from date of FR publication].**

CONTACT: Yen-Ju Chen, NMSS/DFM
301-415-1018

Amendment Number 2 Effective Date: January 28, 2002, **superseded by Renewed Amendment Number 2, on [insert 75 days from date of FR publication].**

Amendment Number 3 Effective Date: May 7, 2003, **superseded by Renewed Amendment Number 3, on [insert 75 days from date of FR publication].**

Amendment Number 4 Effective Date: July 3, 2006, **superseded by Renewed Amendment Number 4, on [insert 75 days from date of FR publication].**

SAR Submitted by: **Westinghouse Electric Company LLC.**

SAR Title: Final Safety Analysis Report for the FuelSolutions™ Spent Fuel Management System.

Docket Number: 72-1026.

Renewed Certificate Expiration Date:
February 15, **2061.**

Model Number: WSNF-220, WSNF-221, and WSNF-223 systems; W-150 storage cask; W-100 transfer cask; and the W-21 and W-74 canisters.

Certificate of Compliance Conditions and Technical Specifications: Proposed Changes

CHANGES TO CERTIFICATE OF COMPLIANCE

1. The NRC is updating the certificate holder name and address on the initial CoC (Amendment No. 0) and Amendments No. 1 through 4, as following:

Westinghouse Electric Company LLC
1000 Westinghouse Drive
Cranberry Township, PA 16066

2. The NRC is adding the following condition to the initial CoC (Amendment No. 0) and Amendments No. 1 through 4:

FINAL SAFETY ANALYSIS REPORT UPDATE FOR RENEWED COC

The CoC holder shall submit an updated final safety analysis report (FSAR) to the Commission, in accordance with 10 CFR 72.4, within 90 days after the effective date of the CoC renewal. The updated FSAR shall reflect the changes and CoC holder commitments resulting from the review and approval of the CoC renewal. 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 updated FSAR to address aging management activities resulting from the renewal of the CoC. This condition ensures that the Updated 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.

3. The NRC is adding the following condition to the initial CoC (Amendment No. 0) and Amendments No. 1 through 4:

10 CFR 72.212 EVALUATIONS FOR RENEWED CoC USE DURING THE PERIOD OF EXTENDED OPERATION

Any general licensee that initiates spent fuel dry storage operations with the FuelSolutions™ Storage System after the effective date of the CoC renewal and any general licensee operating a FuelSolutions™ Storage System as of the effective date of the CoC renewal, 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 CoC renewal.
- 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 CoC renewal and the NRC safety evaluation report related to the CoC renewal.
- c. Ensure that the evaluations required by 10 CFR 72.212(b)(7) and determinations required by 10 CFR 72.212(b)(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 CoC renewal, 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 FuelSolutions™ Storage System after the CoC has been renewed, whether at a new or at an existing general-licensed independent spent fuel storage installation. 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 FuelSolutions™ Storage 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 FuelSolutions™ 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.

4. The NRC is adding the following condition to the initial CoC (Amendment No. 0) and Amendments No. 1 through 4:

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 holder has indicated that future amendments will evaluate impacts to aging management program. 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.

5. References to Regulations

The NRC is revising the initial CoC (Amendment No. 0) and Amendments No. 1 through 4 to address the language change in 10 CFR 72.210, "General license issued," and other updates to the regulations. The NRC is updating the regulation citations referenced in the applicable CoCs to reflect citations currently in the regulations. The NRC is also modifying the authorization statements in the CoCs to refer to the general license issued under 10 CFR 72.210, rather than repeat the language currently in the 10 CFR 72.210 regulation regarding licensees under 10 CFR Part 50, "Domestic licensing of production and utilization facilities" and 10 CFR Part 52, "Licenses, certifications, and approvals for nuclear power plants." These changes are not pertinent to the safety review conducted for the renewal application. The CoC authorization statements will be revised, as follows.

9. AUTHORIZATION

The FuelSolutions™ Storage System, which is authorized by this certificate, is hereby approved for use 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, and C.

CHANGES TO TECHNICAL SPECIFICATIONS

1. The NRC is updating the certificate holder's information in all TS (i.e., TS for the FuelSolutions™ Storage System, W21 canister, and W74 canister) for the initial CoC (Amendment No. 0) and Amendments No. 1 through 4. References to "BNFL Fuel Solutions" or "BFS" are updated to "Westinghouse Electric Company LLC" or "WEC."

The NRC also updated the name of the storage system from "Wesflex" to "FuelSolutions" in the TS for W21 canister to Amendment No. 3.

2. The NRC is adding the following section, "Aging Management Program," to the initial CoC (Amendment No. 0) and Amendments No. 1 through 4 as section 5.3.9 in appendix A, FuelSolutions™ Storage System Technical Specifications:

Aging Management Program

Each general licensee shall have a program to establish, implement, and maintain written procedures for each applicable aging management program (AMP) described in the FSAR. 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 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 FuelSolutions™ Storage Systems in service for longer than 20 years.

Each general licensee shall perform tollgate assessments as described in appendix 9.A of the FuelSolutions™ Storage System FSAR WSNF-220.

This technical specification (TS) 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 FuelSolutions™ Storage System.

3. Added the following section, "Aging Management Program," as section 5.3.9 to the initial CoC (Amendment No. 0) and Amendments No. 1, 2, and 4, and as section 5.3 to Amendment No. 3 in appendix B, FuelSolutions™ W21 Canister Technical Specifications. Add the following section, "Aging Management Program," as section 5.3.9 to the initial CoC and Amendments No. 1 through 4 in appendix C, FuelSolutions™ W74 Canister Technical Specifications.

Aging Management Program

See the Storage System Technical Specification for the applicable information.

The CoC holder proposed a condition to revise or create programs or procedures for implementing the AMPs in the supplement to the final safety analysis report. This specification ensures that programs or procedures address AMP activities required for extended storage operations.

CORRECTIONS AND EDITORIAL CHANGES TO TECHNICAL SPECIFICATIONS

1. The NRC made multiple changes to the TS for W21 to Amendment No. 3 as follows:
 - i. Add the definition of INTACT FUEL to section 1.1

- ii. Add examples 1.3-2 and 1.3-3 to section 1.3.
- iii. In tables 2.1-1 and 2.1-2, add “Maximum Weight per Assembly” and “Heat Load Limit per Assembly” and remove “≥ 3.1 years” from “Cooling Time.”
- iv. Revise tables 2.1-3 and 2.1-4 by adding number of fuel rods, minimum clad outside diameter (OD) in inches, minimum clad thickness in inches, minimum pellet OD in inches, rod pitch size in inches, minimum bottom nozzle size in inches, and maximum active fuel length in inches. Update the associated notes to the tables.
- v. Revise tables 2.1-5, 2.1-6, 2.1-7, and 2.1-8.
- vi. Add sections 4.1.1.3, 4.1.2.3, and 4.3.
- vii. Add two paragraphs to section 4.1.3.2.
- viii. Add a paragraph to item 28 of table 4.1-1.
- ix. Add sections 5.3 and 5.4.

The purpose of the above changes is to make the TS for W21 to Amendment No. 3 consistent with the previous version, i.e., TS for W21 for Amendment No. 0 (no change was made to TS of W21 for Amendments No. 1 and 2). These changes are also necessary to ensure the TS is accurate.

According to WEC (ML23296A135), no general licensees have purchased the FuelSolutions™ system under CoC No. 1026, Amendment No. 3. Therefore, these corrections to CoC No. 1026, Amendment No. 3, do not fall within the definition of backfitting under 10 CFR 72.62 or 10 CFR 50.109(a)(1). The NRC has determined that the backfit rule (10 CFR 72.62) does not apply to this direct final rule and a backfit analysis is not required.

2. Change “SAR” to “FSAR” in several places in section 5 of the TS for the FuelSolutions™ storage system to Amendments No. 0 through 4. This is to be consistent with the title of the documents.
3. Correct scientific and mathematic symbols throughout the TS for W21 canister to Amendment No. 4. Many scientific and mathematic symbols (e.g., ≤, ≥, μ, and °) appeared differently in the official document in ADAMS. The staff has verified that the situation was caused when the document was converted to the PDF file. Therefore, the staff is making the correction during the renewal.
4. Correct typos.
 - i. In TS for W74 canister to Amendments No. 2 and 3, LCO 3.3.3, condition C, correct the reference to “B.2.1.”
 - ii. In the TS for W21 canister to Amendment No. 4, LCO 3.3.2, required action B.2.1, correct the spelling for “cover.”
5. Correct item #30 in table 4.1-1 of the TS for W74 canister to Amendments 0 through 4. In Amendment No. 0, the quoted statement from ASME code is incomplete; while in Amendments No. 1 through 4, the same quoted statement is missing the last word. It appears that, in all instances, the missing texts were due to the formatting of the word processors used at the time and the author’s oversight. Since the missing texts are direct quote from ASME code, the staff considers this change a correction and editorial nature. Now the last part of item #30 in table 4.1-1 will read as follows:

“(b) A pneumatic test at a pressure not to exceed 25% of the Design Pressure may be

applied, prior to either a hydrostatic or a pneumatic test, as a means of locating leaks.”

CHANGES TO ISSUANCE OF TECHNICAL SPECIFICATIONS

1. The NRC is issuing the complete set of TS for each amendment when issuing the renewal.

For the initial CoC (Amendment No. 0), the NRC issued the complete set of TS as appendix A which includes TS for the FuelSolutions™ Storage System, W21 canister, and W74 canister.

For Amendments No. 1 through 3, the applicant did not make changes to the storage system and W21 canister, and the NRC only issued TS for the FuelSolutions™ W74 canister.

For Amendment No. 4, the NRC issued the complete set of TS as appendix A which includes TS for the FuelSolutions™ Storage System, W21 canister, and W74 canister.

For clarity and consistency with other storage system CoCs, the NRC is issuing the complete set of TS (TS for FuelSolutions™ storage system, W21 canister, and W74 canister) for Amendments No. 0 through 4. In addition, the TS will be labeled as appendix A for FuelSolutions™ Storage System, appendix B for W21 canister, and appendix C for W74 canister.

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 (ML22354A263).

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

Docket No.: 72-1026
CAC No.: 001208
EPID: L-2020-RNW-0007

ADAMS References:

1. User Need Memo for Renewal of CoC No. 1026 (ML22354A264)
2. Proposed CoC No. 1026, Renewed Amendment No. 0 (ML22354A265)
3. Proposed Technical Specifications Appendix A for CoC No. 1026, Renewed Amendment No. 0 (ML22354A266)
4. Proposed Technical Specifications Appendix B for CoC No. 1026, Renewed Amendment No. 0 (ML22354A267)
5. Proposed Technical Specifications Appendix C for CoC No. 1026, Renewed Amendment No. 0 (ML22354A268)
6. Proposed CoC No. 1026, Renewed Amendment No. 1 (ML22354A269)
7. Proposed Technical Specifications Appendix A for CoC No. 1026,

8. Renewed Amendment No. 1 (ML22354A270)
Proposed Technical Specifications Appendix B for CoC No. 1026,
Renewed Amendment No. 1 (ML22354A271)
9. Proposed Technical Specifications Appendix C for CoC No. 1026,
Renewed Amendment No. 1 (ML22354A272)

10. Proposed CoC No. 1026, Renewed Amendment No. 2 (ML22354A273)
11. Proposed Technical Specifications Appendix A for CoC No. 1026,
Renewed Amendment No. 2 (ML22354A274)
12. Proposed Technical Specifications Appendix B for CoC No. 1026,
Renewed Amendment No. 2 (ML22354A275)
13. Proposed Technical Specifications Appendix C for CoC No. 1026,
Renewed Amendment No. 2 (ML22354A276)

14. Proposed CoC No. 1026, Renewed Amendment No. 3 (ML22354A277)
15. Proposed Technical Specifications Appendix A for CoC No. 1026,
Renewed Amendment No. 3 (ML22354A278)
16. Proposed Technical Specifications Appendix B for CoC No. 1026,
Renewed Amendment No. 3 (ML22354A279)
17. Proposed Technical Specifications Appendix C for CoC No. 1026,
Renewed Amendment No. 3 (ML22354A280)

18. Proposed CoC No. 1026, Renewed Amendment No. 4 (ML22354A281)
19. Proposed Technical Specifications Appendix A for CoC No. 1026,
Renewed Amendment No. 4 (ML22354A282)
20. Proposed Technical Specifications Appendix B for CoC No. 1026,
Renewed Amendment No. 4 (ML22354A283)
21. Proposed Technical Specifications Appendix C for CoC No. 1026,
Renewed Amendment No. 4 (ML22354A284)

22. Preliminary Safety Evaluation Report for Renewed CoC No. 1026, Amendments
No. 0-4 (ML22354A285)

SUBJECT: USER NEED FOR RULEMAKING FOR RENEWAL OF THE CERTIFICATE OF COMPLIANCE NO. 1026, INITIAL ISSUE (AMENDMENT NUMBER 0), AMENDMENT NUMBERS 1 – 4 TO FUELSOLUTIONS™ SPENT FUEL MANAGEMENT SYSTEM, DOCUMENT DATE: October 31, 2023

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ADAMS Accession Nos.: ML22354A263 (Pkg), ML22354A264 (Memo), ML22354A265- ML22354A285 (Encls)

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