

**NUCLEAR REGULATORY COMMISSION**

**10 CFR Part 72**

**[NRC-2023-0220]**

**RIN 3150-AL05**

**List of Approved Spent Fuel Storage Casks: FuelSolutions™ Spent Fuel Management System, Certificate of Compliance No. 1026, Renewal of Initial Certificate and Amendment Nos. 1 Through 4**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Direct final rule.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is amending its spent fuel storage regulations by revising the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System listing within the “List of approved spent fuel storage casks” to renew the initial certificate and Amendment Nos. 1 through 4 to Certificate of Compliance No. 1026. The renewal of the initial certificate of compliance and Amendment Nos. 1 through 4 for 40 years revises the certificate’s conditions and technical specifications to address aging management activities related to the structures, systems, and components important to safety of the dry storage system to ensure that these will maintain their intended functions during the period of extended storage operations.

**DATES:** This direct final rule is effective July 3, 2024, unless significant adverse comments are received by May 20, 2024. If the direct final rule is withdrawn as a result of such comments, timely notice of the withdrawal will be published in the *Federal Register*. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only for comments received on or before this date. Comments received on this direct final rule will also be considered to be comments on a companion proposed rule published in the Proposed Rules section of this issue of the *Federal Register*.

**ADDRESSES:** Submit your comments, identified by Docket ID NRC-2023-0220, at <https://www.regulations.gov>. If your material cannot be submitted using <https://www.regulations.gov>, call or email the individuals listed in the FOR FURTHER INFORMATION CONTACT section of this document for alternate instructions.

You can read a plain language description of this direct final rule at <https://www.regulations.gov/docket/NRC-2023-0220>. For additional direction on obtaining information and submitting comments, see “Obtaining Information and Submitting Comments” in the SUPPLEMENTARY INFORMATION section of this document.

**FOR FURTHER INFORMATION CONTACT:** George Tartal, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-0016, email: [george.tartal@nrc.gov](mailto:george.tartal@nrc.gov) and Yen-Ju Chen, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-1018, email: [yen-ju.chen@nrc.gov](mailto:yen-ju.chen@nrc.gov). Both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

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### **I. Obtaining Information and Submitting Comments**

#### **A. Obtaining Information**

Please refer to Docket ID NRC-2023-0220 when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action by any of the following methods:

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID NRC-2023-0220. Address questions about NRC dockets to Dawn Forder, telephone: 301-415-3407, email: [Dawn.Forder@nrc.gov](mailto:Dawn.Forder@nrc.gov). For technical questions contact the individuals listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the

search, select “Begin Web-based ADAMS Search.” For problems with ADAMS, please contact the NRC’s Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by email to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov). For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the “Availability of Documents” section.

- **NRC’s PDR:** The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR, please send an email to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov) or call 1-800-397-4209 or 301-415-4737, between 8 a.m. and 4 p.m. eastern time, Monday through Friday, except Federal holidays.

#### B. Submitting Comments

Please include Docket ID NRC-2023-0220 in your comment submission. The NRC requests that you submit comments through the Federal rulemaking website at <https://www.regulations.gov>. If your material cannot be submitted using <https://www.regulations.gov>, call or email the individuals listed in the FOR FURTHER INFORMATION CONTACT section of this document for alternate instructions.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at <https://www.regulations.gov> as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment

submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

## II. Rulemaking Procedure

This direct final rule is limited to the changes contained in the Initial Certificate and Amendment Nos. 1 through 4 to Certificate of Compliance No. 1026 and does not include other aspects of the FuelSolutions™ Spent Fuel Management System Cask System design. The NRC is using the “direct final rule procedure” to issue this amendment because it represents a limited and routine change to an existing certificate of compliance that is expected to be non-controversial. Adequate protection of public health and safety continues to be reasonably assured. The amendment to the rule will become effective on July 3, 2024. However, if the NRC receives any significant adverse comment on this direct final rule by May 20, 2024, then the NRC will publish a document that withdraws this action and will subsequently address the comments received in a final rule as a response to the companion proposed rule published in the Proposed Rules section of this issue of the *Federal Register* or as otherwise appropriate. In general, absent significant modifications to the proposed revisions requiring republication, the NRC will not initiate a second comment period on this action.

A significant adverse comment is a comment where the commenter explains why the rule would be inappropriate, including challenges to the rule’s underlying premise or approach, or would be ineffective or unacceptable without a change. A comment is adverse and significant if:

- 1) The comment opposes the rule and provides a reason sufficient to require a

substantive response in a notice-and-comment process. For example, a substantive response is required when:

a) The comment causes the NRC to reevaluate (or reconsider) its position or conduct additional analysis;

b) The comment raises an issue serious enough to warrant a substantive response to clarify or complete the record; or

c) The comment raises a relevant issue that was not previously addressed or considered by the NRC.

2) The comment proposes a change or an addition to the rule, and it is apparent that the rule would be ineffective or unacceptable without incorporation of the change or addition.

3) The comment causes the NRC to make a change (other than editorial) to the rule, certificate of compliance, or technical specifications (TS).

### **III. Background**

Section 218(a) of the Nuclear Waste Policy Act of 1982, as amended, requires that “[t]he Secretary [of the Department of Energy] shall establish a demonstration program, in cooperation with the private sector, for the dry storage of spent nuclear fuel at civilian nuclear power reactor sites, with the objective of establishing one or more technologies that the [Nuclear Regulatory] Commission may, by rule, approve for use at the sites of civilian nuclear power reactors without, to the maximum extent practicable, the need for additional site-specific approvals by the Commission.” Section 133 of the Nuclear Waste Policy Act states, in part, that “[t]he Commission shall, by rule, establish procedures for the licensing of any technology approved by the Commission under

Section 219(a) [sic: 218(a)] for use at the site of any civilian nuclear power reactor.”

To implement this mandate, the Commission approved dry storage of spent nuclear fuel in NRC-approved casks under a general license by publishing a final rule that added a new subpart K in part 72 of title 10 of the *Code of Federal Regulations* (10 CFR) entitled “General License for Storage of Spent Fuel at Power Reactor Sites” (55 FR 29181; July 18, 1990). This rule also established a new subpart L in 10 CFR part 72 entitled “Approval of Spent Fuel Storage Casks,” which contains procedures and criteria for obtaining NRC approval of spent fuel storage cask designs. The NRC subsequently issued a final rule on January 16, 2001 (66 FR 3444), that approved the FuelSolutions™ Spent Fuel Management System design and added it to the list of NRC-approved cask designs in § 72.214 as Certificate of Compliance No. 1026.

On August 28, 2007 (72 FR 49352), the NRC amended the scope of the general licenses issued under 10 CFR 72.210 to include the storage of spent fuel in an independent spent fuel storage installations (ISFSI) at power reactor sites to persons authorized to possess or operate nuclear power reactors under 10 CFR part 52. On February 16, 2011 (76 FR 8872), the NRC amended subparts K and L in 10 CFR part 72, to extend and clarify the term limits for certificates of compliance and revised the conditions for spent fuel storage cask renewals, including adding requirements for the safety analysis report to include time-limited aging analyses and a description of aging management programs. The NRC also clarified the terminology used in the regulations to use “renewal” rather than “reapproval” to better reflect that extending the term of a currently approved cask design is based on the cask design standards in effect at the time the certificate of compliance was approved rather than current standards.

#### **IV. Discussion of Changes**

The term certified by the initial Certificate of Compliance No. 1026 was 20 years. The period of extended operation for each cask begins 20 years after the cask is first used by the general licensee to store spent fuel. On November 6, 2020, Westinghouse Electric Company LLC submitted a request to the NRC to renew Certificate of Compliance No. 1026 for a period of 40 years beyond the initial certificate period. Westinghouse Electric Company LLC supplemented its request on March 30, 2021; June 30, 2022; and September 13, 2022.

The FuelSolutions™ Storage System (the system) is certified as described in the Safety Analysis Report (SAR) and in NRC's Safety Evaluation Report (SER) accompanying the certificate of compliance (CoC). The system consists of the following components: (1) canister for dry storage of spent nuclear fuel (W21 and W74); (2) transfer cask for canister loading, closure and handling capability (W100); and (3) storage cask which provides passive vertical dry storage of a loaded canister (W150). The system stores up to 21 pressurized water reactor (PWR) assemblies or 64 boiling water reactor (BWR) assemblies.

The canister is the component providing confinement to the system for the stored fuel. A typical canister consists of a shell assembly, top and bottom inner closure plates, vent and drain port covers, internal basket assembly, top and bottom shield plugs, and top and bottom outer closure plates. All structural components are constructed of high-strength carbon steel (electroless nickel coated) or stainless steel. The canister shell, top and bottom inner closure plates, and the vent and drain port covers form the confinement boundary. The storage overpack provides structural support, shielding, protection from environmental conditions, and natural convection cooling of the canister during long-term storage. The transfer cask provides shielding during canister



movements between the spent fuel pool and the storage cask.

The Nuclear Energy Institute's (NEI) document NEI 14-03, Revision 2, "Format, Content and Implementation Guidance for Dry Cask Storage Operations-Based Aging Management," (December 2016) provides an operations-based, learning approach to aging management for the storage of spent fuel, which builds on the lessons learned from industry's experience with aging management for reactors. The NRC endorsed NEI 14-03, Revision 2, with clarifications, in Regulatory Guide 3.76, Revision 0, "Implementation of Aging Management Requirements for Spent Fuel Storage Renewals," issued July 2021. Specifically, NEI 14-03 provides a framework for sharing operating experience through an industry-developed database called the ISFSI Aging Management Institute of Nuclear Power Operations Database. NEI 14-03 also includes a framework for learning aging management programs using aging management "tollgates," which offer a structured approach for periodically assessing operating experience and data from applicable research and industry initiatives at specific times during the period of extended operation and performing a safety assessment that confirms the safe storage of the spent nuclear fuel by ensuring the aging management programs continue to effectively manage the identified aging effects. The ISFSI Aging Management Institute of Nuclear Power Operations Database provides operating experience information and a basis to support licensees' future changes to the aging management programs. The ISFSI Aging Management Institute of Nuclear Power Operations Database and the aging management tollgates are considered key elements in ensuring the effectiveness of aging management activities and the continued safe storage of spent fuel during the period of extended operation.

Westinghouse Electric Company LLC incorporated periodic tollgate assessments as requirements in the renewed certificate of compliance, as recommended in NEI 14-

03, Revision 2. The implementation of tollgate assessments provides reasonable assurance that the aging management programs for the canister, the transfer cask, and the overpack will continue to effectively manage aging effects during the period of extended operation.

The renewal of the initial certificate and Amendment Nos. 1 through 4 was conducted in accordance with the renewal provisions in § 72.240. The NRC's regulations require the safety analysis report for the renewal to include time-limited aging analyses that demonstrate that structures, systems, and components important to safety will continue to perform their intended function for the requested period of extended operation and a description of the aging management programs for the management of issues associated with aging that could adversely affect structures, systems, and components important to safety. In addition, the regulations in § 72.240(e) authorize the NRC to revise the certificate of compliance to include any additional terms, conditions, and specifications it deems necessary to ensure the safe operation of the cask during the certificate of compliance's renewal term.

The NRC is revising the initial certificate and Amendment Nos. 1 through 4 to update the certificate holder name and address and to make corrections and editorial changes to the CoC and TSs. The changes to the aforementioned documents are identified with revision bars in the margin of each document. The NRC is adding three new conditions to address aging management activities related to the structures, systems, and components important to the safety of the dry storage system to ensure that these will maintain their intended functions during the period of extended storage operations. The three new conditions added to the renewal of the initial certificate of compliance and Amendment Nos. 1 through 4 are:

- A condition requiring the certificate of compliance holder to submit an updated

final safety analysis report within 90 days after the effective date of the renewal. The updated final safety analysis report must reflect the changes resulting from the review and approval of the renewal of the certificate of compliance, including the FuelSolutions™ Spent Fuel Management System final safety analysis report. This condition ensures that final safety analysis report 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. The certificate of compliance holder is required to continue to update the final safety analysis report pursuant to the requirements of § 72.248.

- A condition requiring each general licensee using the FuelSolutions™ Spent Fuel Management System design to include, in the evaluations required by § 72.212(b)(5), evaluations related to the terms, conditions, and specifications of this certificate of compliance amendment as modified (*i.e.*, changed or added) as a result of the renewal of the certificate of compliance and include, in the document review required by § 72.212(b)(6), a review of the final safety analysis report changes resulting from the renewal of the certificate of compliance and the NRC Safety Evaluation Report for the renewal of the certificate of compliance. The general licensee would also be required to ensure that the evaluations required by § 72.212(b)(7) in response to these changes are conducted and the determination required by § 72.212(b)(8) is made. This condition also makes it clear that to meet the requirements in § 72.212(b)(11), general licensees that currently use a FuelSolutions™ Spent Fuel Management System will need to update their § 72.212 reports, even if they do not put additional Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management Systems into

service after the renewal's effective date. These evaluations, reviews, and determinations are to be completed before the dry storage system enters the period of extended operation (which begins 20 years after the first use of the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System) or no later than 365 days after the effective date of this rule, whichever is later. This will provide general licensees a minimum of 365 days to comply with the new terms, conditions, specifications, and other changes to the certificate of compliance and to make the necessary determinations required by § 72.212(b)(8) as to whether activities related to the storage of spent nuclear fuel using the renewed certificate of compliance involve a change in the facility Technical Specifications or requires a license amendment for the facility.

- A condition requiring all future amendments and revisions to the certificate of compliance (*i.e.*, the initial certificate 1026 and Amendment Nos. 1 through 4) include evaluations of the impacts to aging management activities (*i.e.*, time-limited aging analyses and aging management programs) to ensure that they remain adequate for any changes to structures, systems, and components important to safety within the scope of renewal. This condition ensures that future amendments to the certificate of compliance address the renewed design bases for the certificate of compliance, including aging management impacts that may arise from any changes to the system in proposed future amendments.

Additionally, the condition for the initial certificate and Amendment Nos. 1 through 4 would be amended to reflect changes to the scope of the general license granted by § 72.210 that were made after the approval of the initial certificate. The authorization is amended to allow persons authorized to possess or operate a nuclear power reactor under 10 CFR part 52 to use the Westinghouse Electric Company LLC

FuelSolutions™ Spent Fuel Management System under the general license issued under § 72.210.

The NRC made one corresponding change from the technical specifications for the initial certificate of compliance and Amendment Nos. 1 through 4 by adding a section addressing the aging management program. General licensees using the FuelSolutions™ Spent Fuel Management System design during the period of extended operation will need to establish, implement, and maintain written procedures for each applicable aging management program in the final safety analysis report to use the FuelSolutions™ Spent Fuel Management System design during the approved period of extended operation. The procedures will need to include provisions for changing aging management program 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. General licensees will also be required to perform tollgate assessments as described in the final safety analysis report.

General licensees will need to establish and implement these written procedures prior to entering the period of extended operation (which begins 20 years after the first use of the cask system) or no later than 365 days after the effective date of this rule, whichever is later. The general licensee is required to maintain these written procedures for as long as the general licensee continues to operate the FuelSolutions™ Spent Fuel Management System in service for longer than 20 years.

Under § 72.240(d), the design of a spent fuel storage cask will be renewed if (1) the quality assurance requirements in 10 CFR part 72, subpart G, "Quality Assurance," are met, (2) the requirements of § 72.236(a) through (i) are met, and (3) the application includes a demonstration that the storage of spent fuel has not, in a significant manner, adversely affected the structures, systems, and components important to safety.

Additionally, § 72.240(c) requires that the safety analysis report accompanying the application contain time-limited aging analyses that demonstrate that the structures, systems, and components important to safety will continue to perform their intended function for the requested period of extended operation and a description of the aging management program for management of aging issues that could adversely affect structures, systems, and components important to safety.

As documented in the preliminary safety evaluation report, the NRC reviewed the application for the renewal of the certificate of compliance and the conditions in the certificate of compliance and determined that the conditions in subpart G, § 72.236(a) through (i), have been met and the application includes a demonstration that the storage of spent nuclear fuel has not, in a significant manner, adversely affected structures, systems, and components important to safety. The NRC's safety review determined that the FuelSolutions™ Spent Fuel Management System, with the added terms, conditions, and specifications in the certificate of compliance and the technical specifications, will continue to meet the requirements of 10 CFR part 72 for an additional 40 years beyond the initial certificate term. Consistent with § 72.240, the NRC is renewing the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System initial certificate 1026 and Amendment Nos. 1 through 4.

Extending the expiration date of the approval for the initial certificate and Amendment Nos. 1 through 4 for 40 years and requiring the implementation of aging management activities during the period of extended operation does not impose any modification or addition to the design of a cask system's structures, systems, and components important to safety, or to the procedures or organization required to operate the system during the initial 20-year storage term certified by the cask's initial certificate of compliance. General licensees who have loaded these casks, or who load these

casks in the future under the specifications of the applicable renewed certificate of compliance, may store spent fuel in these cask system designs for 20 years without implementing the aging management program. For any casks that have been in use for more than 20 years, the general licensee will have 365 days to complete the analyses required to use the cask system design pursuant to the terms and conditions in the renewed certificate of compliance. As explained in the 2011 final rule that amended 10 CFR part 72 (76 FR 8872), the general licensee's authority to use a particular storage cask design under an approved certificate of compliance will be for at least the term certified by the cask's certificate of compliance. For casks placed into service before the expiration date of the initial certificate, the general licensee's authority to use the cask would be extended for an additional 40 years from the date the initial certificate expired. For casks placed into service after the expiration date of the initial certificate and before the effective date of this rule, the general licensee's authority to use the cask would last the length of the term certified by the cask's certificate of compliance (*i.e.*, 40 years after the cask is placed into service). For casks placed into service after this rule becomes effective, the general licensee's authority to use the cask would expire 40 years after the cask is first placed into service.

This direct final rule revises the FuelSolutions™ Spent Fuel Management System design listing in § 72.214 by renewing, for 40 more years, the initial certificate and Amendment Nos. 1 through 4 of Certificate of Compliance No. 1026. The renewed certificate of compliance includes the changes to the certificate of compliance and technical specifications previously described. The renewed certificate of compliance includes the terms, conditions, and specifications that will ensure the safe operation of the cask during the renewal term and the added conditions that will require the implementation of an aging management program. The preliminary safety evaluation

report describes the new and revised conditions in the certificate of compliance, the changes to the technical specifications, and the NRC staff evaluation.

## **V. Voluntary Consensus Standards**

The National Technology Transfer and Advancement Act of 1995 (Pub. L. 104-113) requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with applicable law or otherwise impractical. In this direct final rule, the NRC revises the FuelSolutions™ Spent Fuel Management System Cask System design listed in § 72.214, “List of approved spent fuel storage casks.” This action does not constitute the establishment of a standard that contains generally applicable requirements.

## **VI. Agreement State Compatibility**

Under the “Agreement State Program Policy Statement” approved by the Commission on October 2, 2017, and published in the *Federal Register* on October 18, 2017 (82 FR 48535), this rule is classified as Compatibility Category NRC – Areas of Exclusive NRC Regulatory Authority. The NRC program elements in this category are those that relate directly to areas of regulation reserved to the NRC by the Atomic Energy Act of 1954, as amended, or the provisions of 10 CFR chapter I. Therefore, compatibility is not required for program elements in this category.

## **VII. Plain Writing**



The Plain Writing Act of 2010 (Pub. L. 111-274) requires Federal agencies to write documents in a clear, concise, and well-organized manner. The NRC has written this document to be consistent with the Plain Writing Act as well as the Presidential Memorandum, "Plain Language in Government Writing," published June 10, 1998 (63 FR 31885).

### **VIII. Environmental Assessment and Finding of No Significant Impact**

Under the National Environmental Policy Act of 1969, as amended, and the NRC's regulations in 10 CFR part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," the NRC has determined that this direct final rule, if adopted, would not be a major Federal action significantly affecting the quality of the human environment and, therefore, an environmental impact statement is not required. The NRC has made a finding of no significant impact based on this environmental assessment.

#### **A. The Action**

The action is to amend § 72.214 to revise the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System listing within the "List of approved spent fuel storage casks" to renew the initial certificate and Amendment Nos. 1 through 4 to Certificate of Compliance No. 1026.

#### **B. The Need for the Action**

This direct final rule renews the certificate of compliance for the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System design within

the list of approved spent fuel storage casks to allow power reactor licensees to store spent fuel at reactor sites in casks with the approved modifications under a general license. Specifically, this rule extends the expiration date for the FuelSolutions™ Spent Fuel Management System certificate of compliance for an additional 40 years, allowing a power reactor licensee to continue using the cask design during a period of extended operation for a term certified by the cask's renewed certificate of compliance.

In addition, this direct final rule revises the certificate of compliance for the initial certificate and Amendment Nos. 1 through 4 to update the certificate holder name and address and adds three new conditions:

- A condition for submitting an updated FSAR to the NRC, in accordance with § 72.4, within 90 days after the effective date of the CoC renewal.
- A condition for renewed CoC use during the period of extended operation to ensure that a general licensee's report prepared under § 72.212 evaluates the appropriate considerations for the period of extended operation. All future amendments and revisions to this CoC must include evaluations of the impacts to aging management activities. The NRC is revising the initial certificate and Amendment Nos. 1 through 4 to address the language change in § 72.210 "General license issue" and other updates to the regulations. The NRC is making changes to TSs including updating the certificate holder's information in all TSs for the initial certificate and Amendment Nos. 1 through 4 and updating references to "FuelSolutions" and "Westinghouse Electric Company LLC" or "WEC."
- A condition requiring all future amendments and revisions to the certificate of compliance (i.e., the initial certificate 1026 and Amendment Nos. 1 through 4) include evaluations of the impacts to aging management activities (i.e., time-

limited aging analyses and aging management programs) to ensure that they remain adequate for any changes to structures, systems, and components important to safety within the scope of renewal.

Finally, the NRC will make various corrections and editorial changes to the CoC and TSs.

### C. Environmental Impacts of the Action

On July 18, 1990 (55 FR 29181), the NRC issued an amendment to 10 CFR part 72 to provide for the storage of spent fuel under a general license in cask designs approved by the NRC. The potential environmental impact of using NRC-approved storage casks was analyzed in the environmental assessment for the 1990 final rule and are described in “Environmental Assessment for Proposed Rule Entitled, ‘Storage of Spent Nuclear Fuel in NRC-Approved Storage Casks at Nuclear Power Reactor Sites.’” The potential environmental impacts for the longer-term use of dry cask designs and the renewal of certificates of compliance were analyzed in the environmental assessment for the 2011 final rule establishing the regulatory requirements for renewing certificates of compliance and are described in “Environmental Assessment and Finding of No Significant Impact for the Final Rule Amending 10 CFR Part 72 License and Certificate of Compliance Terms.” The environmental impacts from continued storage were also considered in NUREG-2157, “Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel.” The environmental assessment for the initial certificate and Amendment Nos. 1 through 4 to Certificate of Compliance No. 1026 tiers off the environmental assessment for the February 16, 2011, final rule and NUREG-2157. Tiering on past environmental assessments is a standard process under the National Environmental Policy Act of 1969, as amended.

The Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System is designed to mitigate the effects of design basis accidents that could occur during storage. Design basis accidents account for human-induced events and the most severe natural phenomena reported for the site and surrounding area. Postulated accidents analyzed for an independent spent fuel storage installation, the type of facility at which a holder of a power reactor operating license would store spent fuel in casks in accordance with 10 CFR part 72, can include tornado winds and tornado-generated missiles, a design basis earthquake, a design basis flood, an accidental cask drop, lightning effects, fire, explosions, and other incidents.

A renewal reaffirms the original design basis and allows the cask to be used during a period of extended operation that corresponds to the term certified by the cask's certificate of compliance in the renewal. As a condition of the renewal, the NRC requires an aging management program that will ensure that structures, systems, and components important to safety will perform as designers intended during the renewal period. The renewal does not reflect a change in design or fabrication of the cask system. This renewal does not reflect a significant change in design or fabrication of the cask. Because there are no significant design or process changes, any resulting occupational exposure or offsite dose rates from the renewal of the initial certificate and Amendment Nos. 1 through 4 would remain well within the 10 CFR part 20 limits. The NRC has also determined that the design of the cask would continue to maintain confinement, shielding, and criticality control in the event of an accident. Therefore, these changes will not result in any radiological or non-radiological environmental impacts that significantly differ from the environmental impacts evaluated in the environmental assessment supporting the February 16, 2011, final rule. There will be no significant change in the types or significant revisions in the amounts of any effluent

released, no significant increase in the individual or cumulative radiation exposures, and no significant increase in the potential for, or consequences from, radiological accidents. The NRC determined that the structures, systems, and components important to safety will continue to perform their intended functions during the requested period of extended operation. The NRC determined that the renewed Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System design, when used under the conditions specified in the renewed certificate of compliance, the technical specifications, and the NRC's regulations, will meet the requirements of 10 CFR part 72; therefore, adequate protection of public health and safety will continue to be reasonably assured. The NRC documented its safety findings in the preliminary safety evaluation report.

#### D. Alternative to the Action

The alternative to this action is to deny the renewal of the initial certificate and Amendment Nos. 1 through 4 and not issue the direct final rule. Consequently, any 10 CFR part 72 general licensee that seeks to load spent nuclear fuel into Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System after the expiration date of the certificate of compliance or that seeks to continue storing spent nuclear fuel in the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System for longer than the term certified by the cask's certificate of compliance for the initial certificate (i.e., more than 20 years) would have to request an exemption from the requirements of §§ 72.212 and 72.214 or would have to load the spent nuclear fuel into a different approved cask design. Under this alternative, those licensees interested in continuing to use the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System would have to prepare, and the NRC

would have to review, a separate exemption request, thereby increasing the administrative burden upon the NRC and the costs to each licensee. If the general licensee is granted an exemption, the environmental impacts would be the same as the proposed action. If the general licensee is not granted an exemption, the general licensee would need to unload the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System and load the fuel into another cask system design, which would result in environmental impacts that are greater than for the proposed action because activities associated with cask loading and decontamination may result in some small liquid and gaseous effluent.

#### E. Alternative Use of Resources

Renewal of the initial certificate and Amendment Nos. 1 through 4 to Certificate of Compliance No. 1026 would result in no irreversible commitment of resources.

#### F. Agencies and Persons Contacted

No agencies or persons outside the NRC were contacted in connection with the preparation of this environmental assessment.

#### G. Finding of No Significant Impact

This direct final rule is to amend § 72.214 to revise the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System listing within the “List of approved spent fuel storage casks” to renew, for an additional 40 years, the initial certificate and Amendment Nos. 1 through 4 of Certificate of Compliance No. 1026. The environmental impacts of the action have been reviewed under the requirements in the National Environmental Policy Act of 1969, as amended, and the NRC’s regulations in

subpart A of 10 CFR part 51, “Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions.” The renewal does not reflect a change in design or fabrication of the cask system as approved for the initial certificate or Amendment Nos. 1 through 4. The NRC determined that the renewed Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System design, when used under the conditions specified in the renewed certificate of compliance, the technical specifications, and the NRC’s regulations, will meet the requirements of 10 CFR part 72; therefore, adequate protection of public health and safety will continue to be reasonably assured.

Based on the foregoing environmental assessment, the NRC concludes that this direct final rule, “List of Approved Spent Fuel Storage Casks: FuelSolutions™ Spent Fuel Management System, Certificate of Compliance No. 1026, Renewal of Initial Certificate and Amendment Nos. 1 through 4,” will not have a significant effect on the quality of the human environment. Therefore, the NRC has determined that an environmental impact statement is not necessary for this direct final rule.

### **IX. Paperwork Reduction Act Statement**

This direct final rule does not contain any new or amended collections of information subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing collections of information were approved by the Office of Management and Budget, approval number 3150-0132.

### **Public Protection Notification**

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

## **X. Regulatory Flexibility Certification**

Under the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the NRC certifies that this direct final rule will not, if issued, have a significant economic impact on a substantial number of small entities. This direct final rule affects only nuclear power plant licensees and Westinghouse Electric Company LLC. These entities do not fall within the scope of the definition of small entities set forth in the Regulatory Flexibility Act or the size standards established by the NRC (§ 2.810).

## **XI. Regulatory Analysis**

On July 18, 1990 (55 FR 29181), the NRC issued an amendment to 10 CFR part 72 to provide for the storage of spent nuclear fuel under a general license in cask designs approved by the NRC. Any nuclear power reactor licensee can use NRC-approved cask designs to store spent nuclear fuel if 1) it notifies the NRC in advance; 2) the spent fuel is stored under the conditions specified in the cask's certificate of compliance; and 3) the conditions of the general license are met. A list of NRC-approved cask designs is contained in § 72.214. On January 16, 2001 (66 FR 3444), the NRC issued an amendment to 10 CFR part 72 that approved the FuelSolutions™ Spent Fuel Management System by adding it to the list of NRC-approved cask designs in § 72.214.



On November 6, 2020, and as supplemented on March 30, 2021, June 30, 2022, and September 13, 2022, Westinghouse Electric Company LLC submitted a request to renew the FuelSolutions™ Spent Fuel Management System as described in Section IV, “Discussion of Changes,” of this document.

The alternative to this action is to withhold approval of the renewal of the initial certificate and Amendment Nos. 1 through 4 and to require any 10 CFR part 72 general licensee seeking to continue the storage of spent nuclear fuel in Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System using the initial certificate or Amendment Nos. 1 through 4 beyond the initial 20-year storage term certified by the cask’s initial certificate of compliance to request an exemption from the requirements of §§ 72.212 and 72.214. The term for general licenses would not be extended from 20 years to 40 years. Under this alternative, each interested 10 CFR part 72 licensee would have to prepare, and the NRC would have to review, a separate exemption request, thereby increasing the administrative burden upon the NRC and the costs to each licensee.

Approval of this direct final rule is consistent with previous NRC actions. Further, as documented in the preliminary safety evaluation report and environmental assessment, this direct final rule will have no adverse effect on public health and safety or the environment. This direct final rule has no significant identifiable impact or benefit on other government agencies. Based on this regulatory analysis, the NRC concludes that the requirements of this direct final rule are commensurate with the NRC’s responsibilities for public health and safety and the common defense and security. No other available alternative is believed to be as satisfactory; therefore, this action is recommended.

## **XII. Backfitting and Issue Finality**

The NRC has determined that the actions in this direct final rule do not require a backfit analysis because they do not fall within the definition of backfitting under § 72.62 or § 50.109(a)(1), they do not impact the issue finality provisions applicable to combined licenses under 10 CFR part 52, and they do not impact general licensees that are using these systems for the duration of their current general licenses.

Certificate of Compliance No. 1026 for the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System design, as currently listed in § 72.214, “List of Approved Spent Fuel Storage Casks,” was initially approved for a 20-year term. This direct final rule would renew the initial certificate and Amendment Nos. 1 through 4, extending their approval period by 40 years. The term certified by the cask's certificate of compliance for a renewed certificate of compliance is the period of time commencing with the most recent certificate of compliance renewal date and ending with the certificate of compliance expiration date. With this renewal, the term certified by the cask's certificate of compliance would change from 20 years to 60 years, with the period of extended operation beginning 20 years after the cask is placed into service. The revision to the certificate of compliance through the renewal consists of the changes in the renewed initial certificate (Amendment No. 0) and renewed Amendment Nos. 1 through 4 as previously described, and as set forth in the renewed certificates of compliance and technical specifications. These changes would not affect the use of the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System design for the initial 20- year term for previously loaded casks. The renewed certificates would require implementation of aging management programs during the period of extended operation, which begins after the storage cask system's initial 20-year service

period.

Because the term for the renewal would be longer than the initial term certified by the cask's certificate of compliance, the general licensee's authority to use the cask would be extended and would be no less than 60 years. This change would not add, eliminate, or modify (1) structures, systems, or components of an independent spent fuel storage installation or a monitored retrievable storage installation or (2) the procedures or organization required to operate an independent spent fuel storage installation or a monitored retrievable storage installation.

Renewing these certificates does not fall within the definition of backfit under § 72.62 or § 50.109, or otherwise represent an inconsistency with the issue finality provisions applicable to combined licenses in 10 CFR part 52. General licensees who have loaded these casks, or who load these casks in the future under the specifications of the applicable certificate, may continue to store spent fuel in these systems for the initial 20-year storage period authorized by the original certificate. Extending the certificates' expiration dates for 40 more years and requiring the implementation of aging management programs does not impose any modification or addition to the design of the structures, systems, and components important to safety of a cask system, or to the procedures or organization required to operate the system during this initial 20-year term certified by the cask's certificate of compliance. The aging management programs required to be implemented by this renewal are only required to be implemented after the storage cask system's initial 20-year service period ends.

Because this rulemaking renews the certificates, and because renewal is a separate NRC licensing action voluntarily implemented by vendors or licensees, the renewal of these certificates is not an imposition of new or changed requirements from which these certificate of compliance holders or licensees would otherwise be protected

by the backfitting provisions in § 72.62 or § 50.109. Even if renewal of this certificate of compliance cask system design could be considered a backfit, Westinghouse Electric Company LLC, as the certificate of compliance holder and vendor of the casks, is not protected by the backfitting provisions in § 72.62 in this capacity.

Unlike a vendor, general licensees using the existing systems subject to these renewals would be protected by the backfitting provisions in § 72.62 and § 50.109 if the renewals constituted new or changed requirements. But as previously explained, renewal of the certificates for these systems does not impose such requirements. The general licensees using these certificates of compliance may continue storing material in the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System design for the initial 20-year storage period identified in the applicable certificate or amendment with no changes. If general licensees choose to continue to store spent fuel in the Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System design after the initial 20-year period, these general licensees will be required to implement the applicable aging management programs for any cask systems subject to a renewed certificate of compliance, but such continued use is voluntary.

Additionally, the actions in this direct final rule do not impact issue finality provisions applicable to combined licenses under 10 CFR part 52. For these reasons, renewing the initial certificate and Amendment Nos. 1 through 4 of Certificate of Compliance No. 1026 does not constitute backfitting under § 72.62 or § 50.109(a)(1), or otherwise represent an inconsistency with the issue finality provisions applicable to combined licenses in 10 CFR part 52. Accordingly, the NRC has not prepared a backfit analysis for this rulemaking.

### XIII. Congressional Review Act

This direct final rule is not a rule as defined in the Congressional Review Act.

### XIV. Availability of Documents

The documents identified in the following table are available to interested persons as indicated.

DOCUMENT	ADAMS ACCESSION NO. / WEB LINK / <i>FEDERAL REGISTER</i> CITATION
Proposed Certificate of Compliance	
Proposed Certificate of Compliance No. 1026, Renewed Amendment No. 0	ML22354A265
Proposed Certificate of Compliance No. 1026, Renewed Amendment No. 1	ML22354A269
Proposed Certificate of Compliance No. 1026, Renewed Amendment No. 2	ML22354A273
Proposed Certificate of Compliance No. 1026, Renewed Amendment No. 3	ML22354A277
Proposed Certificate of Compliance No. 1026, Renewed Amendment No. 4	ML22354A281
Preliminary Safety Evaluation Report	
Preliminary Safety Evaluation Report for Renewed Certificate of Compliance No. 1026, Amendments Nos. 0-4	ML22354A285
Proposed Technical Specifications	
Proposed Technical Specifications Appendix A for Certificate of Compliance No. 1026, Renewed Amendment No. 0	ML22354A266
Proposed Technical Specifications Appendix B for Certificate of Compliance No. 1026, Renewed Amendment No. 0	ML22354A267
Proposed Technical Specifications Appendix C for Certificate of Compliance No. 1026, Renewed Amendment No. 0	ML22354A268

Proposed Technical Specifications Appendix A for Certificate of Compliance No. 1026, Renewed Amendment No. 1	ML22354A270
Proposed Technical Specifications Appendix B for Certificate of Compliance No. 1026, Renewed Amendment No. 1	ML22354A271
Proposed Technical Specifications Appendix C for Certificate of Compliance No. 1026, Renewed Amendment No. 1	ML22354A272
Proposed Technical Specifications Appendix A for Certificate of Compliance No. 1026, Renewed Amendment No. 2	ML22354A274
Proposed Technical Specifications Appendix B for Certificate of Compliance No. 1026, Renewed Amendment No. 2	ML22354A275
Proposed Technical Specifications Appendix C for Certificate of Compliance No. 1026, Renewed Amendment No. 2	ML22354A276
Proposed Technical Specifications Appendix A for Certificate of Compliance No. 1026, Renewed Amendment No. 3	ML22354A278
Proposed Technical Specifications Appendix B for Certificate of Compliance No. 1026, Renewed Amendment No. 3	ML22354A279
Proposed Technical Specifications Appendix C for Certificate of Compliance No. 1026, Renewed Amendment No. 3	ML22354A280
Proposed Technical Specifications Appendix A for Certificate of Compliance No. 1026, Renewed Amendment No. 4	ML22354A282
Proposed Technical Specifications Appendix B for Certificate of Compliance No. 1026, Renewed Amendment No. 4	ML22354A283
Proposed Technical Specifications Appendix C for Certificate of Compliance No. 1026, Renewed Amendment No. 4	ML22354A284
Environmental Documents	
“Environmental Assessment and Findings of No Significant Impact for the Final Rule Amending 10 CFR Part 72 License and Certificate of Compliance Terms.” (2010)	ML100710441
Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel: Final Report (NUREG-2157, Volumes 1 and 2). (2014)	ML14198A440 (package)
Westinghouse Electric Company LLC FuelSolutions™ Spent Fuel Management System Renewal Application Documents	

Westinghouse Electric Company LLC "Submittal of FuelSolutions™ Spent Fuel Management System Certificate of Compliance (CoC) Renewal Application." Westinghouse letter LTR-NRC-20-64. (November 6, 2020)	ML20315A012 (package)
Westinghouse Electric Company LLC "Reponses to Requests for Supplemental Information for the Application for the FuelSolutions™ Spent Fuel Management System Certificate of Compliance (CoC) Renewal Application." Westinghouse letter LTR-NRC-21-14 Revision 0. (March 30, 2021)	ML21090A201 (package)
Westinghouse Electric Company LLC "Submittal of FuelSolutions™ Spent Fuel Management System Certificate of Compliance (CoC) Renewal Application." Westinghouse letter LTR-NRC-22-27. (June 30, 2022)	ML22186A053 (package)
Westinghouse Electric Company LLC "Submittal of Supplemental Response to NRC RAI A-RCS1." Westinghouse letter LTR-NRC-22-38. (September 13, 2022)	ML22256A285 (package)
Other Documents	
"Standard Review Plan for Renewal of Specific Licenses and Certificates of Compliance for Dry Storage of Spent Nuclear Fuel." NUREG-1927, Revision 1. Washington, DC. (June 2016)	ML16179A148
"Managing Aging Processes in Storage (MAPS) Report." Final Report. NUREG-2214. Washington, DC. (July 2019)	ML19214A111
"General License for Storage of Spent Fuel at Power Reactor Sites." (July 18, 1990)	55 FR 29181
"List of Approved Spent Fuel Storage Casks: FuelSolutions Addition." (January 16, 2001)	66 FR 3444
"License and Certificate of Compliance Terms." (February 16, 2011)	76 FR 8872
"Agreement State Program Policy Statement; Correction." (October 18, 2017)	82 FR 48535
Nuclear Energy Institute NEI 14-03, Revision 2, "Format, Content and Implementation Guidance for Dry Cask Storage Operations-Based Aging	ML16356A210

Management.” (December 2016)	
Regulatory Guide 3.76, Revision 0, “Implementation of Aging Management Requirements for Spent Fuel Storage Renewals.” (July 2021)	ML21098A022
“Licenses, Certifications, and Approvals for Nuclear Power Plants.” (August 28, 2007)	72 FR 49352
Presidential Memorandum, “Plain Language in Government Writing.” (June 10, 1998)	63 FR 31885

The NRC may post materials related to this document, including public comments, on the Federal rulemaking website at <https://www.regulations.gov> under Docket ID NRC-2023-0220. In addition, the Federal rulemaking website allows members of the public to receive alerts when changes or additions occur in a docket folder. To subscribe: 1) navigate to the docket folder (NRC-2023-0220); 2) click the “Subscribe” link; and 3) enter an email address and click on the “Subscribe” link.

### **List of Subjects in 10 CFR Part 72**

Administrative practice and procedure, Hazardous waste, Indians, Intergovernmental relations, Nuclear energy, Penalties, Radiation protection, Reporting and recordkeeping requirements, Security measures, Spent fuel, Whistleblowing.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; the Nuclear Waste Policy Act of 1982, as amended; and 5 U.S.C. 552 and 553; the NRC is adopting the following amendments to 10 CFR part 72:



**PART 72 - LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL, HIGH-LEVEL RADIOACTIVE WASTE, AND REACTOR-RELATED GREATER THAN CLASS C WASTE**

1. The authority citation for part 72 continues to read as follows:

**Authority:** Atomic Energy Act of 1954, secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 189, 223, 234, 274 (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2210e, 2232, 2233, 2234, 2236, 2237, 2238, 2273, 2282, 2021); Energy Reorganization Act of 1974, secs. 201, 202, 206, 211 (42 U.S.C. 5841, 5842, 5846, 5851); National Environmental Policy Act of 1969 (42 U.S.C. 4332); Nuclear Waste Policy Act of 1982, secs. 117(a), 132, 133, 134, 135, 137, 141, 145(g), 148, 218(a) (42 U.S.C. 10137(a), 10152, 10153, 10154, 10155, 10157, 10161, 10165(g), 10168, 10198(a)); 44 U.S.C. 3504 note.

2. In § 72.214, Certificate of Compliance No. 1026 is revised to read as follows:

**§ 72.214 List of approved spent fuel storage casks.**

\* \* \* \* \*

Certificate Number: 1026.

Initial Certificate Effective Date: February 15, 2001, superseded by Renewed Initial Certificate on July 3, 2024.

Amendment Number 1 Effective Date: May 14, 2001, superseded by Renewed Amendment Number 1 on July 3, 2024.

Amendment Number 2 Effective Date: January 28, 2002, superseded by Renewed Amendment Number 2 on July 3, 2024.

Amendment Number 3 Effective Date: May 7, 2003, superseded by Renewed Amendment Number 3 on July 3, 2024.

Amendment Number 4 Effective Date: July 3, 2006, superseded by Renewed Amendment Number 4 on July 3, 2024.

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; W150 storage cask; W100 transfer cask; and the W21 and W74 canisters.

\* \* \* \* \*

Dated: April 8, 2024

For the Nuclear Regulatory Commission.

**/RA/**

Raymond V. Furstenau,  
Acting Executive Director for Operations.