

## **RULEMAKING ISSUE NOTATION VOTE**

April 27, 2009

SECY-09-0069

FOR: The Commissioners

FROM: R. W. Borchardt  
Executive Director for Operations

SUBJECT: PROPOSED RULE: 10 CFR PART 72 LICENSE AND  
CERTIFICATE OF COMPLIANCE TERMS (RIN 3150-AI09)

### PURPOSE:

To request Commission approval to publish a proposed rule, in the *Federal Register*, that would amend Title 10 of the *Code of Federal Regulations* (CFR) Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste." Proposed changes to 10 CFR 72.3, 72.24, 72.42, 72.212, 72.230, 72.236, 72.238, and 72.240 relate to the independent storage of spent nuclear fuel. These changes would clarify the license term limits for dry storage cask Certificates of Compliance (CoCs) and independent spent fuel storage installation (ISFSI) licenses. The proposed action would also allow Part 72 general licensees to implement changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC. This rulemaking is needed to improve the regulatory efficiency of Part 72.

### BACKGROUND:

On November 29, 2004, the Commission issued a Staff Requirements Memorandum (SRM), for SECY-04-0175, "Options for Addressing the Surry Independent Spent Fuel Storage Installation License-Renewal Period Exemption Request," which authorized the staff to approve 40-year license renewal term for the Surry ISFSI, with appropriate license conditions to manage the effects of aging. The SRM also directed the staff to: (1) initiate a program to review the

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technical basis for future rulemaking; (2) provide recommendations on the license term for Part 72 CoCs for spent nuclear fuel dry cask storage systems; and (3) apply the Commission-approved guidance for Part 72 renewals to future site-specific exemption requests without further Commission approval. In response, the staff submitted a Commission paper (SECY-06-0152) entitled, "Title 10 Code of Federal Regulations Part 72 License and Certificate of Compliance Terms," on July 7, 2006, to recommend the scope of rulemaking. On August 14, 2006, the Commission issued an SRM, for SECY-06-0152, which authorized the staff to proceed with rulemaking proposals laid out in SECY-06-0152. In addition, the Commission specifically directed staff to address the following points in the rulemaking: (1) clarify the start of the 20-year term limit for cask designs approved under general license provisions; (2) identify whether the cask vendor or licensee is responsible for renewing CoCs; (3) discuss possible conflicts that could arise for storage cask designs that are granted a license term extension and that have been approved for transport with a different license term; (4) discuss how the cask expiration dates are tracked at each general license site so that it is clearly understood when the CoC for each cask design must be renewed; and (5) clarify the difference between CoC reapproval and renewal. These issues are addressed in the "Discussion" section of the *Federal Register* Notice (Enclosure 1) within Questions/Answers I, L, J, K, and E, respectively.

As this rulemaking commenced, the U.S. Nuclear Regulatory Commission (NRC) staff identified a related issue from approving Amendment 4 to CoC 72-1026, which revised cask monitoring and surveillance requirements for the BNG Fuel Solutions W-150 storage cask. Subsequent to the approval, the certificate holder requested guidance from the NRC on the implementation of the changes authorized by the CoC amendment to previously loaded casks. The staff's position is that under the existing requirements in Part 72 a previously loaded cask is bound by the terms, conditions, and technical specifications of the CoC applicable to that cask at the time the licensee loaded the cask. Therefore, under the current regulations, general licensees that want to apply changes approved by a CoC amendment to a previously loaded cask must request an exemption from the NRC, if these changes result in a change to the terms or conditions of the CoC under which the cask was loaded.

In SRM-COMSECY-07-0032, "Staff Requirements - Recommended Staff Actions Regarding Correspondence with Allegers Involving Security-Related Concerns," dated December 12, 2007, the Commission stated it had no objection to the staff's proposal to consider two additional revisions to Part 72 as part of the rulemaking effort approved in SRM-SECY-06-0152. Specifically, the Commission noted that the staff may amend Part 72 to allow a licensee to apply changes for a CoC amendment to a previously loaded cask without NRC approval and to allow the same flexibility for longer approval terms for both specific and general licensees, while still ensuring that the action protects public health and safety and promotes the common defense and security.

In SRM-SECY-06-0152, the Commission directed the staff to be as transparent as possible in developing the proposed rule package. In response, the staff held public meetings on November 7, 2006, and February 29, 2008, to discuss the technical bases of the rulemaking with stakeholders. In addition, on August 4, 2008, the staff made preliminary draft rule text available for comment to stakeholders on Regulations.gov (Docket ID NRC-2008-0361). Comments were received from the Nuclear Energy Institute and Florida Power and Light which generally supported the rulemaking. The "Discussion" section of the *Federal Register* Notice includes NRC responses to significant stakeholder comments. Public input on the preliminary

draft language resulted in revisions related to the implementation of later CoC amendments to previously loaded casks, as well as clarifying changes to the proposed regulation.

#### DISCUSSION:

This proposed rule would extend the initial and renewal license terms for site-specific ISFSI licenses from a term not to exceed 20 years to a term not to exceed 40 years. Any license renewal application would need to include an analysis that considers the effects of aging on structures, systems, and components important to safety for the requested renewal term. In approving the renewed site-specific licenses for the Surry and H.B. Robinson ISFSIs, the staff imposed certain aging management requirements. At the present time, there are no similar requirements for general licensees. Because the same cask design could be used at both specific and general license ISFSI sites, it is necessary and appropriate to impose the same aging management requirements on general licensees. Similarly, the proposed rule would establish regulatory consistency between specific and general licensees by setting the license duration as not to exceed 40 years for both.

Under 10 CFR Part 72, dry storage cask fabricators periodically upgrade a cask's design through NRC approved CoC amendments. The NRC approval process for CoC amendments ensure that the proposed design upgrade continues to result in a cask that can safely store spent fuel assemblies (i.e., within the cask's analyzed condition). This proposed rule would resolve a question concerning the application of changes authorized by a CoC amendment to a previously loaded cask. A general licensee seeking to implement changes from a later CoC amendment to a previously loaded cask must obtain NRC approval or an exemption, if the amendment alters the terms and conditions of the CoC under which the cask was loaded. The proposed rule would allow licensees to apply a CoC amendment to a previously loaded cask without prior NRC approval, provided the cask conforms to the amended CoC, and thus remains in an analyzed condition. The proposed rule would reduce the number of exemption requests that licensees must prepare and the NRC must evaluate, thereby increasing the efficiency of NRC's regulatory process while maintaining safety and security, and reducing the regulatory burden on licensees and saving NRC resources. Partial implementation of the changes of a CoC amendment without prior NRC approval remains prohibited because the cask would be in an unanalyzed condition.

The staff has developed regulatory guidance in the form of a draft standard review plan (SRP) entitled "Standard Review Plan for License Renewal of Independent Spent Fuel Storage Installations." The SRP would provide guidance to the staff in reviewing the effects of aging on dry storage casks or ISFSI sites. The SRP would also assist potential applicants in identifying the primary elements to be included in a renewal application and measures necessary to ensure that the cask or ISFSI can be operated during the renewal period without undue risk to the health and safety of the public. The staff plans to publish the draft SRP for public comment following the publication of this proposed rule.

The staff assessed the proposed revisions to 10 CFR Part 72 against the NRC's strategic performance goals which are: (1) ensure adequate protection of public health and safety, and the environment; and (2) ensure adequate protection in the secure use and management of radioactive materials. The staff determined that the proposed rule is consistent with the agency's strategic goals. Also by eliminating unnecessary and costly exemptions, which consume resources and delay regulatory actions, the proposed amendments would support the

NRC's organizational excellence objectives of ensuring that its actions are efficient, effective, realistic, and timely. In support of NRC's openness strategies, NRC held public meetings with stakeholders during the development of the technical bases and made preliminary draft rule language available on Regulations.gov for public review and comment.

#### AGREEMENT STATE ISSUES:

This rule is classified as compatibility category "NRC" and addresses only areas of exclusive NRC regulatory authority. Therefore, Agreement States would not need to make conforming changes to their regulations.

#### RECOMMENDATIONS:

That the Commission:

1. Approve for publication, in the *Federal Register*, the proposed amendments to Part 72 (Enclosure 1).
2. Note:
  - a. That the proposed amendments will be published in the *Federal Register*, allowing 75 days for public comment.
  - b. That the Chief Counsel for Advocacy of the Small Business Administration will be informed of the certification and the reasons for it, as required by the Regulatory Flexibility Act, 5 U.S.C. 605(b).
  - c. That a draft Regulatory Analysis has been prepared for this rulemaking (Enclosure 2).
  - d. That a draft Environmental Assessment has been prepared for this rulemaking (Enclosure 3).
  - e. That appropriate Congressional committees will be informed of this action.
  - f. That a press release will be issued by the Office of Public Affairs when the proposed rulemaking is filed with the Office of the Federal Register.
  - g. Office of Management and Budget (OMB) review is required and a clearance package will be forwarded to OMB no later than the date the proposed rule is submitted to the Office of the Federal Register for publication.

#### RESOURCES:

The required resources to implement and complete the preferred option, which is to complete the final rulemaking, are: Fiscal Year (FY) 2009, 0.8 full-time equivalent (FTE) [0.5 Office of Federal and State Materials and Environmental Management Programs (FSME), 0.1 Office of Nuclear Material Safety and Safeguards (NMSS), 0.1 Office of Administration (ADM), and 0.1 Office of the General Counsel (OGC)] and FY 2010, 0.7 FTE (0.5 FSME, 0.1 NMSS, and

0.1 OGC). The required resources are included in the FY 2009 and 2010 budgets for FSME, NMSS, ADM, and OGC. Contract support has been used to develop the OMB Supporting Statement (approximately \$56,000).

COORDINATION:

The Office of the General Counsel has no legal objection to the proposed rulemaking. The Office of the Chief Financial Officer has reviewed this Commission Paper for resource implications and has no objections. The rule proposes changes in information collection requirements that must be submitted to OMB no later than the date the proposed rule is forwarded to the Office of the Federal Register for publication.

*/RA Martin Virgilio for/*

R. W. Borchardt  
Executive Director  
for Operations

Enclosures:

1. *Federal Register* Notice
2. Draft Regulatory Analysis
3. Draft Environmental Assessment

NUCLEAR REGULATORY COMMISSION

10 CFR Part 72

RIN: 3150-AI09

[NRC-2008-0361]

**License and Certificate of Compliance Terms**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Proposed rule.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its regulations that govern licensing requirements for the independent storage of spent nuclear fuel. These proposed amendments include changes that would enhance the effectiveness and efficiency of the licensing process for spent nuclear fuel storage. Specifically, they would clarify the term limits for dry storage cask Certificates of Compliance (CoCs) and independent spent fuel storage installation (ISFSI) specific licenses. The proposed amendments would also provide consistency between the general and specific ISFSI license requirements, and allow general licensees subject to these regulations to implement changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC (a “previously loaded cask”).

**DATES:** The comment period expires (**insert 75 days from date of publication**). Comments received after this date will be considered if it is practical to do so, but the NRC is able to assure consideration only for comments received on or before this date.

**ADDRESSES:** You may submit comments by any one of the following methods. Comments submitted in writing or in electronic form will be made available for public inspection. Because your comments will not be edited to remove any identifying or contact information, the NRC cautions you against including any information in your submission that you do not want to be publicly disclosed.

**Federal e-Rulemaking Portal:** Go to <http://www.regulations.gov> and search for documents filed under Docket ID [NRC-2008-0361]. Address questions about NRC dockets to Carol Gallagher 301-492-3668; e-mail [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov).

**Mail comments to:** Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.

**E-mail comments to:** [Rulemaking.Comments@nrc.gov](mailto:Rulemaking.Comments@nrc.gov). If you do not receive a reply e-mail confirming that we have received your comments, contact us directly at 301-415-1677.

**Hand deliver comments to:** 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 am and 4:15 pm Federal workdays. (Telephone 301-415-1677)

**Fax comments to:** Secretary, U.S. Nuclear Regulatory Commission at 301-415-1101.

You can access publicly available documents related to this document using the following methods:

**NRC's Public Document Room (PDR):** The public may examine and have copied for a fee publicly available documents at the NRC's PDR, Public File Area O-1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852-2738.

## **NRC's Agencywide Documents Access and Management System (ADAMS):**

Publicly available documents created or received at the NRC are available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this page, the public can gain entry into ADAMS, which provides text and image files of NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC's PDR Reference staff at 1-800-397-4209, 301-415-4737 or by e-mail to [pdresource@nrc.gov](mailto:pdresource@nrc.gov).

**FOR FURTHER INFORMATION CONTACT:** Keith McDaniel, Office of Federal and State Materials and Environmental Management Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-5252, e-mail, [Keith.McDaniel@nrc.gov](mailto:Keith.McDaniel@nrc.gov).

## **SUPPLEMENTARY INFORMATION:**

### I. Background

### II. Discussion

- A. What action is the NRC taking, and why?
- B. Whom does this action affect?
- C. Why is the NRC increasing initial and renewal terms for site-specific ISFSI licenses from 20 years to not to exceed 40 years?
- D. Can applicants apply for an initial or renewal term greater than 40 years?
- E. Why is the NRC changing the word "reapproval" to "renewal"?
- F. Why is the NRC adding a definition for the term "time-limited aging analyses"?
- G. What is an aging management program (AMP)?
- H. Why is the NRC requiring an AMP?
- I. Why is the NRC changing the 20-year general license term for cask designs approved for use under the general license provisions?
- J. Are there possible conflicts that could arise for storage cask designs that are granted a term extension that are also approved for a different term limit as a transportation package?
- K. How do general licensees track cask expiration dates?
- L. Who is responsible for applying for CoC renewals?
- M. Does the NRC have a definition for "terms, conditions, and specifications" as related to the CoC?

- N. Under the proposed rule, can a licensee apply CoC amendments to previously loaded casks?
- O. May a general licensee implement only some of the authorized changes in a CoC amendment without prior NRC approval?
- P. Do later CoC amendments encompass earlier CoC amendments?
- Q. Why can't general licensees use the 10 CFR 72.48 process to apply CoC amendment changes to previously loaded casks?
- R. If a general licensee selects and purchases a cask system under an earlier amendment, but does not load the casks, can the general licensee adopt the most recent amendment for the empty casks before loading them?
- S. What are NRC's plans for providing guidance and examples of aging analyses and AMPs to licensees?
- T. Could the NRC maintain the current paragraph designations of 10 CFR 72.212(b)?
- U. When are licensees required to submit cask registration letters?
- V. If a CoC is not renewed, how long would general licensees have to remove expired casks from service?
- W. When NRC renews a CoC, are all amendments to that CoC simultaneously renewed as well?
- X. If a general licensee applies for the renewal of a given CoC (assuming the certificate holder went out of business or chose not to apply for the renewal of a given CoC), and if the NRC approves the renewal of that CoC, is the renewed CoC available only to that general licensee or is it available to all general licensees?
- Y. Can the requirements in the proposed rule regarding time-limited aging analyses for CoC renewals be based upon a "current licensing basis" patterned after 10 CFR Part 54 rather than the 10 CFR Part 50 design bases?
- Z. What is the status of the draft NRC Regulatory Issue Summary (RIS) 2007-26 which was issued on January 14, 2008 (73 FR 2281)?

### III. Discussion of Proposed Amendments by Section

#### IV. Criminal Penalties

#### V. Agreement State Compatibility

#### VI. Plain Language

#### VII. Voluntary Consensus Standards

#### VIII. Finding of No Significant Environmental Impact: Availability

#### IX. Paperwork Reduction Act Statement

#### X. Regulatory Analysis

#### XI. Regulatory Flexibility Certification

#### XII. Backfit Analysis

## I. Background

On April 29, 2002, the Virginia Power and Electric Company (Dominion) submitted an application to renew Special Nuclear Materials (SNM) License SNM-2501 for the Surry ISFSI. SNM-2501 authorizes the storage of spent nuclear fuel in dry casks at the Surry Nuclear Power Plant. In the renewal application, Dominion requested an exemption from the 20-year license renewal term specified in 10 CFR 72.42(a) and sought approval for a 40-year license renewal term. Similarly, on February 27, 2004, Progress Energy Carolinas, Inc. (Progress Energy) submitted an application for the renewal of H. B. Robinson's ISFSI license which requested an exemption from the provisions of 10 CFR 72.42(a), so that the license renewal period for the H. B. Robinson ISFSI could be extended from 20 to 40 years.

The NRC staff determined the 40-year renewal exemption request to be a policy decision, not a technical one, because the safety evaluation indicated sufficient technical information had been provided in the application to grant the 40-year renewal period. As a result, a Commission paper (SECY-04-0175) entitled, "Options for Addressing the Surry Independent Spent Fuel Storage Installation License-Renewal Period Exemption Request," was submitted on September 28, 2004, to request Commission approval of the Surry 40-year renewal exemption request.

On November 29, 2004, the Commission issued a Staff Requirements Memorandum (SRM) for SECY-04-0175, which authorized the NRC staff to approve 40-year license renewal terms for the Surry ISFSI, with appropriate license conditions to manage the effects of aging. The SRM further directed the NRC staff to: (1) initiate a program to review the technical basis for future rulemaking; (2) provide recommendations on the license term for Part 72 CoCs for spent nuclear fuel dry cask storage systems; and (3) apply the Commission-approved guidance

for Part 72 renewals to future site-specific exemption requests without further Commission approval. In response to this direction, the staff submitted a Commission paper (SECY-06-0152) entitled, "Title 10 Code of Federal Regulations Part 72 License and Certificate of Compliance Terms," on July 7, 2006, to recommend the scope of rulemaking.

In an SRM, dated August 14, 2006, the Commission authorized the staff to proceed with rulemaking proposals described in SECY-06-0152. In addition, the Commission specifically directed the staff to address the following points in the rulemaking: (1) clarify the start of the 20-year term limit for cask designs approved under general license provisions; (2) identify whether the cask vendor or licensee is responsible for applying for the CoC renewals; (3) discuss possible conflicts that could arise for storage cask designs that are granted a license term extension and that have been approved for transport with a different license term; (4) discuss how the cask expiration dates are tracked at each general license site so that it is clearly understood when the CoC for each cask design must be renewed; and (5) clarify the difference between CoC "approval" and "renewal."

As this rulemaking commenced, the NRC staff identified a related issue regarding its approval of Amendment 4 to CoC 72-1026, which revised cask monitoring and surveillance requirements for the BNG Fuel Solutions W-150 storage cask. Subsequent to the approval, the certificate holder requested guidance from the NRC on the implementation of the changes authorized by the CoC amendment to previously loaded casks. In addition to this request, the NRC staff became aware of the belief among some general licensees that changes authorized by CoC amendments can be applied to previously loaded casks without prior NRC approval, if an analysis under § 72.48 is performed.

The NRC staff determined that under the current regulations, changes authorized by CoC amendments cannot be applied to previously loaded casks without express NRC approval,

if such change results in a change to the terms or conditions of the CoC under which the cask was loaded. A previously loaded cask is bound by the terms and conditions (including the technical specifications) of the CoC applicable to that cask when the licensee loaded the cask. Therefore, under the current regulations, general licensees that want to apply changes approved by a CoC amendment to a previously loaded cask must request an exemption from the NRC if these changes alter the terms or conditions of the CoC under which that cask was loaded.

In the SRM for COMSECY-07-0032, dated December 12, 2007, the Commission stated that it did not object to the staff expanding the scope of the proposed rulemaking to include two issues concerning the extension of license renewal terms for ISFSI specific licenses and to allow Part 72 general licensees to apply CoC amendment changes to previously loaded casks.

In the August 14, 2006, SRM for SECY-06-0152, the Commission directed the NRC staff to be as transparent as possible in developing the proposed rule package, including making draft text available for comment to stakeholders, and holding public meetings, if necessary, before formal submission of the proposed rule to the Commission. In response, the NRC staff held public meetings on November 7, 2006, and February 29, 2008, to discuss the technical bases of the rulemaking with stakeholders. In addition, on August 4, 2008, the NRC staff made preliminary draft rule text available for comment to stakeholders on Regulations.gov (Docket ID NRC-2008-0361). The only external stakeholders that submitted comments were Nuclear Energy Institute and Florida Power and Light. The comments generally supported the rulemaking. The “Discussion” section of this document includes NRC responses to significant stakeholder comments.

## II. Discussion

### *A. What action is the NRC taking, and why?*

The NRC is proposing to revise Part 72 requirements for site-specific and general ISFSI licensees and CoCs to enhance the effectiveness and efficiency of the licensing process.

For site-specific ISFSI licenses, the Commission is proposing to codify a technical approach consistent with that applied in granting the 40-year exemptions for the Surry and H. B. Robinson site-specific ISFSI license renewals, so that all site-specific ISFSI licensees will have the flexibility to request up to 40-year initial and renewal terms while ensuring safe and secure storage of spent nuclear fuel.

For CoCs, the Commission is also proposing to allow the flexibility for applicants to request initial and renewal terms up to 40 years. Question C of this section discusses the technical basis for this change. Under this proposed change, applicants would be required to demonstrate that design and support/operational programs are suitable for the requested term. The NRC staff has developed a standard review plan for renewal applications.

For both site-specific licenses and CoCs, the proposed rule adds a requirement that renewal applicants must provide time limited aging analyses and a description of an aging management program (see Questions F, G, and H) to ensure that storage casks will perform as designed under extended license terms.

The NRC is proposing to replace the term “reapproval,” which is used to describe the process of extending the CoC terms, to “renewal” for consistency with site-specific license terminology. Question E of this section discusses the rationale for this change.

The proposed rule also would allow general licensees to implement changes associated with CoC amendments to previously loaded casks, provided that the loaded cask conforms to

the CoC amendment codified by the NRC in § 72.214 and continue to ensure the safe and secure storage of spent fuel. Question N of this section discusses the rationale for this change.

*B. Whom does this action affect?*

The proposed rule would affect Part 72 site-specific and general licensees and certificate holders.

*C. Why is the NRC increasing initial and renewal terms for site-specific ISFSI licenses from 20 years to not to exceed 40 years?*

The NRC is increasing initial and renewal terms for site-specific ISFSI licenses from 20 years to not to exceed 40 years to be consistent with the NRC staff's findings regarding the safety of spent nuclear fuel storage, as documented in the renewal exemptions issued to the Surry and H.B. Robinson ISFSIs. During the review for the Surry and H. B. Robinson renewal applications, the NRC staff evaluated the technical data resulting from an NRC-supported research program at the Idaho National Laboratory (INL), formerly Idaho National Engineering and Environmental Laboratory, and also considered experience with dry spent fuel storage casks used at Surry. Under the INL research program, INL opened a dry storage cask after the fuel had been stored for approximately 15 years. At Surry, several casks were also opened after less than 15 years of storage as a result of some faulty weather covers which were corrected. Summaries of the findings regarding the condition of the fuel and cask components follow:

(1) Cladding creep is a time-dependent change in the dimension of the cladding resulting from high temperature and stress. It was considered as a potential degradation mechanism during storage. Confirmatory inspection of the spent fuel stored at INL verified that

no cladding creep had occurred. The spent fuel in dry storage at Surry also supports this finding. The NRC staff expects very little to no fuel degradation at the end of an extended licensing period. The established limits for cladding temperature during storage, and continually decreasing level of cladding stress and temperature, further remove creep as a degradation mechanism. Assessment indicated that cladding creep would not be an issue.

(2) The NRC staff also expects limited degradation of other internal components because there are no significant corrosive influences in the inert environment, either for the fuel or for other components. The INL inspection verified that there was no indication of corrosion for any internal canister components. The NRC staff has also concluded that radiation levels are too low to significantly alter the properties of the metals for any storage canister components.

(3) The other external components of the storage systems (which are exposed to weathering effects) would already be covered by an inspection and corrective action program, or routine maintenance, to ensure that any degradation will be identified and assessed for its importance to safety, and will be addressed through corrective actions to ensure continued safe operation of the storage system.

Based on these findings, the NRC staff concludes that, with appropriate aging management and maintenance programs, license terms not to exceed 40 years are reasonable and protect public health and safety and the environment.

*D. Can applicants apply for an initial or renewal term greater than 40 years?*

Under the proposed rule, applicants cannot apply for an initial or renewal term greater than 40 years. Any request for a term greater than 40 years must be justified and will be processed as an exemption request under § 72.7. As discussed in Question C of this section,

the NRC staff believes that 40-year increments are reasonable without undue risk to the public or to the environment, if there are appropriate aging management and maintenance programs. Requests for license terms longer than 40 years would require additional information on the long-term material degradation of dry spent fuel storage casks, and the NRC staff would need to evaluate this information.

*E. Why is the NRC changing the word “reapproval” to “renewal”?*

The NRC is changing the word “reapproval” to “renewal” in the proposed rule to be consistent with the terminology used in other license requirements under Part 72. Currently, § 72.240 uses “reapproval” to describe the process of extending the terms of CoCs. This process, however, is quite different from the rest of Part 72. For example, § 72.42 uses the word “renewal” to define the process for extending the term of site-specific ISFSI licenses, and § 72.212(a)(3) uses “renewal” to define the process for the continued use of storage casks of a particular design at a given site. Although “reapproval” and “renewal” are similar words, they are subject to different regulatory interpretations. “Renewal” typically implies a process whereby a new license, subject to the same requirements as the original, replaces an expired license. “Reapproval” could imply a process to reevaluate the design bases in accordance with current review standards, which may be different from the standards in place at initial certification and storage cask use.

By using the word “renewal,” the proposed rule revisions would remove ambiguity from the process for extending the terms of CoCs, as opposed to the uncertainty of extending CoC terms based on reevaluation of design bases using current standards. Although the NRC continuously updates its review standards, no compelling safety concerns have been identified to warrant the removal of spent fuel from a cask design that does not meet the latest review

standards. In fact, former NRC Commissioner Merrifield commented in his response to SECY-06-0152, that a cask design certified years ago may not meet the latest standards, but yet may be fully acceptable for continuing to store the fuel already in the cask design. He further stated that, “[t]here are significant safety considerations if the spent fuel must be repackaged to a cask that does meet the latest design standards. The NRC should not be forcing such repackaging efforts unless there are clearly identified safety concerns with leaving the spent fuel in its existing storage containers. Reapproval for an existing loaded cask should consider the initial licensing basis. For an unloaded cask or an older cask design whose CoC has expired, it would be prudent to review it against the latest standards.”

In addition, the Statements of Consideration (55 FR 29184; July 18, 1990) for the final rule that added the general license provisions to Part 72 stated that the intent of reapproval is not to reevaluate the initial licensing basis: “[t]he procedure for reapproval of cask designs was not intended to repeat all the analyses required for the original approval.” Thus, this interpretation of “reapproval” as expressed by former NRC Commissioner Merrifield and the referenced Statements of Consideration, is more in the nature of a “renewal,” in that the initial licensing basis does not need to be reevaluated to extend CoC terms.

The referenced Statements of Consideration also reported that, “[t]he Commission believes that the staff should review spent fuel storage cask designs periodically to consider any new information, either generic to spent fuel storage or specific cask designs, that may have arisen since issuance of the Certificate of Compliance.” Clearly, measures would need to be taken if the “new information” involves safety concerns. These measures would depend on the nature of the safety concerns and the cask design. Requests for Additional Information (RAIs) may be generated during the renewal process to prompt licensees/applicants to address such safety concerns.

*F. Why is the NRC adding a definition for the term “time-limited aging analyses”?*

Time-Limited Aging Analyses (TLAA) is a process to assess systems, structures, and components (SSCs) important to safety which have a time-dependent operating life. The NRC is proposing to add a definition for TLAA because TLAA would be required for the renewal of a site-specific license under proposed § 72.42(a)(1) and for the renewal of a spent fuel storage cask CoC under proposed § 72.240(c)(2). Furthermore, stakeholders asked for a definition of “time-limited aging analyses” when they reviewed the initial guidance document for the Surry and H. B. Robinson site-specific ISFSI license renewals.

*G. What is an Aging Management Program (AMP)?*

An AMP is a program for addressing aging effects which may include prevention, mitigation, condition monitoring and performance monitoring programs. SSCs must be evaluated to demonstrate that aging effects will not compromise the SSCs’ intended functions during the storage period.

*H. Why is the NRC requiring an AMP?*

The NRC believes that it is appropriate to codify an AMP in Part 72 for applicants who apply to renew site-specific ISFSI licenses or CoCs because degradation of the SSCs at an ISFSI, such as degradation due to corrosion, radiation, and creep, are time-dependent mechanisms. AMP requirements would ensure that SSCs will perform as designers intended during the renewal period.

*I. Why is the NRC changing the 20-year general license term for cask designs approved for use under the general license provisions?*

The NRC is proposing to change the 20-year general license term limit for the storage of spent fuel in casks fabricated under a CoC to be consistent with the proposed revisions to CoC initial and renewal terms (which establish a CoC term not to exceed 40 years).

Under § 72.210, a general license for the storage of spent fuel in an ISFSI at power reactor sites is issued to those persons authorized to possess or operate nuclear power reactors under 10 CFR Parts 50 or 52. The general license is limited to that spent fuel which the general licensee is authorized to possess at the site under the specific license for the site. The general license is further limited to storage of spent fuel in casks approved and fabricated under the provisions of Subpart L of Part 72. Currently, the general licensee's authority to use a particular cask design under an approved CoC terminates 20 years after the date that the general licensee first uses the particular cask to store spent fuel, unless the cask's CoC is renewed, in which case the general license terminates 20 years after the CoC renewal date. In the event the cask's CoC were to expire, any loaded spent fuel storage casks of that design would need to be removed from service after a storage period not to exceed 20 years.

The NRC proposes to revise the regulations to specify that the general license for the storage of spent fuel in each cask fabricated under a CoC commences upon the date that the particular cask is first used by the general licensee to store spent fuel and shall not exceed the term certified by the cask's CoC, unless the cask's CoC is renewed, in which case the general license terminates when the cask's CoC expires. The proposed rule further specifies that if a CoC were to expire, any loaded spent fuel storage casks of that design would need to be removed from service after a storage period not to exceed the term certified by the cask's CoC.

*J. Are there possible conflicts that could arise for storage cask designs that are granted a term extension that are also approved for a different term limit as a transportation package?*

The Commission raised this issue in its SRM for SECY-06-0152, dated August 14, 2006. The NRC staff does not foresee any possible conflicts. The current regulations in Part 72 encourage, but do not require storage cask designs to have a compatible, approved transportation cask. So called “dual use” systems must be separately certified under the requirements in 10 CFR Part 71 (transportation) and Part 72 (storage). Typically, the only common item between these systems is the inner canister, which holds the spent fuel contents.

Part 71 certificates for transportation packages are issued for a 5-year term whereas Part 72 CoCs are issued for much longer periods (under the current regulations, most CoCs have 20 year terms; under the proposed rule, the CoC term is extended to a not to exceed 40 year term). For each transportation cask certified under 10 CFR Part 71, the CoC specifies “approved contents.” The description of the approved contents for a spent fuel transportation package defines the acceptable fuel types and characteristics and, typically, it is the condition of the fuel, not its age that determines its acceptability. Spent fuel stored in dry casks, even for extended terms, is not expected to experience any significant degradation that would affect its acceptability to be shipped in a suitable transportation cask. Part 72 general design criteria require fuel retrievability and that design of the storage casks should consider, to the extent practicable, compatibility with removal of the stored spent fuel from the reactor site, transportation, and ultimate disposition by the Department of Energy. Based upon the NRC supported INL research program and the Surry and H.B. Robinson ISFSI renewal applications, the NRC staff has concluded that typical spent fuel can be safely stored in dry casks without appreciable degradation.

If the condition of spent fuel, or its storage canister, was believed to have degraded during extended storage such that it no longer met the criteria for approved contents, a licensee would have other alternatives for transport of that spent fuel. A new or modified approved

transportation cask might be used, or the fuel might be repackaged (or “canned”), to place it in an acceptable configuration.

*K. How do general licensees track cask expiration dates?*

General licensees maintain a schedule for each cask used at their sites, and the licensees submit this information to the Commission. Section 72.212(b)(1) of the proposed rule requires general licensees to notify the Commission at least 90 days before first storing spent nuclear fuel under a general license. Section 72.212(b)(2) of the proposed rule would require general licensees to register use of each cask with the Commission no later than 30 days after using that cask to store spent fuel. To register casks, licensees must submit their name and address, reactor license and docket numbers, the name and title of a person responsible for providing additional information concerning spent fuel storage under the general license, the cask certificate number, the amendment number, if applicable, cask model number, and the cask identification number. With this information, the Commission will know the loading and expiration dates of each cask. This information also will enable the NRC to schedule any necessary inspections and will permit the NRC to maintain an independent record of use for each cask.

*L. Who is responsible for applying for CoC renewals?*

The proposed rule retains the structure of the current rule which emphasizes the certificate holder (the cask vendor) applying for cask renewal. If the certificate holder chooses not to apply for the renewal of a particular cask design or is no longer in business, a general licensee may apply for renewal in its place. If the general licensee seeks to fabricate this cask

design, it must satisfy the applicable requirements of Part 72, including establishment and maintenance of the requisite quality assurance (QA) program.

*M. Does the NRC have a definition for “terms, conditions, and specifications” as they relate to the CoC?*

The NRC does not include a definition for “terms, conditions, and specifications” in the proposed rule because these words are generic in nature, and are used in other parts of the NRC’s regulations without definition.

*N. Under the proposed rule, can a licensee apply CoC amendments to previously loaded casks?*

Proposed § 72.212 would allow a general licensee to apply changes authorized by a CoC amendment to a previously loaded cask provided that the licensee demonstrates, through a written evaluation, that the cask meets the terms and conditions of the subject CoC amendment (i.e., the loaded cask must conform to the CoC amendment codified by the NRC in § 72.214).

*O. May a general licensee implement only some of the authorized changes in a CoC amendment without prior NRC approval?*

If a general licensee elects to apply the changes authorized by a CoC amendment to a previously loaded cask, the cask must conform to the terms and conditions after the changes have been applied, including the technical specifications of the CoC amendment. Partial or selective application of some of the authorized changes, but not others, requires prior NRC approval (in this case, the general licensee would apply for an exemption). The basis for

allowing licensees to apply the changes authorized by a CoC amendment to a previously loaded cask without prior approval from the NRC is that the cask will remain in an analyzed condition if, after the changes have been applied, it conforms to the terms and conditions of the CoC amendment. The NRC has previously stated, “a spent fuel storage cask will be relied on to provide safe confinement of radioactive material independent of a nuclear power reactor’s site, so long as conditions of the Certificate of Compliance are met” (54 FR 19381; May 5, 1989). However, partial or selective application of a CoC amendment’s changes would result in a cask that would be in an unanalyzed condition.

In a related issue, the NRC agrees with an industry comment raised in response to the publication of the draft preliminary rule text (73 FR 45173; August 4, 2008). The draft preliminary rule text required that a general licensee ensure that once the changes authorized by a CoC amendment had been applied to a previously loaded cask, that the cask then “fully conforms” to the terms and conditions of the CoC amendment. The industry comment raised the concern that the phrase “fully conforms” was overly restrictive and requiring conformance with all the changes authorized by a CoC amendment would not be feasible or logical in certain instances, namely, in those cases where the amended CoC requirements do not apply to that particular general licensee site or ISFSI (e.g., requirements for pressurized water reactors (PWR) fuel at a boiling water reactor (BWR) plant).

In light of this comment, the proposed rule language now requires that the cask, once CoC amendment changes have been applied, “conforms” to the terms and conditions of the CoC amendment. Thus, CoC amendment requirements for PWR fuel need not be met at a BWR plant.

Similarly, if the CoC amendment changes the Technical Specifications for loading, general licensees may have difficulty demonstrating that the previously loaded cask complies

with the new loading requirements. Proposed 10 CFR 72.212(b)(5) would require general licensees to perform written evaluations prior to applying the changes authorized by an amended CoC to a previously loaded cask. If the evaluation indicates that the loading conditions under the old CoC amendment would not affect the ability of the previously loaded cask to meet the storage or unloading requirements of the newer CoC amendment, general licensees would be considered as conforming with the terms and conditions of the newer CoC amendment without having to meet the new loading requirements.

*P. Do later CoC amendments encompass earlier CoC amendments?*

No, later CoC amendments do not encompass earlier amendments unless the language of the later CoC amendment expressly indicates otherwise. Generally, when the NRC reviews an amendment to a CoC, the NRC staff considers the changes associated with the amendment request only and limits its review to the bounding conditions of the analysis. Specific changes associated with earlier CoC amendments for previously loaded casks are not considered during the review process for a later amendment. Thus, depending on the nature of the changes, later amendments do not necessarily encompass earlier amendments and sometimes may be inconsistent with earlier amendments.

*Q. Why can't general licensees use the 10 CFR 72.48 process to apply CoC amendment changes to previously loaded casks?*

The principal requirement of § 72.48 regarding changes to cask designs is that the desired changes do not result in a change in the terms, conditions, or specifications incorporated in the CoC. A previously loaded cask is bound by the terms, conditions, and technical specifications of the CoC applicable to that cask at the time the licensee loaded the

cask. Thus, under § 72.48, a licensee may only make those cask design changes that do not result in a change to the terms, conditions, or specifications of the CoC under which the cask was loaded. The proposed rule would not amend § 72.48; but would amend § 72.212 by authorizing a general licensee to apply the changes authorized by a CoC amendment to a previously loaded cask, provided that after the changes have been applied, the cask conforms to the terms and conditions, including the technical specifications, of the CoC amendment.

*R. If a general licensee selects and purchases a cask system under an earlier amendment, but does not load the casks, can the general licensee adopt the most recent amendment for the empty casks before loading them?*

Adoption of the most recent amendment depends on the nature of the changes between the CoC amendment under which the cask system was fabricated and the most recent amendment. CoC amendments are routinely requested by cask manufacturers or vendors (also referred to as the certificate holders) to account for advances in cask design and technology. Some amendments will be associated with cask hardware changes. A cask system that was purchased under an older amendment may or may not be able to be modified to a cask system that meets the most recent amendment.

Proposed § 72.212 would require that general licensees perform written evaluations demonstrating that the conditions in the CoC have been met before loading empty casks. If such an evaluation failed to meet the conditions in the most recent CoC amendment, the empty cask cannot be changed to the most recent amendment by the general licensee before loading. If the evaluation demonstrates that the conditions in the most recent CoC amendment are met, then the most recent amendment can be implemented to this previously purchased empty cask.

*S. What are NRC's plans for providing guidance and examples of aging analyses and AMPs to licensees?*

The NRC is developing a draft Standard Review Plan (SRP) entitled, "Standard Review Plan for License Renewal of Independent Fuel Storage Installations." The intent of this SRP is to provide guidance to the NRC staff in reviewing the licensees' programs for managing the effects of aging on spent fuel storage casks or ISFSI sites. Aging analyses and aging management programs are two components of an overall program for managing the effects of aging. Because applicants would need to submit a time-limited aging analysis and a description of their program to manage the effects of aging when applying for renewal of either CoCs or specific licenses under the proposed rule, this SRP would also assist potential applicants in identifying parameters to be included in a renewal application and measures necessary to ensure that the cask or ISFSI can be operated during the renewal period without undue risk to the public health and safety. The draft SRP will be published for public comment following the publication of this proposed rule.

*T. Could the NRC maintain the current paragraph designations of 10 CFR 72.212(b)?*

The NRC understands the burden arising from changing the paragraph designations of a regulation. However, the NRC is proposing to rearrange the provisions of § 72.212(b) to better organize regulatory requirements. For example, the proposed rule would group recordkeeping requirements at the end of § 72.212(b) rather than dispersing them among other requirements, as is currently the case. The NRC's intent for rearranging § 72.212(b) is to make this provision more user-friendly. These proposed changes are documented in Table 1 located in Section III (Item 4) of this document (Discussion of Proposed Amendments by Section under the discussion pertaining to § 72.212).

*U. When are licensees required to submit cask registration letters?*

Under proposed 10 CFR 72.212(b)(2), general licensees must submit a cask registration letter no later than 30 days after using (loading) that cask to store spent fuel. One registration letter may be submitted for a campaign that loads more than one cask, provided that the letter lists the cask certificate number, the amendment number, the cask model number, and the cask identification number of each cask covered by the campaign.

In addition, under proposed 10 CFR 72.212(b)(4), general licensees must submit a cask registration letter no later than 30 days after applying the changes authorized by an amended CoC to a previously loaded cask. One registration letter may be submitted for a campaign that applies CoC amendment changes to more than one cask, provided that the letter lists the cask certificate number, the amendment number to which the cask will conform, the cask model number, and the cask identification number of each cask covered by the campaign.

*V. If a CoC is not renewed, how long would general licensees have to remove expired casks from service?*

For those dry storage systems for which renewals are not planned, users should plan ahead to remove these dry storage systems from service before the expiration of the storage terms specified in the expired CoC. Because users are most aware of the general cask schedule and the number of casks to be removed from service at their sites, users are in the best position to develop a reasonable schedule for the removal. The NRC anticipates that dry storage systems with a large number of casks in use likely will be renewed either by the vendor or by a user or group of users. Therefore, it is unlikely that licensees will need to remove a large number of casks from service at the same time.

*W. When the NRC renews a CoC, are all amendments to that CoC simultaneously renewed as well?*

Section 72.214 lists one expiration date for each CoC. Amendments under a CoC may have different effective dates; however, they share the same certificate number and docket number. Therefore, a single renewal application for a CoC with updated information to reflect all the changes would apply to all CoC amendments.

*X. If a general licensee applies for the renewal of a given CoC (assuming the certificate holder went out of business or chose not to apply for the renewal of a given CoC), and if the NRC approves the renewal of that CoC, is the renewed CoC available only to that general licensee or is it available to all general licensees?*

CoC certificates are generic designs and approved by rulemaking. The renewed CoC would be available to all persons who hold a general license under § 72.210.

*Y. Can the requirements in the proposed rule regarding time-limited aging analyses for CoC renewals be based upon a “current licensing basis” patterned after 10 CFR Part 54 rather than the design bases?*

The NRC does not believe that the Part 54 “current licensing basis” (CLB) is the appropriate basis for time-limited aging analyses in support of CoC renewals. The NRC does not believe that it is appropriate for the CLB to be applied to cask CoC renewals, which are generic. The CLB is typically the set of NRC requirements applicable to a specific plant and a specific licensee’s written commitments for ensuring compliance with and operation within applicable NRC requirements, including the plant specific design basis (including all modifications and additions to regulatory commitments over the life of the license) that are docketed and in effect.

*Z. What is the status of the draft NRC Regulatory Issue Summary (RIS) 2007-26 which was issued on January 14, 2008 (73 FR 2281)?*

The NRC has decided not to finalize the draft RIS 2007-26, because proposed § 72.212(b) would provide a path forward for implementation of later amendments to previously loaded casks. An Enforcement Guidance Memorandum (EGM) will be issued in conjunction with the publication of this proposed rule to provide guidance to NRC inspectors for exercising enforcement discretion concerning deficiencies related to implementing changes, authorized by CoC amendments to previously loaded casks, that occurred prior to issuance of the EGM.

### III. Discussion of Proposed Amendments by Section

#### 1. Section 72.3, Definitions.

The proposed rule would add a definition for “Time-limited aging analysis”.

#### 2. Section 72.24, Contents of application; Technical information.

The proposed rule change to § 72.24(c) would require applicants seeking initial specific licenses or specific licensees seeking renewals to demonstrate in sufficient detail that the design of the ISFSI or monitored retrievable storage installation (MRS) is capable of performing the intended functions for the term requested in the application.

#### 3. Section 72.42, Duration of license; renewal.

The proposed rule change to § 72.42(a) would extend the term for both an initial specific license and a license renewal from a term of 20 years to a term not to exceed 40 years. The proposed rule change would also add a requirement that specific licensees seeking renewals

submit a time-limited aging analysis and a description of the aging management program. Any license renewal application will be required to include an analysis that considers the effects of aging on SSCs important to safety for the requested renewal term.

The proposed rule change to § 72.42(b) would add language to require applications for license renewal to include design bases information as documented in the most recently updated final safety analysis report (FSAR) as required by § 72.70.

#### 4. Section 72.212, Conditions of general license issued under § 72.210.

The proposed rule would make several changes to § 72.212. The proposed rule would revise § 72.212(a)(3) by changing the general license term from 20 years after the date that the particular cask is first used by the general licensee to one that shall not exceed the term certified by the cask's CoC after the date that the particular cask is first used by the general licensee. Similarly, the termination of the general license, following any renewal, is changed from 20 years after the renewal date to the expiration date set forth in the renewed CoC. The proposed rule would change the cask removal from service requirement from a storage period not to exceed 20 years following the expiration of the cask's CoC, to one that shall not exceed the term certified by the cask's CoC following the expiration of the cask's CoC. In addition, the proposed rule would substitute the term "certificate holder" for the term "cask vendor" and the term "renewal" for "reapproval" with respect to cask designs. The proposed rule would retain the language that if a CoC holder does not renew a particular cask CoC, a general licensee using casks of that design may apply for design renewal under § 72.240.

The proposed rule would amend § 72.212(b), including changes to redesignate and reorganize the provisions of that section. The following table cross references the proposed regulations with the current regulations. Use of "modified" in Table 1 refers to a rule whose content has been modified. Remaining table entries are either new rules or rules that have

been renumbered but whose content is unchanged.

Table 1 - Cross Reference of Proposed Regulations with Current Regulations

<b>Proposed Rule</b>	<b>Current Rule</b>
§ 72.212(b)(1)	§ 72.212(b)(1)(i)
§ 72.212(b)(2)	§ 72.212(b)(1)(ii) (modified)
§ 72.212(b)(3)	New
§ 72.212(b)(4)	New
§ 72.212(b)(5)	§ 72.212(b)(2)(i) (modified)
§ 72.212(b)(5)(i)	§ 72.212(b)(2)(i)(A)
§ 72.212(b)(5)(ii)	§ 72.212(b)(2)(i)(B)
§ 72.212(b)(5)(iii)	§ 72.212(b)(2)(i)(C)
§ 72.212(b)(6)	§ 72.212(b)(3) (modified)
§ 72.212(b)(7)	§ 72.212(b)(2)(ii) (modified)
§ 72.212(b)(8)	§ 72.212(b)(4) (modified)
§ 72.212(b)(9)	§ 72.212(b)(5)
§ 72.212(b)(9)(i)	§ 72.212(b)(5)(i)
§ 72.212(b)(9)(ii)	§ 72.212(b)(5)(ii)
§ 72.212(b)(9)(iii)	§ 72.212(b)(5)(iii)
§ 72.212(b)(9)(iv)	§ 72.212(b)(5)(iv)
§ 72.212(b)(9)(v)	§ 72.212(b)(5)(v)
§ 72.212(b)(9)(vi)	§ 72.212(b)(5)(vi)
§ 72.212(b)(10)	§ 72.212(b)(6)
§ 72.212(b)(11)	§ 72.212(b)(7) (modified)
§ 72.212(b)(12)	§ 72.212(b)(8)(i)
§ 72.212(b)(12)(i)	§ 72.212(b)(8)(i)(A)
§ 72.212(b)(12)(ii)	§ 72.212(b)(8)(i)(B)
§ 72.212(b)(12)(iii)	§ 72.212(b)(8)(i)(C)
§ 72.212(b)(13)	§ 72.212(b)(9)
§ 72.212(b)(14)	§ 72.212(b)(10)
§ 72.212(c)	§ 72.212(b)(8)(ii) (modified)
§ 72.212(d)	§ 72.212(b)(8)(iii) (modified)
§ 72.212(e)	§ 72.212(b)(1)(iii)

The proposed rule would redesignate § 72.212(b)(1)(i) as § 72.212(b)(1) and would make minor editorial changes to this provision.

The proposed rule would redesignate § 72.212(b)(1)(ii) as § 72.212(b)(2) and further revise the provision to add a requirement that general licensees, when registering a cask no later than 30 days after loading, include the CoC amendment number, if applicable.

The proposed rule would add a new provision, § 72.212(b)(3), that emphasizes the

requirement that general licensees must conform to the terms, conditions, and specifications of a CoC or an amended CoC listed in § 72.214. Partial or selective application of the terms, conditions, and specifications of a CoC or an amended CoC, without prior NRC approval, will result in a cask that is in an unanalyzed condition and is therefore, prohibited.

The proposed rule would add a new provision, § 72.212(b)(4), that would require registration of those previously loaded casks no later than 30 days after applying the changes authorized by an amended CoC.

The proposed rule would redesignate § 72.212(b)(2)(i) as § 72.212(b)(5). Proposed § 72.212(b)(5) would expand the scope of § 72.212(b)(2)(i) to require written evaluations before applying the changes authorized by an amended CoC to a previously loaded cask. Thus, the proposed rule would require a written evaluation before loading the cask with spent fuel and an additional written evaluation before any changes authorized by a CoC amendment are applied to a previously loaded cask. The proposed rule would redesignate § 72.212(b)(2)(i)(A) as § 72.212(b)(5)(i) and revise it to specify that the written evaluations are to establish that the cask will conform to the terms, conditions, and specifications of a CoC or amended CoC after the cask is loaded with spent fuel or the changes authorized by an amended CoC have been applied. The proposed rule would redesignate §§ 72.212(b)(2)(i)(B) and (C) as §§ 72.212(b)(5)(ii) and (iii), respectively.

The proposed rule would redesignate § 72.212(b)(3) as § 72.212(b)(6) and revise it to add a reference to an amended CoC.

The proposed rule would redesignate § 72.212(b)(2)(ii) as § 72.212(b)(7) and revise it to add a requirement to evaluate any changes to the site parameters determination and analyses required by paragraph § 72.212(b)(6), using the requirements of § 72.48.

The proposed rule would redesignate §§ 72.212(b)(4) through (b)(6) as §§ 72.212(b)(8) through (b)(10). The proposed rule would make changes to cross references and other minor

editorial changes. Proposed § 72.212(b)(9) reflects amendments made to § 73.55 by two recent rulemakings amending Part 73 (74 FR 63573, October 24, 2008, 74 FRxxxxx, xxxx 2009).

The proposed rule would redesignate § 72.212(b)(7) as § 72.212(b)(11) and revise it to add references to an amended CoC. The proposed rule would also add language to clarify that a licensee must comply with the technical specifications of the CoC, in addition to the terms and conditions of the CoC. Further, added language would require the licensee to comply with the terms, conditions, and specifications of the amended CoC for those casks to which the licensee has applied the changes of an amended CoC.

The proposed rule would redesignate §§ 72.212(b)(8)(i), (b)(9), and (b)(10) as §§ 72.212(b)(12), (b)(13), and (b)(14), respectively.

The proposed rule would redesignate §§ 72.212(b)(8)(ii), (b)(8)(iii), and 72.212(b)(1)(iii) as §§ 72.212(c), (d), and (e), respectively, and makes conforming cross-reference changes.

#### 5. Section 72.230, Procedures for spent fuel storage cask submittals.

The proposed rule would revise § 72.230(b) by adding language that establishes the proposed term for a period not to exceed 40 years. The proposed rule would further amend § 72.230(b) by replacing the words “for a period of at least 20 years” with “the term proposed in the application.”

#### 6. Section 72.236, Specific requirements for spent fuel storage cask approval and fabrication.

The proposed rule would revise § 72.236(g) by adding language to require spent fuel storage casks to be designed to store spent fuel safely for the term proposed in the application, eliminating the current language that requires the cask design to store spent fuel safely for a minimum of 20 years.

7. Section 72.238, Issuance of an NRC Certificate of Compliance.

The proposed rule would revise § 72.238 by adding language that establishes the term for a CoC to be “not to exceed 40 years.”

8. Section 72.240 Conditions for spent fuel storage cask renewal.

The proposed rule would revise the heading of § 72.240 and the language of §§ 72.240(a), (b), and (d) by replacing the word “reapproval” with “renewal.” The proposed rule would further revise § 72.240(a) to establish the CoC renewal term as one not exceeding 40 years. The proposed rule would further revise § 72.240(a) to clarify that the certificate holder is the entity expected to apply for renewal of the CoC, although in the event that a certificate holder does not apply for a CoC renewal, any general licensee using that particular cask design may then apply for renewal of the CoC.

The proposed rule would add a new § 72.240(c) which would require that the safety analysis report (SAR) accompanying the renewal application must include design bases information as documented in the most recently updated FSAR, a time-limited aging analysis of structures, systems, and components important to safety, and a description of the program for management of issues associated with aging that could adversely affect structures, systems, and components important to safety. The proposed rule would redesignate § 72.240(c) as § 72.240(d) and revise it to add a requirement that any CoC renewal application must demonstrate compliance with Subpart G of Part 72, the quality assurance provisions. The proposed rule also revises the last sentence of the provision to improve its readability.

#### IV. Criminal Penalties

For the purpose of Section 223 of the Atomic Energy Act (AEA), the Commission is proposing to amend Part 72 under one or more of Sections 161b, 161i, or 161o of the AEA. Willful violations of the rule would be subject to criminal enforcement.

#### V. Agreement State Compatibility

Under the “Policy Statement on Adequacy and Compatibility of Agreement State Programs” approved by the Commission on June 30, 1997, and published in the *Federal Register* on September 3, 1997 (62 FR 46517), this rule is classified as Compatibility Category “NRC.” Compatibility is not required for Category “NRC” regulations. The NRC program elements in this category are those that relate directly to areas of regulation reserved to the NRC by the AEA, as amended, or the provisions of Title 10 of the CFR. Although an Agreement State may not adopt program elements reserved to NRC, it may wish to inform its licensees of certain requirements via a mechanism that is consistent with the particular State’s administrative procedure laws but does not confer regulatory authority on the State.

#### VI. Plain Language

The Presidential Memorandum “Plain Language in Government Writing” published June 10, 1998 (63 FR 31883), directed that the Government’s documents be in clear and accessible language. The NRC requests comments on this proposed rule specifically with respect to the clarity and effectiveness of the language used. Comments should be sent to the NRC as explained in the “ADDRESSES” caption of this document.

## VII. 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 proposed rule, the NRC would clarify the terms for dry spent fuel storage cask designs, or CoCs, and ISFSI licenses. In addition, the proposed action also allows Part 72 general licensees to implement changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC (a “previously loaded cask”). These actions do not constitute the establishment of a standard that establishes generally applicable requirements.

## VIII. Finding of No Significant Environmental Impact: Availability

Under the National Environmental Policy Act of 1969, as amended, and the NRC regulations in Subpart A of 10 CFR Part 51, the NRC has determined that this 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 prepared an environmental assessment and, on the basis of this environmental assessment, has made a finding of no significant impact. The proposed amendments are procedural in nature whereby extended license and CoC terms and the implementation of CoC amendments to previously loaded casks could be achieved by exemptions under the current regulations. They will not have a significant incremental effect on the environment. Therefore, the NRC has determined that an environmental impact statement is not necessary for this rulemaking.

The determination of this environmental assessment is that there will be no significant

impact to the public from this action. However, the general public should note that the NRC welcomes public participation. Comments on any aspect of the Environmental Assessment may be submitted to the NRC as indicated under the ADDRESSES heading in this document.

The NRC has sent a copy of the Environmental Assessment and this proposed rule to every State Liaison Officer and requested their comments on the Environmental Assessment. The Environmental Assessment may be examined at the NRC Public Document Room, Room O-1F21, 11555 Rockville Pike, Rockville, MD 20852.

#### IX. Paperwork Reduction Act Statement

This proposed rule contains new or amended information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq). This rule has been submitted to the Office of Management and Budget (OMB) for review and approval of the information collection requirements.

*Type of submission, new or revision:* Revision

*The title of the information collection:* 10 CFR Part 72, "License and Certificate of Compliance Terms"

*The form number if applicable:* Not applicable

*How often the collection is required:* On occasion

*Who will be required or asked to report:* Nuclear power plant licensees who operate and maintain an ISFSI under the general license provisions of 10 CFR Part 72, site-specific ISFSI licensees, and CoC holders for spent nuclear fuel dry cask storage designs.

*An estimate of the number of annual responses:* 109.6 (or approximately 329 responses over three years). This includes 101.6 annual responses + 8 annual recordkeepers.

*The estimated number of annual respondents: 46*

*An estimate of the total number of hours needed annually to complete the requirement or request: -39 hours (savings of 39 hours)*

*Abstract:* The proposed rule amends Part 72 to clarify the terms for dry spent fuel storage cask designs, or CoCs, and ISFSI licenses. Specifically, the proposed rule changes would allow for longer initial and renewal terms for Part 72 CoCs and licenses, clarify the general license storage term, and clarify the difference between CoC “reapproval” and “renewal.” In addition, the proposed rule also allows Part 72 general licensees to implement changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC (a “previously loaded cask”) without NRC approval, provided the cask then conforms to the terms, conditions, and specifications of the amended CoC. Specifically, the draft proposed rule results in changes to information collection requirements in §§ 72.42, 72.212, and 72.240.

The U.S. Nuclear Regulatory Commission is seeking public comment on the potential impact of the information collections contained in this proposed rule and on the following issues:

1. Is the proposed information collection necessary for the proper performance of the functions of the NRC, including whether the information will have practical utility?
2. Is the estimate of burden accurate?
3. Is there a way to enhance the quality, utility, and clarity of the information to be collected?
4. How can the burden of the information collection be minimized, including the use of automated collection techniques?

A copy of the Office of OMB clearance package may be viewed free of charge at the NRC Public Document Room, One White Flint North, 11555 Rockville Pike, Room O-1 F21, Rockville, MD 20852. The OMB clearance package and rule are available at the NRC web site: <http://www.nrc.gov/public-involve/doc-comment/omb/index.html> for 60 days after the signature date of this notice and are also available at <http://www.regulations.gov>.

Send comments on any aspect of these proposed information collections, including suggestions for reducing the burden and on the above issues, by **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]** to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet electronic mail to [INFOCOLLECTS.Resource@NRC.GOV](mailto:INFOCOLLECTS.Resource@NRC.GOV) and to the NRC Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0132), Office of Management and Budget, Washington, DC 20503. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given to comments received after this date.

#### 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 OMB control number.

#### X. Regulatory Analysis

The NRC has prepared a draft regulatory analysis on this proposed regulation. The analysis examines the costs and benefits of the alternatives considered by the NRC. The NRC

requests public comment on the draft regulatory analysis. Comments on the draft analysis may be submitted to the NRC as indicated under the ADDRESSES heading of this document. The analysis is available for inspection in the NRC PDR, 11555 Rockville Pike, Rockville, MD 20852.

## XI. Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this rule would not, if promulgated, have a significant economic impact on a substantial number of small entities. This proposed rule affects only nuclear power plant licensees and the manufacturers of dry cask spent fuel storage systems. 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 (10 CFR 2.810).

## XII. Backfit Analysis

The NRC has determined that the backfit rule (§§ 50.109, 72.62) does not apply to this proposed rule because these amendments do not involve any provisions that would impose backfits as defined in 10 CFR Chapter I. These amendments do not require the addition, elimination, or modification of structures, systems, or components of an ISFSI or of the procedures or organization required to operate an ISFSI. Therefore, a backfit analysis is not required.

## List of Subjects for Part 72

Administrative practice and procedure, Hazardous waste, Nuclear materials, Occupational safety and health, 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. 553; the NRC is proposing to adopt 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:** Secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 189, 68 Stat. 929, 930, 932, 933, 934, 935, 948, 953, 954, 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2232, 2233, 2234, 2236, 2237, 2238, 2282); sec. 274, Pub. L. 86-373, 73 Stat. 688, as amended (42 U.S.C. 2021); sec. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846); Pub. L. 95-601, sec. 10, 92 Stat. 2951 as amended by Pub. L. 102-486, sec. 7902, 106 Stat. 3123 (42 U.S.C. 5851); sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332); secs. 131, 132, 133, 135, 137, 141, Pub. L. 97-425, 96 Stat. 2229, 2230, 2232, 2241, sec. 148, Pub. L. 100-203, 101 Stat. 1330-235 (42 U.S.C. 10151, 10152, 10153, 10155, 10157, 10161, 10168); sec. 1704, 112 Stat. 2750 (44 U.S.C. 3504 note); sec.651(e), Pub. L. 109-58, 119 Stat. 806-10 (42 U.S.C. 2014, 2021, 2021b, 2111).

Section 72.44(g) also issued under secs. 142(b) and 148(c), (d), Pub. L. 100-203, 101 Stat. 1330-232, 1330-236 (42 U.S.C. 10162(b), 10168(c), (d)). Section 72.46 also issued under sec. 189, 68 Stat. 955 (42 U.S.C. 2239); sec. 134, Pub. L. 97-425, 96 Stat. 2230 (42 U.S.C.

10154). Section 72.96(d) also issued under sec. 145(g), Pub. L. 100-203, 101 Stat. 1330-235 (42 U.S.C. 10165(g)). Subpart J also issued under secs. 2(2), 2(15), 2(19), 117(a), 141(h), Pub. L. 97-425, 96 Stat. 2202, 2203, 2204, 2222, 2224 (42 U.S.C. 10101, 10137(a), 10161(h)). Subparts K and L are also issued under sec. 133, 98 Stat. 2230 (42 U.S.C. 10153) and sec. 218(a), 96 Stat. 2252 (42 U.S.C. 10198).

2. In § 72.3, add the definition for “Time-limited aging analyses” in alphabetical order to read as follows:

**§ 72.3 Definitions.**

\* \* \* \* \*

*Time-limited aging analyses*, for the purposes of this part, means those licensee or certificate holder calculations and analyses that:

(1) Involve structures, systems, and components important to safety within the scope of the license renewal, as delineated in subpart F of this part, or within the scope of the spent fuel storage certificate renewal, as delineated in subpart L of this part, respectively;

(2) Consider the effects of aging;

(3) Involve time-limited assumptions defined by the current operating term, for example, 40 years;

(4) Were determined to be relevant by the licensee or certificate holder in making a safety determination;

(5) Involve conclusions or provide the basis for conclusions related to the capability of structures, systems, and components to perform their intended safety functions; and

(6) Are contained or incorporated by reference in the design bases.

\* \* \* \* \*

3. In § 72.24, revise the introductory text of paragraph (c) to read as follows:

**§ 72.24 Contents of application; Technical information.**

\* \* \* \* \*

(c) The design of the ISFSI or MRS in sufficient detail to support the findings in § 72.40 for the term requested in the application, including:

\* \* \* \* \*

4. In § 72.42, revise paragraphs (a) and (b) to read as follows:

**§ 72.42 Duration of license; renewal.**

(a) Each license issued under this part must be for a fixed period of time to be specified in the license. The license term for an ISFSI must not exceed 40 years from the date of issuance. The license term for an MRS must not exceed 40 years from the date of issuance. Licenses for either type of installation may be renewed by the Commission at the expiration of the license term upon application by the licensee for a period not to exceed 40 years and under the requirements of this rule. Application for renewals must include the following:

(1) 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

(2) A description of the program for management of issues associated with aging that could adversely affect structures, systems, and components important to safety.

(b) Applications for renewal of a license should be filed in accordance with the applicable provisions of subpart B of this part at least two years before the expiration of the existing license. The application must also include design bases information as documented in the most recently updated FSAR as required by § 72.70. Information contained in previous applications, statements, or reports filed with the Commission under the license may be incorporated by reference provided that these references are clear and specific.

\* \* \* \* \*

5. In § 72.212, revise paragraphs (a)(3) and (b) and add paragraphs (c), (d), and (e) to read as follows:

**§ 72.212 Conditions of general license issued under § 72.210.**

(a) \* \* \*

(3) The general license for the storage of spent fuel in each cask fabricated under a Certificate of Compliance commences upon the date that the particular cask is first used by the general licensee to store spent fuel and shall not exceed the term certified by the cask's Certificate of Compliance, unless the cask's Certificate of Compliance is renewed, in which case the general license terminates when the cask's Certificate of Compliance expires. In the event that a certificate holder does not apply for a certificate renewal under § 72.240, any cask user or user's representative may apply for a certificate renewal. If a Certificate of Compliance

expires, casks of that design must be removed from service after a storage period not to exceed the term certified by the cask's Certificate of Compliance.

(b) The general licensee must:

(1) Notify the Nuclear Regulatory Commission using instructions in § 72.4 at least 90 days before first storage of spent fuel under this general license. The notice may be in the form of a letter, but must contain the licensee's name, address, reactor license and docket numbers, and the name and means of contacting a person responsible for providing additional information concerning spent fuel under this general license. A copy of the submittal must be sent to the administrator of the appropriate Nuclear Regulatory Commission regional office listed in appendix D to part 20 of this chapter.

(2) Register use of each cask with the Nuclear Regulatory Commission no later than 30 days after using that cask to store spent fuel. This registration may be accomplished by submitting a letter using instructions in § 72.4 containing the following information: the licensee's name and address, the licensee's reactor license and docket numbers, the name and title of a person responsible for providing additional information concerning spent fuel storage under this general license, the cask certificate number, the CoC amendment number to which the cask conforms, unless loaded under the initial certificate, cask model number, and the cask identification number. A copy of each submittal must be sent to the administrator of the appropriate Nuclear Regulatory Commission regional office listed in appendix D to part 20 of this chapter.

(3) Ensure that each cask used by the general licensee conforms to the terms, conditions, and specifications of a CoC or an amended CoC listed in § 72.214.

(4) In applying all the changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC, register each such cask with the Nuclear Regulatory Commission no later than 30 days after applying the changes authorized by the amended CoC. This registration may be accomplished by submitting a letter using instructions in § 72.4 containing the following information: the licensee's name and address, the licensee's reactor license and docket numbers, the name and title of a person responsible for providing additional information concerning spent fuel storage under this general license, the cask certificate number, the CoC amendment number to which the cask conforms, cask model number, and the cask identification number. A copy of each submittal must be sent to the administrator of the appropriate Nuclear Regulatory Commission regional office listed in appendix D to part 20 of this chapter.

(5) Perform written evaluations, before use and before applying the changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC, which establish that:

(i) The cask, once loaded with spent fuel or once the changes authorized by an amended CoC have been applied, will conform to the terms, conditions, and specifications of a CoC or an amended CoC listed in § 72.214;

(ii) Cask storage pads and areas have been designed to adequately support the static and dynamic loads of the stored casks, considering potential amplification of earthquakes through soil-structure interaction, and soil liquefaction potential or other soil instability due to vibratory ground motion; and

(iii) The requirements of § 72.104 have been met. A copy of this record shall be retained until spent fuel is no longer stored under the general license issued under § 72.210.

(6) Review the Safety Analysis Report referenced in the CoC or amended CoC and the related NRC Safety Evaluation Report, prior to use of the general license, to determine whether or not the reactor site parameters, including analyses of earthquake intensity and tornado missiles, are enveloped by the cask design bases considered in these reports. The results of this review must be documented in the evaluation made in paragraph (b)(5) of this section.

(7) Evaluate any changes to the written evaluations required by paragraph (b)(5) of this section, and any changes to the site parameters determination and analyses required by paragraph (b)(6) of this section, using the requirements of § 72.48(c). A copy of this record shall be retained until spent fuel is no longer stored under the general license issued under § 72.210.

(8) Before use of the general license, determine whether activities related to storage of spent fuel under this general license involve a change in the facility Technical Specifications or require a license amendment for the facility pursuant to § 50.59(c)(2) of this chapter. Results of this determination must be documented in the evaluations made in paragraph (b)(5) of this section.

(9) Protect the spent fuel against the design basis threat of radiological sabotage in accordance with the same provisions and requirements as are set forth in the licensee's physical security plan pursuant to § 73.55 of this chapter with the following additional conditions and exceptions:

(i) The physical security organization and program for the facility must be modified as necessary to assure that activities conducted under this general license do not decrease the effectiveness of the protection of vital equipment in accordance with § 73.55 of this chapter.

(ii) Storage of spent fuel must be within a protected area, in accordance with § 73.55(e)

of this chapter, but need not be within a separate vital area. Existing protected areas may be expanded or new protected areas added for the purpose of storage of spent fuel in accordance with this general license;

(iii) For the purpose of this general license, personnel searches required by § 73.55(h) of this chapter before admission to a new protected area may be performed by physical pat-down searches of persons in lieu of firearms and explosives detection equipment;

(iv) The observational capability required by § 73.55(i)(3) of this chapter as applied to a new protected area may be provided by a guard or watchman on patrol in lieu of video surveillance technology; and

(v) Each general licensee that receives and possesses power reactor spent fuel and other radioactive materials associated with spent fuel storage shall protect Safeguards Information against unauthorized disclosure in accordance with the requirements of § 73.21 and the requirements of § 73.22 or § 73.23 of this chapter, as applicable; and

(vi) For the purpose of this general license, the licensee is exempt from requirements to interdict and neutralize threats in § 73.55(k) of this chapter.

(10) Review the reactor emergency plan, quality assurance program, training program, and radiation protection program to determine if their effectiveness is decreased and, if so, prepare the necessary changes and seek and obtain the necessary approvals.

(11) Maintain a copy of the CoC and, for those casks to which the licensee has applied the changes of an amended CoC, the amended CoC, and the documents referenced in such Certificates, for each cask model used for storage of spent fuel, until use of the cask model is discontinued. The licensee shall comply with the terms, conditions, and specifications of the CoC and, for those casks to which the licensee has applied the changes of an amended CoC, the terms, conditions, and specifications of the amended CoC.

(12) Accurately maintain the record provided by the cask supplier for each cask that shows, in addition to the information provided by the cask vendor, the following:

(i) The name and address of the cask vendor or lessor;

(ii) The listing of spent fuel stored in the cask; and

(iii) Any maintenance performed on the cask.

(13) Conduct activities related to storage of spent fuel under this general license only in accordance with written procedures.

(14) Make records and casks available to the Commission for inspection.

(c) The record described in paragraph (b)(12) of this section must include sufficient information to furnish documentary evidence that any testing and maintenance of the cask has been conducted under an NRC-approved quality assurance program.

(d) In the event that a cask is sold, leased, loaned, or otherwise transferred to another registered user, the record described in paragraph (b)(12) of this section must also be transferred to and must be accurately maintained by the new registered user. This record must be maintained by the current cask user during the period that the cask is used for storage of spent fuel and retained by the last user until decommissioning of the cask is complete.

(e) Fees for inspections related to spent fuel storage under this general license are those shown in § 170.31 of this chapter.

6. In § 72.230, revise paragraph (b) to read as follows:

**§ 72.230 Procedures for spent fuel storage cask submittals.**

\* \* \* \* \*

(b) Casks that have been certified for transportation of spent fuel under part 71 of this chapter may be approved for storage of spent fuel under this subpart. An application must be submitted in accordance with the instructions contained in § 72.4, for a proposed term not to exceed 40 years. A copy of the CoC issued for the cask under part 71 of this chapter, and drawings and other documents referenced in the certificate, must be included with the application. A safety analysis report showing that the cask is suitable for storage of spent fuel, for the term proposed in the application, must also be included.

\* \* \* \* \*

7. In § 72.236, revise paragraph (g) to read as follows:

**§ 72.236 Specific requirements for spent fuel storage cask approval and fabrication.**

\* \* \* \* \*

(g) The spent fuel storage cask must be designed to store the spent fuel safely for the term proposed in the application, and permit maintenance as required.

\* \* \* \* \*

8. Revise § 72.238 to read as follows:

**§ 72.238 Issuance of an NRC Certificate of Compliance.**

A Certificate of Compliance for a cask model will be issued by NRC for a term not to exceed 40 years on a finding that the requirements in § 72.236(a) through (i) are met.

9. In § 72.240, revise paragraphs 72.240(a) and 72.240(b), add new paragraph 72.240(c), and redesignate current paragraph 72.240(c) as 72.240(d), and revise paragraph 72.240(d) to read as follows:

**§ 72.240 Conditions for spent fuel storage cask renewal.**

(a) The certificate holder may apply for renewal of the design of a spent fuel storage cask for a term not to exceed 40 years. In the event that a certificate holder does not apply for a cask design renewal, any licensee that uses this cask model under the general license issued under § 72.210 may apply for a renewal of that cask design for a term not to exceed 40 years.

(b) The application for renewal of the design of a spent fuel storage cask must be submitted not less than 30 days before the expiration date of the CoC. When the applicant has submitted a timely application for renewal, the existing CoC will not expire until the application for renewal has been determined by the NRC.

(c) The application must be accompanied by a safety analysis report (SAR). The SAR must include the following:

(1) Design bases information as documented in the most recently updated final safety analysis report FSAR as required by § 72.248; and

(2) 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

(3) A description of the program for management of issues associated with aging that could adversely affect structures, systems, and components important to safety.

(d) The design of a spent fuel storage cask will be renewed if the conditions in subpart G of this part and § 72.238 are met, and the application includes a demonstration that the storage of spent fuel has not, in a significant manner, adversely affected structures, systems, and components important to safety.

Dated at Rockville, Maryland, this      day of      , 2009.

For the Nuclear Regulatory Commission.

Annette Vietti-Cook,  
Secretary of the Commission.

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**Regulatory Analysis for Proposed Rule -  
Amendments to 10 CFR Part 72  
License and CoC Terms**

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**U.S. Nuclear Regulatory Commission  
February 2009**



## EXECUTIVE SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) has published a proposed rule (RIN: 3150-AI09) [NRC-2008-0361] to amend its regulations to clarify the license term limits for dry storage cask Certificates of Compliance (CoCs) and independent spent fuel storage installation (ISFSI) licenses.

The proposed rule would improve regulatory efficiency by providing a consistent basis for the scope, applicability, and terminology of CoC and Part 72 ISFSI general license regulations to better align CoC regulatory requirements with ISFSI general license requirements. The amended regulations would also provide consistency between the Part 72 ISFSI general and site-specific license requirements.

Section 2 summarizes the technical basis for this rulemaking. Section 3 identifies the two alternatives evaluated in this rulemaking: no action and implementation of the proposed rule. Section 4 describes the analysis method and input assumptions. Section 5 presents the results and Section 6 presents the decision rationale. Section 7 lists the references used in this Regulatory Analysis. Appendix 1 provides the names of storage casks currently in use, names of current licensed ISFSI locations, names of licensees pursuing a Part 72 general license, and names of licensees who have not announced plans for ISFSI licensing.

This Regulatory Analysis provides an evaluation of two alternatives, one of which is taking no action and the other is implementing the proposed rule. The preferred approach is implementing the proposed rule. The results show that the proposed rule would save about \$1.3 million or \$0.9 million over a 40 year analysis period (2008 dollars using a 3 percent or a 7 percent discount rate, respectively) compared to making no changes in the regulations. Most of the labor by licensees, CoC holders and the NRC staff is modeled in this regulatory analysis as a one-time event. Although these activities would occur in different years, the effort would occur only once in the 40 year analysis period and was modeled as occurring in 2008 to simplify the analysis. Annual savings are modeled for Part 72 general licensees and the NRC staff as a result of the proposed amendment in 10 CFR 72.212(b)(4) that would remove the requirement of the general licensee to submit an exemption request to apply changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC. The NRC would benefit the most from the proposed rule, due to the submittal of fewer license renewal applications during the 40 year analysis period. The savings achieved by industry are due primarily to more efficient management of cask expiration dates, after the initial term, and ISFSI license expiration dates, as well as preparation of fewer exemption requests seeking to apply CoC amendments to previously loaded casks.

## TABLE OF CONTENTS

	<u>Page</u>
<b>EXECUTIVE SUMMARY</b>	
1. INTRODUCTION .....	5
1.1 Description of the Proposed Action .....	5
1.2 Need for the Proposed Action .....	7
2. TECHNICAL BASIS FOR THE PROPOSED RULE .....	7
2.1 Specify a Maximum Term for an Initial CoC Application.....	7
2.2 Specify a Maximum Term for a Renewal CoC Application .....	9
2.3 Clarify Term Limit for Cask Designs Approved for Use at General License Sites.....	9
2.4 Implementation of Later Amendments to Previously Loaded Casks.....	10
2.5 CoC Renewal Application Requires Aging Analyses .....	10
3. IDENTIFICATION OF ALTERNATIVE APPROACHES.....	11
3.1 Alternative 1: No-Action .....	11
3.2 Alternative 2: Implement the Regulations in the Proposed Rule.....	11
4. ANALYSIS OF VALUES AND IMPACTS .....	11
4.1 Analytical Methodology .....	13
4.1.1 General Assumptions .....	13
4.1.2 Specific Assumptions for Alternative 2 .....	13
5. RESULTS .....	16
5.1 Summary of Results.....	16
6. DECISION RATIONALE AND IMPLEMENTATION.....	19
7. REFERENCES.....	20
 Appendix 1: Approved Storage Cask and ISFSI Number and Location Information .....	<b>Error!</b>
<b>Bookmark not defined.Error! Bookmark not defined.</b>	
Appendix 2: Input Assumptions and Line Item Results for Alternative 2 .....	23

## ACRONYMS AND ABBREVIATIONS

CFR	Code of Federal Regulations
CoC	Certificate of Compliance
COMSECY	A paper originating from a Commissioner who wants to bring an item to the attention of his or her fellow Commissioners, or a paper that originates from the NRC Executive Director for Operations (EDO), the Chief Financial Officer (CFO), or other Commission-level office seeking guidance from the Commission.
FR	Federal Register
INL	Idaho National Laboratory
ISFSI	Independent Spent Fuel Storage Installation
NRC	Nuclear Regulatory Commission
SAR	Safety Analysis Report
SECY	A paper addressing policy, rulemaking, or adjudicatory matters submitted to the Commission for consideration in a document style and format established specifically for the purpose.
SER	Safety Evaluation Report
SOC	Statements of Consideration
SRM	Staff Requirements Memorandum

## 1. INTRODUCTION

The NRC is proposing to amend regulations in Part 72 of Title 10 of the Code of Federal Regulations (CFR) to clarify the license term limits for dry storage cask CoCs and ISFSI licenses, provide consistency between the general license requirements and the site-specific ISFSI license requirements, and allow Part 72 general licensees to implement changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC (a “previously loaded cask”). The Commission directed this rulemaking through a Staff Requirements Memorandum (SRM) for SECY-06-0152, dated August 14, 2006, as supplemented, by SRM for COMSECY-07-0032, dated December 12, 2007.

Specifically, the proposed amendments would allow for longer initial and renewal terms for Part 72 CoCs and licenses, clarify the general license storage term, clarify the difference between CoC “approval” and “renewal,” allow a licensee to apply the changes associated with a CoC amendment to a previously loaded cask without express NRC approval, provided the cask fully conforms to the terms, conditions, and specifications of the amended CoC, and make certain administrative and clarifying changes.

As of August 2008, there are 15 approved spent fuel storage cask designs listed in 10 CFR 72.214. However, because each amendment to a cask design is considered a separate and unique cask design, there are in practice 43 approved spent fuel storage cask designs including all amendments. There are 15 Part 72 ISFSI site-specific licensees, and 37 Part 72 ISFSI general licensees. The licensees of another 18 power reactor sites are pursuing a Part 72 ISFSI general license. Fourteen power reactor sites have not announced intentions regarding an ISFSI. Appendix 1 provides the names of storage casks currently in use, names of the ISFSI locations, names of licensees pursuing a Part 72 general license, and names of licensees who have not announced plans for ISFSI licensing.

A description of the proposed rule and the need for the rule are discussed in the following two sections. Section 2 summarizes the technical basis for this rulemaking. Section 3 identifies the two alternatives evaluated in this rulemaking – a No Action alternative and an alternative assuming implementation of the rule. Section 4 describes the analysis method and input assumptions. Section 5 describes the Results. Section 6 discusses the Decision Rationale and Implementation of the preferred alternative, and Section 7 lists the References used in this regulatory analysis. Input assumptions are documented in Appendix 2.

### 1.1 *Description of the Proposed Action*

10 CFR Part 72 provides the requirements for: (a) site-specific ISFSI licenses, (b) CoCs for spent nuclear fuel dry cask storage systems, and (c) general licenses for ISFSIs at reactor sites. Under this rulemaking, license terms for each type of license and CoC would be affected.

The first proposed change would be to extend the license term for Part 72 site-specific licenses from the current 20 years from the date of initial license issuance, or from the date of license renewal, to a length of time not to exceed 40 years from the date of issuance or license renewal. The exact license term would be specified by the applicant in a license application.

Current 10 CFR 72.42 specifies that the duration of a Part 72 site-specific license, either initial or license renewal, must be for a fixed period of time not to exceed 20 years from the date of issuance.

Another change would be to extend the license term of a storage cask CoC from a period of at least 20 years to a period not to exceed 40 years. The current regulations require that the license applicant for a CoC submit a safety analysis report (SAR) showing that the cask is suitable for storage of spent fuel for a period of at least 20 years. The proposed rule would allow the CoC applicant, in a new CoC application, or the CoC holder, in a renewal application of a CoC, to submit the application for a proposed term not to exceed 40 years.

A general ISFSI license is available for use as long as the licensee is authorized to possess or operate a nuclear power reactor, under the provisions of Part 50. Therefore, the "term" for a general license is directly tied to the term of the associated Part 50 reactor license. However, the use of a specific cask design under a general license is otherwise tied to the CoC. If the license term of a storage cask CoC is extended to 40 years, the authority to use a specific cask design under a general license would also be extended to 40 years. Currently, the general licensee's authority to use a particular cask design for the storage of spent fuel in each cask fabricated under an approved CoC terminates 20 years after the date that the general licensee first uses the particular cask to store spent fuel. Under the proposed rule, the exact "term" to use a specific cask design under a general license would depend on action taken by the CoC holder to extend the term of the storage cask CoC. If the CoC holder does not extend the term of the storage cask, then the Part 72 general licensee could seek approval from the NRC for a renewal of the storage cask CoC.

Another action in this proposed rule would allow general licensees to apply newer amendments to previously loaded casks, provided that the loaded cask meets all terms and conditions of the amended CoC. Partial implementation of the changes in an amendment is prohibited as it would result in a cask that is in an unanalyzed condition and not fully compliant with any of the CoCs listed in 10 CFR 72.214. Currently, 10 CFR Part 72 does not allow for general licensees to apply changes authorized by CoC amendments to previously loaded casks without prior NRC approval, if the changes alter the terms or conditions of the CoC under which that cask was loaded. General licensees that want to implement such changes must apply to the NRC for an exemption.

The proposed rule evaluated in this regulatory analysis would make editorial corrections to other Part 72 rule text, but these corrections would generate little or no impact on stakeholders or the NRC. For example, one rule text change that is considered to have no impact on stakeholders or the NRC is a change in terminology in 10 CFR 72.240 from CoC "reapproval" to CoC "renewal."

The proposed rule has no impact on Agreement States because 10 CFR Part 72 has a compatibility category of "NRC" which establishes regulatory program elements that cannot be relinquished to Agreement States under the Atomic Energy Act, as amended, or under provisions of Title 10 of the CFR.

## **1.2 Need for the Proposed Action**

The amended regulations are necessary to improve regulatory efficiency because they would provide a consistent basis for the scope, applicability, and terminology of CoC and Part 72 ISFSI license regulations. The amended regulations would also better align CoC regulatory requirements with ISFSI general license requirements.

## **2. TECHNICAL BASIS FOR THE PROPOSED RULE**

Sections 2.1 through 2.5 provide the technical basis supporting the proposed rule. These sections cover (1) a longer term for an initial CoC application; (2) a longer term for a renewal CoC application; (3) term limit for an approved storage cask design approved for use at a general site; (4) implementation of later amendments to previously loaded casks; and (5) a new requirement for a CoC renewal application to include an aging management program related to the characteristics of the storage cask.

### **2.1 Specify a Maximum Term for an Initial CoC Application**

Currently, Part 72 does not specify an explicit limit on the initial term of a CoC for a spent fuel storage cask design. NRC has historically authorized 20-year initial terms, as supported by the requirements of 10 CFR 72.230(b) and 72.236(g), and the Statements of Consideration (SOC) in the Federal Register (FR) notice for the final rule that added the general license provisions to Part 72 (55 FR 29184; July 18, 1990). Section 72.230(b) of 10 CFR specifies that for a cask design certified for transportation of spent fuel under 10 CFR Part 71, an SAR showing that the cask is suitable for storage of spent fuel for a period of at least 20 years must be included in an application for a CoC for a spent fuel storage cask design. Section 72.236(g) of 10 CFR requires that the spent fuel storage cask must be designed to store the spent fuel safely for a minimum of 20 years. The referenced SOC indicate that, “[t]he Commission believes that 20-year increments are appropriate for such cask design approvals, after which designs may be renewed.” Furthermore, the 20-year initial term for a Part 72 CoC is consistent with the initial term of a site-specific ISFSI license specified in 10 CFR 72.42(a).

Proposed rule changes to 10 CFR 72.230(b) and 72.236(g) would change the length of the term from a minimum of 20 years to a maximum term not to exceed 40 years for an initial CoC application.

Although CoC license applicants would have the flexibility to request a longer than 20-year initial term under this proposed rule, the maximum initial term would be limited to 40 years because of relatively limited empirical data available to evaluate the long-term material degradation issues of dry spent fuel storage casks. In 2003 and 2004, during the review for the Surry and H. B. Robinson renewal applications, the staff evaluated technical data resulting from an NRC-supported research program at the Idaho National Laboratory (INL) and dry spent fuel storage casks used at Surry. Under the INL research program, INL opened and inspected a dry storage cask after the fuel had been stored for approximately 15 years. At Surry, several

casks were also opened after less than 15 years of storage as a result of some faulty weather covers which were corrected. Summaries of the findings regarding the condition of the fuel and cask components follow:

(1) Cladding creep is a time-dependent change in the dimension of the cladding resulting from high temperature and stress. It was considered as a potential degradation mechanism during storage. Confirmatory inspection of the spent fuel stored at INL verified that no cladding creep had occurred. The spent fuel in dry storage at Surry also supports this finding. The NRC staff expects very little to no fuel degradation at the end of an extended licensing period. The established limits for cladding temperature during storage, and continually decreasing level of cladding stress and temperature, further remove creep as a degradation mechanism. Assessment indicated that cladding creep would not be an issue.

(2) The NRC staff also expects limited degradation of other internal components because there are no significant corrosive influences in the inert environment, either for the fuel or for other components. The INL inspection verified that there was no indication of corrosion for any internal canister components. The NRC staff has also concluded that radiation levels are too low to significantly alter the properties of the metals for any storage canister components.

(3) At Surry, the helium-filled region used metallic seals as the first and second containment seals. These were the only safety-related seals.

(4) The other external components of the storage systems (which are exposed to weathering effects) would already be covered by an inspection and corrective action program, or routine maintenance, to ensure that any degradation will be identified and assessed for its importance to safety, and will be addressed through corrective actions to ensure continued safe operation of the storage system.

Based on these findings, the staff believes that, with appropriate aging management and maintenance programs, not to exceed 40-year terms are reasonable without undue risk to the public or to the environment. License terms longer than 40 years would require additional information on the long-term material degradation of dry spent fuel storage casks and would need to be evaluated by the staff.

The flexibility to request a longer initial CoC term does not involve any change to the design criteria for spent fuel storage casks. Consequently, new cask designs would meet the same design requirements as previously certified designs. Each applicant for a longer initial-term CoC must justify in its application that its proposed cask design and associated support/operational programs (for example, including surveillance and maintenance) are suitable for storage of spent fuel for that requested term. This proposed change would affect applicants who request a longer initial CoC term. The staff would develop regulatory guidance to address the additional analyses or measures necessary to justify CoC initial terms of greater than 20 years to a maximum of 40 years.

## **2.2 Specify a Maximum Term for a Renewal CoC Application**

Current regulations do not explicitly call out the renewal term of a Part 72 CoC. The SOC referenced above (55 FR 29184) specify that the Commission believes that 20-year increments are appropriate for reapproval of a storage cask CoC and consistent with the 20-year license renewal period for site-specific licenses.

Proposed rule changes to 10 CFR 72.240(a) would provide CoC holders with the flexibility to request a reapproval term not to exceed 40 years.

For similar reasons as stated in Section 2.1, the NRC staff supports a renewal term not to exceed 40 years. If a CoC holder (applicant) requests a renewal term for a storage cask CoC, then the applicant must justify in the renewal application that the spent fuel storage cask design is suitable for the requested renewal term. This proposed change would affect applicants who seek to request a CoC renewal term longer than 20 years. As planned for the change in term length for an initial CoC application, the staff would develop regulatory guidance to address the additional analyses or measures necessary to justify CoC renewal terms.

## **2.3 Clarify Term Limit for Cask Designs Approved for Use at General License Sites**

A Part 50 power reactor licensee may use a Part 72 ISFSI general license for spent fuel storage as long as the Part 50 license is maintained. Under current regulations, the Part 72 ISFSI general licensee's authority to use an approved cask design terminates 20 years after the date that the general licensee first loads spent fuel into the cask. In the event the CoC was to expire in the interim, any loaded spent fuel storage casks of that design would need to be removed from service after a storage period not to exceed 20 years. Neither the regulation nor the associated SOC for the final rule promulgating the regulation are clear as to whether each individual cask, once it is loaded with spent fuel under a valid CoC, may remain in service for a full 20 years, or whether a "20-year clock" is started at each site with the first loading of a cask of a given design. The 20-year expiration date is approaching for a number of storage casks at several generally licensed ISFSIs, requiring those terms to be extended. Since the use of a specific cask design under a general license is tied to the CoC, general licensees would depend on the certificate owners to obtain renewal from the NRC for the cask designs used at their sites. If this is done, the general license authority for the continued use of the storage cask terminates 20 years after the CoC renewal date. If the CoC expires before a renewal is approved, spent fuel storage casks of that design need to be removed from service after the storage period not to exceed 20 years.

Since (1) the use of a specific cask design under a general license is tied to the CoC and (2) the proposed rule would increase CoC terms from 20 years to up to 40 years, the Commission proposes to amend 10 CFR 72.212(a)(3) to specify that the license for storage of spent fuel in each cask would terminate after that particular cask is first used by the general licensee for a length of time equivalent to the licensed lifetime as certified by the cask's CoC at the time of loading. If a CoC expires, casks of that design must be removed from service after a storage period not to exceed a length of time equivalent to the licensed lifetime as certified by the cask's CoC at the time of loading. However, if the cask's CoC is renewed, the general

license would then terminate when the CoC for that particular cask design expires. This change is not only consistent with the intent of the current regulations for general licenses, but also updates the current regulations due to revisions in other sections of Part 72 in this rulemaking. The proposed change would affect all general licensees.

#### **2.4 Implementation of Later Amendments to Previously Loaded Casks**

CoC amendments are routinely requested by the cask manufacturer or vendor (also referred to as the certificate holder). Upon NRC approval of a CoC amendment, general licensees can load empty casks meeting the technical specifications of that CoC amendment. However, general licensees that want to apply changes approved by a later CoC amendment to a previously loaded cask must request an exemption from the NRC if such changes alter the terms or conditions of the CoC under which that cask was loaded. Even if a general licensee requested the certificate holder of the cask to submit an amendment request that is specific to the general licensee and obtained NRC approval for such an amendment, the general licensee still could not apply this amendment to previously loaded casks. To take advantage of the CoC amendment under the current requirements, the licensee must apply to NRC for an exemption.

The proposed change would revise 10 CFR 72.212 to allow a general licensee to apply CoC amendment changes to a previously loaded cask provided that the licensee perform written evaluations meeting the requirements of 10 CFR 72.212(b). This proposed process is parallel to an existing process which general licensees must follow before loading an empty cask under the general license. Specifically, Subpart K of Part 72 allows general licensees to select from the list of approved spent fuel storage casks from 10 CFR 72.214. Because NRC has made a safety determination on each of the casks and amendments listed in 10 CFR 72.214, a later amendment that is codified by NRC would automatically be included in the list. The proposed revision to 10 CFR 72.212 would require that, after application of the changes authorized by a CoC amendment, the loaded cask must conform to the terms and conditions of the subject CoC amendment.

This proposed change would improve the effectiveness and efficiency of the regulatory process by reducing the regulatory burdens of both the NRC and general licensees. It would affect general licensees who desire to implement the changes from a later CoC amendment to a previously loaded cask.

#### **2.5 CoC Renewal Application Requires Aging Analyses**

In 2004, the Commission authorized the staff to approve 40-year license renewal terms for the site-specific license for the Surry ISFSI [Reference 1]. In doing so, the NRC imposed, by license condition, certain aging management requirements to be performed by the licensees. Licensees must develop aging management plans to evaluate performance characteristics of the storage casks at those sites over time. If the regulations are changed to allow general and site-specific licensees to use storage casks over a renewed term not to exceed 40 years, then the NRC staff believes that requirements need to be added to the regulations to ensure that

aging analyses are performed and submitted in the application for the period requested by the CoC renewal application.

The proposed rule would amend 10 CFR 72.24(c) to specify that the license term for an ISFSI license cannot exceed 40 years and would amend Section 72.42(a) to require specific licensees to implement an aging management program, as described by the CoC holder in its renewal application. The proposed rule would also amend 10 CFR 72.240(c) to require the contents of the SAR for the cask renewal application must include aging analyses that demonstrate that structures, systems, and components important to safety will perform their intended function for the period of extended operation requested in the license renewal. This new requirement would apply to the CoC holder or to the Part 72 general licensee if the CoC holder does not apply for renewal of a particular cask. The aging management requirements for general licensees are tied to the CoC; if the storage cask CoC requires an aging management program, general licensees would be required to comply with these requirements.

The proposed changes to 10 CFR 72.42(a) and 72.240(c) would provide consistent program activities performed by site-specific and general license ISFSI installations during the period of extended operation.

### **3. IDENTIFICATION OF ALTERNATIVE APPROACHES**

The NRC considered two alternatives for the proposed rule, described below.

#### **3.1 *Alternative 1: No-Action***

The No-Action alternative is to maintain the status quo. Under the No-Action alternative, the Commission would make no changes to the current regulations and, as a result, there would be no incremental costs or benefits. This is the baseline of the Regulatory Analysis.

#### **3.2 *Alternative 2: Implement the Regulations in the Proposed Rule***

This alternative would amend the regulations as described in Sections 2.1 through 2.5 to implement the proposed rule. Appendix 2 of this Regulatory Analysis shows the input assumptions for Alternative 2.

### **4. ANALYSIS OF VALUES AND IMPACTS**

This section examines the values (benefits) and impacts (costs) expected to result from NRC's proposed rule. The benefits and costs are analyzed for Alternative 2 and are broken out by societal attributes considered important to evaluate a proposed rule. Because the benefits

would exceed the costs, the overall impact of this proposed rule would be a net savings to both licensees and to the NRC.

Table 4-1 lists the attributes significant for this proposed rule with reference to their expected change. The benefits and costs for each attribute are quantified using a methodology described in Section 4.1. The attributes not expected to be affected by the proposed rule are listed below Table 4-1. All of these attributes are recommended for consideration during a rulemaking effort, in the Regulatory Analysis Technical Evaluation Handbook [Reference 2].

**Table 4-1: Listing of Societal Attributes that May Be Affected by the Proposed Rule**

<b>Attribute</b>	<b>Expected Change</b>
<b><i>Industry Implementation</i></b>	Part 72 licensees and CoC holders would realize one time costs and savings associated with specific sections of rule text in Alternative 2.
<b><i>Industry Operation</i></b>	Part 72 general licensees would realize annual savings associated with proposed amendment in section 72.212(b)(4) in Alternative 2.
<b><i>NRC Implementation</i></b>	NRC would achieve one time savings associated with the review of fewer license renewal applications by Part 72 site-specific licensees and CoC holders in Alternative 2.
<b><i>NRC Operation</i></b>	NRC would realize annual savings associated with fewer exemption requests submitted in proposed section 72.212(b)(4) in Alternative 2.
<b><i>Regulatory Efficiency</i></b>	Licensees, CoC holders and the NRC would realize overall improved efficiencies as estimated in the total savings for the four attributes above.

The following attributes are not expected to be affected by the proposed rule

<b><i>Public Health (Accident)</i></b>	<b><i>Offsite Property</i></b>	<b><i>Occupational Health (Accident)</i></b>
<b><i>Public Health (Routine)</i></b>	<b><i>Onsite Property</i></b>	<b><i>Occupational Health (Routine)</i></b>
<b><i>Antitrust Considerations</i></b>	<b><i>General Public</i></b>	<b><i>Safeguards and Security</i></b>
<b><i>Environmental Considerations</i></b>	<b><i>Other Government</i></b>	<b><i>Other Considerations</i></b>
<b><i>Improvements in Knowledge</i></b>		

Section 5 presents the results, in constant 2008 dollars. The results are shown for the one-time costs and savings and annual costs and savings that result from implementation of Alternative 2. The total costs and savings over the 40-year implementation period are estimated using 7 percent and 3 percent real discount rates. This proposed rule would result in a reduction in costs, so there would be net savings to both licensees and to the NRC.

The estimated total savings for Alternative 2 compared to Alternative 1 are \$1.3 million and \$0.9 million, discounted at 3 percent and 7 percent, respectively, over the 40 year analysis period.

## **4.1 Analytical Methodology**

This section describes the process used to evaluate values and impacts of the affected attributes for Alternative 2. Values (benefits) include any desirable changes. Impacts (costs) include any undesirable changes in affected attributes, such as increased costs. The following attributes have quantifiable values and impacts due to implementation of the proposed rule:

- Industry Implementation
- Industry Operation
- NRC Implementation
- NRC Operations

NRC collected input assumptions from referenced sources when these were available. In some cases, NRC was not aware of any input data and in these cases NRC staff made an estimate based on best professional judgment. The NRC seeks public comments on the accuracy of the input assumptions used in this regulatory analysis, and on the validity of the method to estimate values and impacts of the proposed rule.

### **4.1.1 General Assumptions**

The general input assumptions for the analysis are discussed below.

- NRC wage rate: \$100/hour. This is NRC's incremental labor rate, which includes only the variable costs associated with implementation and operation costs of the rule.
- Industry wage rate: \$100/hour for licensee management and for administrative support. This represents a blended rate for executive level and administrative personnel who support regulatory compliance of a company operating under NRC regulations.
- The time period for the analysis is 40 years. This is considered a reasonable range of time to evaluate the values and impacts of an increased term because initial and renewal terms of ISFSI licenses and CoCs would increase from 20 years to 40 years.

### **4.1.2 Specific Assumptions for Alternative 2**

Under Alternative 2, NRC would amend its regulations to implement the proposed rule. The specific assumptions for Alternative 2 are:

- For the purposes of modeling the costs and savings associated with the proposed rule, the analysis assumes the proposed rule would be implemented in 2010.
- With regard to 10 CFR 72.42(a) and (b), it is assumed that 2 of the 14 power reactor sites that have not yet announced their intentions with respect to an ISFSI license, would apply for a Part 72 specific license for a period not to exceed 40 years. Under current regulations,

these licensees would need to submit an initial application for 20 years and a renewal application for another 20 years to match the 40-year period in the initial application that would be allowed under amended 10 CFR 72.42(a). The licensee's labor saving in not submitting a renewal application is estimated to be 160 hours. This is a one-time savings. Also, it is assumed that 12 of the current 15 licensees with a Part 72 site-specific license would apply for a license renewal for a period not to exceed 40 years. These licensees would also save an estimated 160 hours each as a result of submitting only a single license renewal to cover the 40 year analysis period. These are modeled as one-time efforts for each licensee, in constant 2008 dollars.

- With regard to 10 CFR 72.212(a)(3), there are 37 licensees who currently hold a Part 72 general license, and there are an estimated 30 new general licensees over the analysis period. It is assumed that the CoC is renewed by the CoC holder for each cask design used by all 37 current licensees and by all 30 new general licensees. There is no additional labor effort on the part of the general licensee to comply with new Section 72.212(a)(3) compared to the No Action alternative (Alternative 1). The only change in labor is due to the frequency in which the CoC holder applies for a CoC renewal, and this labor saving is modeled in 10 CFR 72.240(a).
- With regard to 10 CFR 72.212(b)(4), the same number of licensees is assumed as in Section 72.212(a)(3). Therefore, the analysis models the labor cost of 37 current general licensees and 30 new general licensees during the 40 year analysis period. Additional one-time reporting is required under amended Section 72.212(b)(4) for these licensees. It is assumed that the 37 current general licensees each have 5 cask designs for which information would need to be reported in a registration letter, and it would require 4 hours to report the information for each cask design. For the 30 new general licensees, the analysis assumes an average of 2 cask designs for each. Fewer cask designs were assumed for the new licensees because they would have fewer casks on site compared to the current general licensees. It was also assumed that it would take the same amount of time, 4 hours, to report information in the registration letter. The labor effort to submit these registration letters is modeled as a one-time expense, in 2008 dollars, occurring during the 40-year analysis period.

Also modeled under 10 CFR 72.212(b)(4) is a savings associated with Part 72 general licensees no longer being required to submit an exemption request to the NRC to apply changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC. These savings are modeled as annual recurring labor savings. The assumption is that the 37 current general licensees each would submit such an exemption request once every 10 years, or 0.1 on an annual basis. The labor effort on the part of the licensee to submit the exemption request was assumed to be 40 hours per request. For the 30 new general licensees, the analysis assumes the same frequency of exemption requests, equal to once every 10 years, or 0.1 on an annual basis. The labor effort avoided for these new general licensees was assumed to be 16 hours per request, lower than current general licensees because the new licensees would have fewer cask types on site.

- With regard to 10 CFR 72.212(b)(5)-(7), the same number of licensees is assumed as in Section 72.212(b)(4). Under Alternative 2, each of these would have an additional one-time

reporting requirement of the documentation and results supporting written evaluations of specific cask design characteristics prior to the licensee's use of the cask under the new 40-year renewal term. This must be performed for each of the cask designs for which a renewal registration letter is being submitted. To perform and document the written evaluations in the renewal application, the analysis assumes 40 hours by each of the 37 current general licensees for each of their 5 cask designs, and a labor effort of 8 hours by each of the 30 new general licensees for each of their 2 cask designs. As noted above, the labor effort is less for the new licensees because they will have fewer cask types on site.

- With regard to 10 CFR 72.236(g), the analysis assumes no incremental costs or savings to CoC holders to design their casks to last for the longer term (i.e., a term not to exceed 40 years as opposed to the current 20 year term).
- With regard to the changes in 10 CFR 72.240(a), the following five companies are the holders of CoCs: General Nuclear Systems, Transnuclear, BNG Fuel Solutions, Holtec International, and Nuclear Assurance Corporation. An estimate is made that these holders apply for the renewal of 15 CoCs, not to exceed 40 years, for a cask design and that during the 40 year analysis period holders of an additional 10 CoCs of not yet approved cask designs apply for the extended term renewal. Thus, the holders of a total of 25 CoCs apply only once for term renewal under the proposed rule instead of twice as would occur under the alternative No Action. It is assumed that the labor savings is 160 hours for each of the renewals that are not required to be submitted.
- With regard to the changes to 10 CFR 72.240(c), the analysis assumes that the one-time labor effort for the aging analyses requires 40 hours for each for the 25 CoCs held by companies who apply for term renewal.
- For NRC costs, an estimate of \$50,000 is made to support preparation of the final rule and a guidance document to implement the changes in this rule. Additional annual costs to review Part 72 licensee and CoC holder applications are not modeled because it is assumed these are offset by the savings in not reviewing exemption requests.
- For NRC savings, the analysis assumes that each of the 14 site-specific licensees would apply only once for license renewal over the 40 year analysis period, instead of twice, for a savings to the NRC staff of 200 labor hours. This is consistent with the site specific licensee costs modeled under 10 CFR 72.42(a), and is modeled as a one-time labor saving. The analysis also assumed that there would be labor savings due to the holders of 25 CoCs applying only once for license renewal instead of twice over the 40-year analysis period, for a one-time labor saving of 200 hours per application. Annual savings to the NRC would occur due to fewer exemption requests being submitted by Part 72 general licensees to allow the licensee to apply CoC amendment changes to a previously loaded cask. The NRC's labor saving is modeled with the same input assumptions as the savings for the Part 72 general licensee under Section 72.212(b)(4).

## 5. RESULTS

This section presents results of values and impacts that are expected to be derived from the proposed rule. The results are shown for each of the following four attributes:

- Industry Implementation
- Industry Operation
- NRC Implementation
- NRC Operation

The proposed rule is expected to provide values in other attributes, such as improvements in regulatory efficiency and improvements in general public confidence, but these are not quantified because they are expected to be small. The quantified values are presented in constant 2008 dollars, for both one-time and recurring annual efforts. The impact of the proposed rule over a 40 year analysis period is estimated using 3 percent and 7 percent real discount rates to show an overall net effect in terms of 2008 dollars. Alternative 1, the No-Action Alternative, provides a baseline against which the other alternative is assessed.

### 5.1 Summary of Results

Table 5-1 presents the net impact of the rule. A positive value below is a cost. A number in parentheses is a negative cost, or a savings.

**Table 5-1: Net Impact of Alternatives 1 and 2**

<b>Regulatory Alternative</b>	<b>40-year total at 3% discount rate (\$)</b>	<b>40-year total 7% discount rate (\$)</b>
1. No Action	0	0
2. Implement the proposed regulations	(1,274,099)	(890,603)

There are no costs or benefits associated with Alternative 1, the No Action alternative. No changes would be made to the regulation. The Part 72 licensees and CoC holders would continue to operate under existing terms for ISFSI and cask renewals, and the NRC would review and approve the applications based on the 20-year term length, with a 40-year term approved for individual exceptions to the regulation.

The major contributing savings under Alternative 2 are due to:

- A total of about \$450,000 in savings, in 2008 dollars at 3 percent discount rate over a 40 year analysis period, is due to the proposed change in Section 72.212(b)(4) that would allow Part 72 general licensees to apply the changes in an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC. This savings is offset by an estimated one-time cost of about \$100,000 in new reporting requirements associated with a

registration letter to apply the changes authorized by an earlier amended CoC, and a one-time cost of about \$790,000 to perform the written evaluations prior to applying for the changes noted above.

- One-time savings of about \$225,000 would be realized by Part 72 site-specific licensees due to fewer license amendment submittals over the 40 year analysis period.
- One-time savings of about \$400,000 would be realized by CoC holders due to the need to apply for fewer license renewals, but this is offset by an estimated one-time cost of \$100,000 associated with the preparation of an aging analysis in the SAR for the period of extended operation for the cask design.
- The NRC would realize a total of \$1.2 million in savings at 3 percent discount rate over the 40 year analysis period. This is due to \$280,000 in savings due to the submittal of fewer Part 72 site-specific license renewal applications, \$500,000 in savings due to fewer CoC license renewal applications, and about \$450,000 in savings due to the submittal of fewer exemption requests from Part 72 general licensees.

Table 5-2 shows the estimated costs, by attribute, over the 40-year analysis period.

**Table 5-2: Estimated Values and Impacts by Attribute**

Attribute	Alternative 2 40-Year Total Cost (\$ 000)	
	3% Discount	7% Discount
Industry Implementation	362	362
Industry Operation	(453)	(261)
NRC Implementation	(730)	(730)
NRC Operation	(453)	(261)
<b>Total</b>	<b>(1,274)</b>	<b>(891)</b>

Note: Total may differ from sum of values due to rounding.

Table 5-3 shows the NRC proposed amendments that are included in the proposed rule, and whether or not the amendment is estimated as a cost to industry and to regulators, or is insignificant and not included in the cost-benefit calculations. The line item input assumptions and results are shown in Appendix 2 for those amendments modeled as a cost to industry and to regulators.

Table 5-3: Proposed Rule Amendments and Significance in the Cost-Benefit Analysis

<b>10 CFR Part 72 amendment description</b>		Cost of amendment estimated as a licensee and/or NRC cost and included in cost-benefit analysis	Cost of amendment NOT estimated as a licensee and/or NRC cost and NOT included in cost-benefit analysis
72.3	Definitions.		X
72.24(c)	Requires a description of the design of the ISFSI or MRS to support the findings in 10 CFR 72.40 for the term requested in the application.		X
72.42(a)-(b)	Requires the licensee to specify in its Part 72 specific license application a fixed period of time, not to exceed 40 years from the date of issuance, for both initial and renewal applications, including aging analyses, current design basis information, and a description of the aging management program. Also requires applications filed consistent with subpart B at least 2 years before expiration of current license, with design bases information.	X	
72.212(a)(3)	Specifies that a Part 72 general license for each cask terminates at the end of the initial term based on cask loading date, and allows the general licensee to apply for a cask term renewal based on the CoC term for a cask design that it uses under its general license, pursuant to new 10 CFR 72.240(a).	X	
72.212(b)(1) - (3)	Existing notification, registration and conformance requirements for the Part 72 general license. The analysis does not estimate the additional cost to general licensees to submit the amendment number with the existing notification, because the incremental cost is insignificant.		X
72.212(b)(4)	Specifies information that the Part 72 general licensee must submit in its registration letter after applying changes authorized by an amended CoC.	X	
72.212(b)(5) – (7)	Requires the Part 72 general licensee to perform written evaluations of three specifications prior to the cask's use and prior to applying changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC, and to review the adequacy of site parameters in the SAR and SER of a CoC, and any changes to written evaluations.	X	
72.212(b)(8) – (10)	Existing requirements of Part 72 general licensees.		X
72.212(b)(11)	Requires a general licensee to maintain a copy of the amended CoC for those casks to which the licensee has applied the changes of an amended CoC and documents referenced in the amended certificate for each cask used for storage of spent fuel. Previously this section applied only to CoCs, and not amended CoCs. The analysis does not estimate the additional cost to general licensees to maintain this record because the incremental cost is insignificant.		X
72.212(b)(12) – (14)	Existing requirements of Part 72 general licensees.		X
72.212(e)	Existing requirement specifying fee schedule.		X
72.230(b)	Specifies that casks certified for transportation of spent fuel may be approved for storage of spent fuel for a proposed term not to exceed 40 years. A copy of the CoC, a SAR, and other information must be included in the application.		X

72.234(d)(2)(vii)	Re-designates 72.236(j) to 72.236(k)		X
72.236(g)	Requires CoC holders and applicants to design the cask to store the spent fuel safely for a term proposed in the application, and to permit maintenance as required.		X
72.238	Specifies that NRC would issue a CoC for a cask model for a term not to exceed 40 years.	X	
72.240(a)	Allows a CoC holder to apply for spent fuel storage cask renewal for a term up to 40 years, and allows a Part 72 general licensee who uses a specific cask model to apply for renewal of that cask CoC if the certificate holder does not apply for renewal.	X	
72.240(c)	Requires in the renewal application a SAR including aging analyses for the cask structures, systems and components for the period of extended operation.	X	

## 6. DECISION RATIONALE AND IMPLEMENTATION

The assessment of costs and benefits discussed previously provides a sound basis for decision-making that leads the NRC to the conclusion that the proposed rule, if implemented, would result in net savings to industry and to the NRC due to improved efficiency of managing the terms for ISFSI licenses and for approved storage cask designs. The assessment provides a disclosure of information supporting the conclusion and an alternate approach to the regulatory objectives.

Two alternatives were evaluated in this Regulatory Analysis. Alternative 1 would take No Action and would maintain the regulations as currently written.

Alternative 2 would amend NRC regulations to allow a longer period for the term associated with a site-specific ISFSI, an ISFSI operating under a general license, and the storage cask in use at the site. The term would be extended from the current 20-year time period to a time period specified in an initial license application or a renewal license application, not to exceed 40 years. These changes would improve licensee and NRC management of relevant term expiration dates, at an estimated total savings of about \$1.3 million over a 40-year period at a 3 percent discount rate. The NRC would realize most of the savings, with licensees and CoC holders netting about \$90,000 in savings primarily due to the submittal of fewer license and CoC renewal applications as a result of the increase in term length from 20 years to 40 years. Alternative 2 is the preferred approach.

The final rule is planned for publication in the *Federal Register* in 2010.

## 7. REFERENCES

- (1) Staff Requirements Memorandum dated November 29, 2004 [ML043500192], in response to SECY-04-0175 dated September 28, 2004, "Options for Addressing the Surry Independent Fuel Storage Installation License – Renewal Period Exemption Request" [ML010670073].
- (2) Nuclear Regulatory Commission, "Regulatory Analysis Technical Evaluation Handbook, Final Report," NUREG/BR-0184, January 1997.

### Appendix 1: Approved Storage Cask and ISFSI Number and Location Information **As of August 2008** **Approved Storage Casks in 10 CFR 72.214 Currently In Use**

Certificate Number: 1000. General Nuclear Systems, Inc.  
Model Number: CASTOR V/21

Certificate Number: 1002. Nuclear Assurance Corporation  
Model Number: NAC S/T

Certificate Number: 1003. Nuclear Assurance Corporation  
Model Number: NAC-C28 S/T

Certificate Number: 1004. Transnuclear, Inc  
Amendments Numbers 1 - 9.  
Model Number: NUHOMS@-24P, -52B, -61BT, -32PT, -24PHB, and -24PTH.

Certificate Number: 1005. Transnuclear, Inc.  
Model Number: TN-24.

Certificate Number: 1007. BNG Fuel Solutions Corporation.  
Amendments Numbers 1 – 6.  
Model Number: VSC-24.

Certificate Number: 1008. Holtec International.  
Amendments Numbers 1 – 2.  
Model Number: HI-STAR 100.

Certificate Number: 1014. Holtec International.  
Amendments Numbers 1 – 5.  
Model Number: HI-STORM 100.

Certificate Number: 1015. NAC International, Inc.  
Amendments Numbers 1 – 4.  
Model Number: NAC-UMS.

Certificate Number: 1021. Transnuclear, Inc.  
Amendment Number 1.  
Model Number: TN-32, TN-32A, TN-32B

Certificate Number: 1025. NAC International, Inc.  
Amendments Numbers 1 – 5.  
Model Number: NAC-MPC.

## Appendix 1 continued (All data in Appendix 1 is as of August 2008)

Certificate Number: 1026. BNG Fuel Solutions Corporation.

Amendments Numbers 1 – 4.

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 Number: 1027. Transnuclear, Inc.

Amendment Number 1.

Model Number: TN-68.

Certificate Number: 1029. Transnuclear, Inc.

Amendment Number 1.

Model Number: Standardized Advanced NUHOMS®-24PT1, NUHOMS®-24PT4.

Certificate Number: 1030. Transnuclear, Inc.

Model Number: NUHOMS® HD-32PTH

### **ISFSI site specific licenses**

1. GE Morris (wet)
2. Surry
3. H. B. Robinson
4. Oconee
5. Fort St. Vrain
6. Calvert Cliffs
7. Prairie Island
8. North Anna
9. TMI-2 Debris
10. Trojan
11. Rancho Seco
12. Diablo Canyon
13. Idaho Spent Fuel Facility
14. Humboldt Bay
15. Private Fuel Storage

### **ISFSI general licenses**

1. Maine Yankee
2. Vermont Yankee
3. Yankee Rowe
4. Haddam Neck
5. Millstone
6. Indian Point
7. Susquehanna
8. Peach Bottom
9. Oyster Creek
10. Hope Creek
11. Salem
12. North Anna\*
13. Surry\*
14. McGuire
15. Catawba
16. Robinson\*
17. Oconee\*
18. Sequoyah
19. Hatch

### **Licensees Pursuing a General License**

1. Seabrook
2. Limerick
3. Ginna
4. Braidwood
5. Brunswick
6. LaSalle
7. Byron
8. Cooper
9. LaCrosse
10. Turkey Point
11. Monticello
12. Cooper
13. Kewaunee
14. Comanche Peak
15. Perry
16. Fermi
17. Cook
18. Crystal River

### **Sites with No Announced Intentions**

1. Pilgrim
2. Three Mile Island
3. Clinton
4. Callaway
5. Wolf Creek
6. South Texas Project
7. Waterford
8. Shearon Harris
9. Summer
10. Vogtle
11. Zion
12. Beaver Valley
13. Watts Bar
14. Nine Mile Point

**Appendix 1 continued (All data in Appendix 1 is as of August 2008)**

20. Farley
21. St. Lucie
22. Browns Ferry
23. River Bend
24. Grand Gulf
25. Arkansas Nuclear One
26. Calhoun
27. Dresden
28. Duane Arnold
29. Quad Cities
30. Columbia
31. Palo Verde
32. San Onofre
33. Davis Besse
34. Palisades
35. Big Rock Point
36. Point Beach
37. FitzPatrick

\*also site specific licensees

## Appendix 2: Input Assumptions and Line Item Results for Alternative 2

### Licensee Costs and Savings

	Description	No. of NRC Licensees or CoC Holders	No. of cask designs per NRC Licensee or CoC Holder	Hours per Licensee or CoC Holder	Wage Rate (\$/hr)	One-time Cost or Savings	Annual Cost or Savings	Total 40 Yr 3% NPV	Total 40 Yr 7% NPV
<b>Part 72</b>									
72.42(a) and (b)	Requires the licensee to specify in its application for a specific license a fixed period of time for a Part 72 specific license, not to exceed 40 years from the date of issuance, including aging analyses and an aging management program: --- initial applications.	2	-	-160	100	-\$32,000	-	-	-
	--- renewals.	12	-	-160	100	-\$192,000	-	-	-
72.212(a)(3)	Specifies that a Part 72 general license for each cask fabricated under a CoC terminates when the CoC for that particular cask design expires: --- current general licensees.	37	-	0					
	--- future general licensees.	30	-	0					
72.212(b)(4)	Specifies information that the Part 72 general licensee must submit in its registration letter after applying changes authorized by an amended CoC: --- current general licensees.	37	5	4	100	\$74,000	-	-	-
	--- future general licensees.	30	2	4	100	\$24,000	-	-	-
	Allows changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC: --- current general licensees.	37	0.1	-40	100		-\$14,800	-\$342,099	-\$197,309
	--- future general licensees.	30	0.1	-16	100		-\$4,800	-\$110,951	-\$63,992
72.212(b)(5)-(7)	Requires the Part 72 general licensee to perform written evaluations of three specifications prior to its use and prior to applying changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC, and to review the adequacy of site parameters in the SAR and SER of a CoC, and any changes to written evaluations: --- current general licensees.	37	5	40	100	\$740,000	-	-	-
	--- future general licensees.	30	2	8	100	\$48,000			
72.240(a)	Allows a CoC holder to apply for spent fuel storage cask renewal for a term not to exceed 40 years.	25	1	-160	100	-\$400,000	-	-	-
72.240(c)	Requires aging analyses in the Safety Analysis Report for the period of extended operation requested by: --- the CoC holder.	25	1	40	100	\$100,000	-	-	-
<b>SUBTOTAL</b>								-\$453,050	-\$261,301
+ one-time costs								\$362,000	\$362,000
<b>TOTAL</b>								-\$91,050	\$100,699

Appendix 2 continued

**NRC Costs and Savings**

10 CFR	Description	No. of CoC Applications (one time) or number of general licensees	No. of cask designs, or number of exemption requests per year	NRC Review Hours per Application or Exemption	Wage Rate (\$/hr)	One-time Cost or Savings	Annual Cost or Savings	Total 40 Year 3% NPV	Total 40 Year 7% NPV
<b>Part 72</b>									
72.42(a)	Would allow NRC review of site specific license application under 40 year term instead of 20 year term.	14		-200	100	-\$280,000			
72.212(b)(4)	Would allow a general licensee to apply CoC amendment changes to a previously loaded cask --- current general licensees	37	0.1	-40	100		-\$14,800	-\$342,099	-\$197,309
	--- future general licensees.	30	0.1	-16	100		-\$4,800	-\$110,951	-\$63,992
72.238	Would allow NRC to issue a CoC for a cask model for a term not to exceed 40 years, instead of a term of 20 years.	25	1	-200	100	-\$500,000			
	Cost to develop final rule and guidance document.					\$50,000			
<b>SUBTOTAL</b>								-\$453,050	-\$261,301
+ one-time costs								-\$730,000	-\$730,000
<b>TOTAL</b>								-\$1,183,050	-\$991,301

DRAFT ENVIRONMENTAL ASSESSMENT AND FINDING OF  
NO SIGNIFICANT IMPACT  
FOR THE  
PROPOSED RULE  
AMENDING 10 CFR PART 72  
LICENSE AND CERTIFICATE OF COMPLIANCE TERMS

Office of Federal and State Materials and Environmental Management Programs  
U.S. Nuclear Regulatory Commission  
April 2009

I. THE PROPOSED ACTION

The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its regulations that govern licensing requirements for the independent storage of spent nuclear fuel. These proposed amendments include changes that clarify the term limits for dry storage cask Certificates of Compliance (CoCs) and independent spent fuel storage installation (ISFSI) specific licenses, provide consistency between the general and specific ISFSI license requirements, and allow general licensees subject to these regulations to implement changes authorized by an amended CoC to a cask loaded under the initial CoC or an earlier amended CoC (a “previously loaded cask”).

II. THE NEED FOR THE PROPOSED ACTION

This rulemaking is needed to improve the regulatory efficiency of 10 CFR Part 72, which provides requirements for: (a) site-specific ISFSI licenses; (b) a general license for the storage of spent fuel in ISFSIs at reactor sites, and (c) dry storage cask CoCs.

“Dry storage” of spent fuel assemblies involves storing the assemblies in sealed casks on concrete pads after the assemblies have been removed from a reactor’s spent fuel storage pool (“wet storage”). A site-specific license is one issued to a particular licensee for a particular ISFSI; a general license is authorized for licensees holding a Part 50 or 52 reactor license, provided the general licensee meets the requirements of Subpart K of 10 CFR Part 72, which provides requirements for general licenses for the storage of spent fuel at power reactor sites.

This proposed rulemaking would extend the initial and renewal license term limits for general and site-specific ISFSI licenses from a term of 20 years to a term not to exceed 40 years. Any license renewal application would be required to include an analysis that considers the effects of aging on structures, systems, and components (SSCs) important to safety for the requested renewal term. In approving the renewed site-specific licenses for the Surry and H.B. Robinson ISFSIs, the staff imposed certain aging management requirements. At the present time, there are no similar requirements for general licensees. Because the same approved cask system certified by a CoC could be used at both site-specific ISFSI sites and general license ISFSI sites, it is necessary and appropriate to impose the same aging management requirements on general licensees.

The rulemaking would establish a term not to exceed 40 years as the initial and renewal term limits for CoCs, whereas the current regulation does not specify a term. The current regulation, however, limits a general license to 20 years after the date that a particular cask model was first used by a general licensee to store spent fuel, unless the cask’s CoC is renewed, in which case the general license expires 20 years after the cask CoC renewal date. The rulemaking would remove the 20 year limit and instead would link the general license term to that of the CoC. Thus, the authority to use an approved cask under a general license, the CoC initial and renewal terms, and the site-specific license initial and renewal terms would be for terms not to exceed 40 years, thereby achieving regulatory consistency.

Under 10 CFR Part 72, dry storage cask fabricators may periodically upgrade a cask's design and seek NRC approval of CoC amendments. The NRC approval process for CoC amendments ensures that a proposed design upgrade will continue to result in a cask that can safely store spent fuel assemblies (i.e., within the cask's analyzed condition). Under the current regulations, a previously loaded cask is bound by the terms, conditions, and technical specifications of the CoC applicable to that cask at the time the licensee loaded the cask. A general licensee seeking to implement changes from a later CoC amendment to a previously loaded cask must obtain NRC approval in the form of an exemption. The proposed rulemaking would allow general licensees to apply the changes of a CoC amendment to a previously loaded cask, without prior NRC approval, provided the cask conforms to the amended CoC and, thus, remains in the analyzed condition. The general licensee would prepare a written evaluation documenting conformance with the amended CoC. The proposed rulemaking would reduce the number of requests for exemptions that licensees must prepare and the NRC must evaluate, thus reducing the regulatory burden on licensees and saving NRC resources.

### III. ENVIRONMENTAL IMPACTS OF PROPOSED ACTION

The environmental impacts associated with storage of light water reactor spent fuel (including dry storage) have been previously considered in other Commission rules and licensing actions on which this assessment is based. The "Environmental Assessment for 10 CFR Part 72 Licensing Requirements for the Independent Storage of Spent Fuel and High-Level Radioactive Waste," NUREG-1092<sup>1</sup> (August 1984), and the Supplementary Information of the

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<sup>1</sup>Copies of NUREG-1092 may be purchased from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20013-7082. Copies are also available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. A copy is also available for inspection and/or copying at the NRC Public Document Room, 11555 Rockville Pike, Rockville, MD 20852-2738.

proposed rule published in the *Federal Register* on May 27, 1986 (51 FR 19106), contain specific analyses showing that the potential environmental impacts from dry storage of spent fuel in casks are small. The “Environmental Assessment for Proposed Rule Entitled ‘Storage of Spent Nuclear Fuel in NRC-Approved Storage Casks at Nuclear Power Reactor Sites’” for the proposed rule published in the *Federal Register* on May 5, 1989 (54 FR 19379), assessed the environmental impact of dry cask storage and concluded with a finding of no significant impact.

Dry storage of spent fuel has a long history, both in the United States and other countries. The NRC has considered environmental impacts associated with dry storage of spent fuel in other Commission rulemakings and licensing actions on which this assessment is based. In the statements of consideration to the NRC's Waste Confidence rule issued in 1990 (55 FR 38474, 38482; September 18, 1990), the Commission stated that it did not dispute a conclusion from a 1988 European study that dry spent fuel storage is safe and environmentally acceptable for a period of 100 years. The Commission further stated that spent fuel can be stored safely and without significant environmental impact, in either wet storage or in wet storage followed by dry storage, for at least 100 years (55 FR 38511).

Environmental impacts caused by dry cask storage systems for spent fuel under either a site-specific or general license are not considered significant. No effluents have been detected from the sealed dry cask storage systems. However, activities associated with cask loading and decontamination may result in some small incremental liquid and gaseous effluent. Cask loading and decontamination will be conducted under 10 CFR Part 50 reactor operating licenses and effluents will be controlled within reactor technical specifications. Because reactor sites are relatively large, any incremental doses to the public offsite due to direct radiation exposure from the spent fuel storage casks are expected to be small and, even when combined with the dose contribution from reactor operations, will be well within the annual dose equivalent of 0.25 mSv (25 mrem) limit to the whole body specified in 10 CFR 72.104. Incremental impacts on collective

occupational exposure due to dry cask storage of spent fuel under either a site-specific or general license are expected to be only a small fraction of that which occurs from operation of the nuclear power station.

The NRC has determined that the proposed amendments to 10 CFR Part 72, if enacted, would not change the current safety and environmental requirements for the storage of spent nuclear fuel so that no change in environmental impact is anticipated. Although the proposed rulemaking would extend the initial and renewal license durations for ISFSIs, all ISFSIs will continue to remain under the NRC's regulatory control and inspections regime. In this regard, recent experience has shown that after a loaded storage cask is placed on the storage pad, relatively few inspection issues arise due to the passive nature of these facilities.

In addition, the proposed rulemaking amendments do not involve any change to the NRC's requirements for cask design. Applications for renewals of site-specific ISFSI licenses and CoC designs would be required to demonstrate, in time-limited aging analyses and in a description of an aging management program, that structures, systems, and components important to safety will continue to perform their intended function for the requested period of extended operation.

Allowing general licensees to apply changes authorized by CoC amendments to previously loaded casks without prior NRC approval would not have any significant effect on the environment, provided that the cask conform to the terms, conditions, and specifications of the amended CoC. Each CoC amendment requires an NRC rulemaking before the amendment is effective. In these previous CoC amendment rulemaking proceedings, the Commission determined that compliance with the requirements of 10 CFR Part 72 will ensure adequate protection of public health and safety. The NRC, through a safety evaluation report for the cask system in the rulemaking, has determined that if the conditions specified in the CoC are met, adequate protection of public health and safety will be maintained.

Based on this assessment of the proposed rule, the Commission finds that the flexibility to request longer initial and renewal ISFSI license or CoC terms, and the flexibility for general licensees to apply changes authorized by CoC amendments to previously loaded casks, would not have a significant environmental impact. The NRC concludes that the proposed rulemaking is procedural in nature.

#### IV. ALTERNATIVES TO THE PROPOSED ACTION

The alternative to this proposed action is to take no action. This would leave in place the current regulations. The NRC rejected this alternative because applicants applying for longer licenses and CoC terms, or general licensees implementing later amendments to previously loaded casks, would be forced to seek exemptions from the current regulations. Whether the proposed regulatory or current exemption method is used, the environmental impacts would be the same. Therefore, given that the proposed rulemaking will have no significant effect on the environment but will reduce burdens, no further alternatives need be considered.

#### V. ALTERNATIVE USE OF RESOURCES

There are no irreversible commitments of resources determined in this assessment.

#### VI. AGENCIES AND PERSONS CONTACTED

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

## VII. FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR Part 51, that the proposed amendments are not a major Federal action significantly affecting the quality of the human environment, and therefore, an environmental impact statement is not required.

The proposed amendments are procedural in nature whereby extended term limits for initial and renewal license and CoC terms and the implementation of CoC amendments to previously loaded casks could be achieved either by exemptions under the current regulations or by the proposed amendments. There will not be a significant effect on the environment in either case. Therefore, the NRC has determined that an environmental impact statement is not necessary for this rulemaking.

The determination of this environmental assessment is that there will be no significant impact to the public from this action. However, because the NRC welcomes public participation, comments on any aspect of the Environmental Assessment may be submitted to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attn: Rulemakings and Adjudications Staff.