

RULEMAKING ISSUE

(Notation Vote)

July 7, 2006

SECY-06-0152

FOR: The Commissioners

FROM: Luis A. Reyes
Executive Director for Operations /RA/

SUBJECT: TITLE 10 CODE OF FEDERAL REGULATIONS PART 72
LICENSE AND CERTIFICATE OF COMPLIANCE TERMS

PURPOSE:

To request Commission approval of recommendations on the 10 CFR Part 72 (Part 72) license and Certificate of Compliance (CoC) terms.

SUMMARY:

This paper recommends the potential scope for the Part 72 license and CoC terms rulemaking. In the paper, the staff discusses the initial and renewal license terms for the licenses and CoCs that are issued under Part 72. Recommendations for rulemaking are contained within each section in bullet form at the end of the text and are also summarized in the "Recommended Approach" under the "Recommendations" section. The "Recommended Approach" is the staff's preferred approach and would involve rulemaking to change the requirements for CoC terms to allow applicants for initial CoCs and renewals the flexibility to apply for terms greater than

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20 years, and to clarify and integrate Part 72 regulations and general license provisions and the CoC approval and use process. An "Alternative Approach" is also included in this paper and would expand the scope of the "Recommended Approach" rulemaking by increasing initial and/or renewal terms from 20 to 40 years; however, this approach is not recommended due to very limited applicability. "Pros" and "Cons" are presented with both "Recommended Approach" and "Alternative Approach." The "Recommended Approach" would require 2.1 FTE in FY 2007 and 1.6 FTE in FY 2008.

BACKGROUND:

On November 29, 2004, the Commission issued a Staff Requirements Memorandum (SRM), for SECY-04-0175, "Options for Addressing the Surry Independent Fuel Storage Installation License - Renewal Period Exemption Request," that authorized the staff to approve 40-year license renewal terms for the Surry and H.B. Robinson independent spent fuel storage installations (ISFSIs), with appropriate license conditions to manage the effects of aging. In addition, the Commission directed the 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 the direction above, the staff assembled a working group to review the licenses and CoC terms under Part 72. The staff also initiated a program to evaluate the potential scope of the future rulemaking. The recommendations for the scope of rulemaking are provided in this paper.

DISCUSSION:

The U.S. Nuclear Regulatory Commission's (NRC's) regulations in 10 CFR Part 72 provide 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. The initial and renewal terms for each type of license and CoC are discussed below.

Initial License Term for a Site-Specific ISFSI

10 CFR 72.42(a) clearly specifies that the initial license term for a site-specific ISFSI must be for a fixed term not to exceed 20 years from the date of issuance. Therefore, NRC has been authorizing a 20-year initial license term for site-specific ISFSIs. A site-specific ISFSI license is available to 10 CFR Part 50 (reactor) licensees for on-site ISFSIs, and is required for away-from-reactor ISFSI sites. However, Part 50 licensees also have the flexibility to use the general license granted to them under the provisions of Part 72, which do not require the reactor licensee to submit a formal application for NRC review and approval. There are no site-specific license applications currently under review, nor is NRC presently aware of any potential applicant for a site-specific ISFSI license. Reactor licensees have recently gravitated to the general license approach, as the number and utility of NRC-approved dry cask storage systems have increased. Consequently, NRC expects very few, if any, new site-specific Part 72 license applications in the foreseeable future. Therefore, the staff sees little need for or benefit from, a proposed rule change to increase the initial license term for site-specific ISFSIs beyond 20 years.

- Rulemaking not recommended.

License Renewal Term for a Site-Specific ISFSI

The renewal of site-specific ISFSI licenses is also addressed in 10 CFR 72.42. This regulation specifies that an existing site-specific ISFSI license may be renewed by the Commission at the end of the term upon application by the licensee and pursuant to the requirements of 10 CFR 72.42(a). Consequently, NRC has interpreted the rule to also limit the renewal term for site-specific ISFSI licenses to 20 years.

There are currently 15 site-specific ISFSIs licensed in the United States (Enclosure 1). Of these 15 existing site-specific ISFSIs, NRC has already renewed the licenses for three: the GE Morris Operation, and the Surry and H.B. Robinson ISFSIs. The licensees for the Surry and H.B. Robinson ISFSIs requested exemptions to the requirements of 72.42(a) for approval for 40-year renewal terms. The Commission authorized the staff to grant both exemptions as noted above.

Six of the remaining 12 site-specific ISFSIs identified in Enclosure 1 are currently storing or will store spent nuclear fuel from decommissioned reactors. In order to complete the decommissioning process at these sites, all of the spent fuel must be removed, so these licensees are awaiting the availability of a permanent repository for the ultimate disposition of their spent fuel inventory. The 20-year initial license for Fort St. Vrain, the oldest ISFSI site among this group, will expire on November 30, 2011. The 20-year initial licenses for the remaining 5 ISFSIs in this group will expire between 2019 and 2025. Consistent with the Commission's Waste Confidence Decision, which states that there is reasonable assurance that a repository will be available in the first quarter of the 21st century, the staff believes that most ISFSIs in this group may not need to renew their licenses before a permanent repository is available. A 20-year renewal term for the oldest of these ISFSIs (Fort St. Vrain) would extend its period of operation to 2031, which should provide sufficient time to allow its spent fuel to be transferred to the repository. Therefore, the staff does not expect the licensees for these 6 ISFSIs to seek renewal terms of greater than 20 years, if they request renewals at all.

It is possible that the remaining 6 site-specific ISFSIs from the group of 15 may seek 40-year renewal terms. The SRM for SECY-04-0175 directed the staff to apply the Commission-approved Part 72 renewal guidance to any future site-specific license renewal exemption requests without further Commission approval. Thus, the staff will follow the Commission-approved guidance to address the limited number of anticipated exemption requests for a 40-year license renewal term.

Based on the above discussion, the staff believes that the majority of the 15 existing site-specific ISFSI licensees are not likely to request a renewal term of more than 20 years. However, for those few licensees that choose to request a longer renewal term, the SRM for SECY-04-0175 provides the framework for the staff to consider requests for license renewal terms of up to 40 years. Based on the review of the H.B. Robinson 40-year license renewal exemption request, processing future renewal exemptions are not expected to exceed 0.1 full-time equivalent (FTE) per request. However, the staff expects that the actual review costs associated with processing a future renewal exemption will be considerably less than 0.1 FTE as the staff becomes more experienced and efficient in processing renewal exemption applications. In addition, because of the limited number of prospective applicants, the staff believes that the total cost associated with processing future renewal exemptions will also be limited. Consequently, the staff believes that a rulemaking to increase the site-specific ISFSI

license renewal term limit from 20 to 40 years will not likely result in any significant regulatory efficiencies. However, such a rulemaking would preclude the need for the staff to consider a limited number of future exemptions.

- Rulemaking not recommended.
- Renewal to be addressed on a case-by-case basis through exemptions.

Initial Term for a Part 72 CoC

Although 10 CFR 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 for the proposed and final rules that added the general license provisions to Part 72 (54 FR 19381; 55 FR 29184). 10 CFR 72.230(b) specifies that, for a cask design certified for transportation of spent fuel under 10 CFR Part 71, a safety analysis report (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. 10 CFR 72.236(g) requires that the spent fuel storage cask must be designed to store the spent fuel safely for a minimum of 20 years. The referenced Statements of Consideration indicate that, “[t]he Commission believes that 20-year increments are appropriate for such cask design approvals, after which designs may be renewed,” and, “a 20-year reapproval period for cask designs was chosen because it corresponds to the 20-year license renewal period currently under Part 72.” Thus, in practice, the staff has established a 20-year initial term for a Part 72 CoC, consistent with the initial term of a site-specific ISFSI license specified in 10 CFR 72.42(a).

In view of the NRC’s established precedent for authorizing a 20-year initial term for a Part 72 CoC, the staff believes that a rulemaking is warranted to provide applicants for CoCs for spent fuel storage casks with the flexibility to request a longer initial term. The staff envisions that each applicant for a CoC would be required to justify in its application that its proposed cask design is suitable for storage of spent fuel for that requested term. The staff recognizes that, in addition to the rulemaking, regulatory guidance and/or generic communications would be needed to address the additional analyses or measures necessary to justify CoC initial terms of greater than 20 years.

- Rulemaking recommended to allow request for term greater than 20 years.

Renewal Term (Reapproval) for a Part 72 CoC

10 CFR 72.240 specifies conditions for spent fuel storage cask CoC “reapproval” (renewal). Similar to the initial term of a Part 72 CoC, the renewal term of a Part 72 CoC is not explicitly called out in 10 CFR Part 72. However, the previously described Statements of Consideration indicate the Commission’s intent was for a 20-year reapproval period for a storage cask CoC, consistent with the 20-year license renewal period for site-specific licenses.

As for the case of the initial CoC term, the staff believes that a rulemaking is warranted to provide CoC holders with the flexibility to request a reapproval term of longer than 20 years. If a CoC holder (applicant) requests a renewal 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.

It should be noted that Part 72 uses different terminologies for describing the processes for extending the terms of site-specific ISFSI licenses and CoCs for spent fuel storage cask designs. Section 72.42 uses the word “renewal” to define the process for extending the term of site-specific ISFSI licenses, and 10 CFR 72.240 uses “reapproval” for spent fuel storage cask design CoCs. Although the two terminologies are ostensibly similar, 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” would 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. The expiration dates for the current spent fuel storage cask CoCs are still several years away, and the NRC has not yet received any CoC renewal requests, nor have the requirements of 10 CFR 72.240 been invoked. Based on the list of approved spent fuel storage cask designs in 10 CFR 72.214, the 20-year initial term for the CoC for the oldest cask design in use (the VSC-24) will expire on May 7, 2013. In accordance with 10 CFR 72.240, an application for “reapproval” of a storage cask CoC must be submitted not less than 30 days before the expiration date of the CoC. To avoid any confusion, the staff believes that it is important to clarify the terminology and the requirements (“renewal” versus “reapproval”) in 10 CFR 72.240, prior to the anticipated submittal of the first CoC renewal application in 2013.

- Rulemaking recommended to allow reapproval term greater than 20 years.
- Rulemaking recommended to clarify “renewal” and “reapproval” terminology.

10 CFR Part 72 General License

Section 72.210 specifies that a general license is granted for the storage of spent fuel in an ISFSI at a power reactor site to persons authorized to possess or operate nuclear power reactors under 10 CFR Part 50. Section 72.212 further requires that general licensees use an NRC-approved cask design in accordance with the conditions specified in the associated CoC, and that they perform written evaluations to confirm the suitability of the selected cask design for use at that site. General licensees must notify the NRC in writing at least 90 days prior to first storage of spent fuel under that general license; however, no other submittal is required. The NRC does not perform an individual licensing review, nor issue a separate license to a general licensee.

A general 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 limited by the requirements of 72.212. 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. In the event the CoC were 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 rule nor the associated Statements of Consideration 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 latter interpretation more closely follows the situation for a specific license, in that casks loaded much later than the initial casks at a given site may only be placed in service for the remaining portion of the 20-year term. In light of the steadily increasing number of ISFSI

general licensees, the staff believes that a clarification of the storage terms requirements in 72.212(a)(3) is also warranted. Enclosure 2 is a table that lists the general licensees and the effective expiration dates, based on the earliest loaded casks at that site (initial cask load date plus 20 years).

- Rulemaking recommended to clarify storage term in 72.212(a)(3) (e.g., “20-year clock”).

General License Renewal

There is no need for a process for the renewal of a general license in Part 72, insofar as the Part 72 general license remains available for use as long as a reactor licensee maintains its Part 50 license. However, it is likely that the storage term limits for spent fuel storage casks at some generally licensed ISFSIs will need to be extended in the near future as licensees approach the 20-year CoC expiration dates. Under current regulations, a spent fuel storage cask CoC may be renewed, and the general license authority for the continued use of storage casks of that design at a given site will terminate 20 years after the CoC renewal date. This would effectively establish an acceptable service time of between 20 and 40 years, depending on the date(s) that casks of that design were loaded at that site. Thus, in practice, the existing mechanism for a reactor licensee to “renew” its Part 72 general license is to obtain renewal of the CoC(s) for the casks in use at its site.

The staff is concerned that this process may be inefficient, as it relies on the CoC holder, not the general licensee, to seek renewal of the CoC from the NRC. Although there are provisions for a cask user (general licensee) to apply for renewal of a CoC in the event that the CoC holder chooses not to do so, individual cask users may not have ready access to the cask system’s design criteria and supporting analyses and could have difficulty in making a renewal application without the cask vendor’s assistance.

Also, the renewal of a CoC for a given cask design may not meet the needs of all users of that design. Several general licensees may have loaded casks of the same design at different times, and different revisions or amendments of the cask design relative to the expiration date of the governing CoC. In relying on the renewal of the CoC itself as the mechanism to effectively “renew” the authority to use casks of that design at multiple sites, NRC would, in essence, be approving total storage terms of different lengths for licensees using the same cask design. This seems inconsistent from a technical standpoint, and could require additional licensing actions to address circumstances at individual sites. The issue becomes more complicated for those general licensees that employ multiple cask designs under different CoCs with different expiration dates at the same ISFSI.

If NRC authorizes longer terms for spent nuclear fuel storage through the renewal of cask CoCs, the staff believes that corresponding revisions will be needed to 10 CFR 72.212 (a)(3), to require each general licensee to analyze and adopt, as appropriate, any changes to the renewed CoC, for those casks of that design in use at its ISFSI. In approving the renewed site-specific licenses for the Surry and H.B. Robinson ISFSIs, the staff imposed certain aging management requirements that may also be necessary and appropriate to impose on general licensees using a renewed spent nuclear fuel storage cask CoC. In the staff’s view, these considerations identify the need for rulemaking to clarify and integrate Part 72 regulations governing the general license provisions and the CoC approval and use process, in the context of renewal of the general license authority.

- Rulemaking recommended to revise 72.212(a)(3) to require each general license to adopt any changes to renewed CoC.
- Rulemaking recommended to clarify and integrate Part 72 regulations and general license provisions and the CoC approval and use process.

RECOMMENDATIONS:

The staff has developed two approaches, namely “Recommended Approach” and “Alternative Approach,” for potential rulemaking regarding Part 72 licenses and CoC terms for Commission consideration. The staff recommends the Commission approve the “Recommended Approach.”

Recommended Approach: Rulemaking to allow request for CoC initial and reapproval terms greater than 20 years; rulemaking to clarify “renewal” and “reapproval” terminology; rulemaking to clarify storage term in 72.212 (a)(3) (e.g., 20-year clock); rulemaking to revise 72.212 (a)(3) to require each general licensee to adopt any changes to renewed CoC; and rulemaking to clarify and integrate Part 72 regulations and general license provisions and the CoC approval and use process. The resources needed for this approach are 2.1 FTE in FY 2007 and 1.6 FTE in FY 2008.

Pros:

- (a) Will revise or clarify those areas of Part 72 for which ISFSI licensees will have the greatest need in the near future; namely, the process to renew a CoC.
- (b) Will allow applicants the flexibility to request CoC initial or renewed terms of greater than 20 years.
- (c) Can be accomplished within the time and resources budgeted for the Office of Nuclear Material Safety and Safeguards (NMSS). See “Resources” section below.

Cons:

- (a) For site-specific ISFSI licensees desiring to renew their license for more than 20 years, an exemption would still be needed. Although only a few such requests are anticipated, the Commission has generally sought to avoid regulation by exemption.

Alternative Approach: In addition to the rulemaking activities of “Recommended Approach,” add rulemaking to increase the terms for initial and/or renewed site-specific ISFSI licenses from 20 to 40 years. The resources needed for this approach are 2.6 FTE in both FY 2007 and FY 2008.

Pros:

- (a) This approach would eliminate the need for future exemption requests for terms of greater than 20 years for initial and/or renewed site-specific ISFSI licenses.

- (b) Would codify a technical approach consistent with that applied in the granting of the 40-year exemptions for the Surry and the H.B. Robinson site-specific ISFSI license renewals.
- (c) Would offer the public an opportunity to participate in the potential change for longer term site-specific ISFSI licenses.

Cons:

- (a) There may be opposition from some stakeholders if the Commission extends either the initial or renewal term for a site-specific license, or both, to 40 years. The public may perceive that ISFSIs are intended for extended storage, rather than interim storage. It could also cause policymakers to question the urgency of the Federal government's efforts to develop and license a final repository for the ultimate disposition of spent fuel, resulting in further delays.
- (b) Based on the staff's assessment of limited need for extended renewal terms for existing site-specific ISFSIs and the anticipated lack of applicants for new site-specific ISFSI licenses, rulemaking in this area could be an inefficient use of staff resources. The review costs associated with processing the H.B. Robinson renewal exemption were very low. The additional costs associated with rulemaking to increase the initial or renewal term to 40 years for a site-specific license, based on staff's experience with H.B. Robinson, will outweigh the costs associated with processing any potential exemption requests for a 40-year term.

RESOURCES:

The total resources needed for NMSS and OGC for the recommended approach would be 2.1 FTE in FY 2007 and 1.6 FTE in FY 2008.

NMSS has budgeted 1.5 FTE in fiscal year (FY) 2007 for rulemaking to extend the license term of site-specific ISFSI licenses. NMSS has also requested 1.5 FTE, to be distributed the same way as the FY 2007 budget, in the FY 2008 budget that is currently before the Commission. The staff proposes that these resources be redirected to alternate rulemaking as provided in the "Recommended Approach." Resources are estimated at 0.1 FTE each year in FY 2007-2008, for OGC. OGC has budgeted 0.1 FTE for FY 2007 and has included 0.1 FTE in the FY 2008 OGC budget request that is currently before the Commission.

The additional 0.5 FTE in FY 2007 needed by NMSS in support of this approach will be accommodated through re-prioritization of lower priority work such as licensing, certification, or guidance development activities.

COMMITMENT:

On the Commission's approval of the "Recommended Approach," the staff will proceed directly to those rulemaking activities listed in the "Recommended Approach" without a rulemaking plan.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections. The Office of the Chief Financial Officer has also reviewed this paper for resource implications and has no objections.

/RA/

Luis A. Reyes
Executive Director
for Operations

Enclosures:

1. Status of 10 CFR Part 72 ISFSI
Site-Specific Licenses
2. Status of 10 CFR Part 72 ISFSI
General Licenses

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1. Status of 10 CFR Part 72 ISFSI Site-Specific Licenses
2. Status of 10 CFR Part 72 ISFSI General Licenses

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