

**NUCLEAR ENERGY INSTITUTE (NEI)
SPECIFIC COMMENTS ON DRAFT NUREG-1927,
“STANDARD REVIEW PLAN FOR RENEWAL OF INDEPENDENT SPENT
FUEL STORAGE INSTALLATION LICENSES AND DRY CASK STORAGE
SYSTEM CERTIFICATES OF COMPLIANCE”**

NO.	SECTION	COMMENT
1	General	<p>a) The SRP should identify and explain the distinction between “design basis” and “licensing basis”, (e.g., include a definition of “Licensing Basis”). This is necessary since most design basis information will be contained within the SAR while the licensing basis information will not only include the SAR but include SER, CoC, Technical Specifications, and correspondence to and from the NRC.</p> <p>The NUREG should also be reviewed to ensure that it is using the correct term in the various locations where it is currently referring to design basis. For example, in Section 2.3 the SRP clearly states that the basis for the renewal is on the continuation of the existing design basis. While this is true, it is also true that the renewal is to be based on the continuation of the existing licensing basis.</p> <p>b) Throughout the document, various terms are used to refer to the period of time after renewal, e.g., “renewal period,” “license renewal period,” “term of the renewal,” and “renewal term.” Suggest using a consistent term such as “period of extended operation.”</p> <p>c) The SRP is not consistent in its usage of the defined terms “cask” and “canister” throughout the SRP. For example the first bullet in Section 2.4.3 refers to a cask when it should refer to a more general term such as DCSS.</p> <p>d) At various places throughout the document, the term “off-normal” is also spelled “offnormal.” Suggest replacing all occurrences of “offnormal” with “off-normal.”</p>
2	Cover Page	<p>a) Add “(Dry Type)” between “Licenses” and “and.” The Introduction (6th para.) states that the guidance does not apply to wet ISFSIs</p> <p>b) Add “Specific” before “Licenses.”</p>

NO.	SECTION	COMMENT
3	Abstract, 1 st para and Introduction, 1 st para.	<p>The first two sentences of the Abstract and the first sentence of the Introduction are not clear. The first sentence of the Introduction should be broken into two to be consistent with the Abstract, and the resulting first sentence of the Introduction should be identical to the current first sentence of the Abstract. The second sentence of each section should be re-worded as follows to improve readability (deleted words in strikeout and new words <u>underlined</u>):</p> <p>“It provides guidance for the safety review of <u>specific license and certificate of compliance (CoC)</u> renewal applications for currently operating submitted by licensees and independent spent fuel storage installations and holders of a <u>CoCs certificate of compliance, (CoC)</u> for a Dry Cask Storage Systems (DCSS), <u>respectively</u>, as codified in Title 10 of the <i>Code of Federal Regulations</i> (10CFR), <u>Part 72.</u>” 72.214, “List of Approved Spent Fuel Storage Casks.”</p> <p>With changes incorporated:</p> <p>“It provides guidance for the safety review of specific license and certificate of compliance (CoC) renewal applications submitted by licensees and holders of <u>CoCs</u> for Dry Cask Storage Systems (DCSS), respectively, as codified in Title 10 of the <i>Code of Federal Regulations</i> (10CFR), Part 72.”</p>
4	Abstract, 1 st para.	The 4 th sentence currently suggests that a specific licensee must submit a renewal application “not less than 30 days before the expiration date of the CoC.” The expiration date of a CoC is not germane to the renewal of a specific license. Suggest adding “or a CoC” after “To renew a specific license...”
5	Abbreviations, “DSC”	Change the definition from “Dry Storage Canister” to “Dry Shielded Canister” to match its definition as part of the NUHOMS System and its use in this document. “DSC” only appears in Table C-1 of this document, which uses the NUHOMS System as an example.
6	Definitions, “Accident condition”	The phrase “the design basis for events and conditions caused by natural phenomena” seems overly complicated. Suggest deleting “the design basis for events and.”
7	Definitions, “Canister”	Add “or horizontal storage module” after “overpack.” The current definition refers only to overpacks as the outer structure containing the canister. The definition should recognize that horizontal storage modules are also used to perform the stated functions.

NO.	SECTION	COMMENT
8	Definitions, "Cask" and "Spent Fuel (Storage) Cask"	The definitions of "cask" and "spent fuel (storage) cask" are not consistent and should be clarified. It is unclear whether they are intended to represent a non-canister based storage cask (i.e., a "bare fuel" cask). The definitions need to be clear so that the reviewer knows when the guidance refers to a bare fuel cask, a canister-based cask system, or both.
9	Definitions, "Confinement"	Add "limit or" after "ability to." Bare fuel casks are not leak tight. Therefore, they may not <i>prevent</i> the release of radioactive material under all conditions.
10	Definitions "Dry Storage"	It is not clear what is meant by removing water from the fuel cladding, and all components of the DCSS, given that the fuel and cladding are solid materials and not all DCSS components are dried in preparation for storage. Suggest replacing "the fuel, cladding, and all components of the DCSS" with "the DCSS fuel storage cavity."
11	Definitions, "General License"	Replace the period after "10 CFR 50" with a comma.
12	Definitions, "Monitoring"	As written, monitoring would be limited to "testing and data collection...on the basis of measurements" and would not include visual inspections such as looking for evidence of corrosion. Monitoring can also include inspections.
13	Definitions, "Offnormal Events"	In the last line, delete the period after "Storage."
14	Definitions, "Retrievability"	Revise the 1 st sentence to make the definition consistent with the requirements for retrievability per 10 CFR 72.122(l). The regulation simply states that the spent fuel must be readily retrievable. There is no mention in the regulation of radioactive releases, or reference to the other regulations that are cited in the draft SRP (e.g., Part 20).
15	Definitions, "Safety Analysis Report"	In the 1 st sentence, replace "a DCSS vendor or site-specific licensee" with "a CoC holder, specific licensee, an applicant for a CoC, or an applicant for a specific license," for consistency with the regulations.
16	Definitions, "Safety Evaluation Report"	a) In the 1 st sentence, replace "completion of an SAR review" with "completion of a review of an application for a specific license, a CoC, or an amendment thereto." b) In the 2 nd sentence replace "SAR" with "application." The NRC SER reflects review of more than the SAR (e.g., calculations, supplemental submittals, and RAI responses).
17	Definitions, "Site-specific license"	a) Change "Site-specific license" to "Specific license" to be consistent with the term used in the regulations (e.g., 10 CFR 72.6). b) Typo: Delete the first occurrence of "or."

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18	Definitions, “Thermal performance”	It is not clear why this is a defined term. It does not appear to fit the types of terms that are elsewhere in the Definitions section. In addition, 10 CFR 72.128, referred to in this definition, does not include this term.
19	Definitions, “Time-limited aging analysis (TLAA)”	<p>a) In the 1st sentence, add “all of” before “the.”</p> <p>b) The first word in each of the six sub-items should be changed to reflect a singular subject in the leading sentence (“calculation or analysis”) (e.g., “involves,” “considers,” “was,” and “is”).</p> <p>c) In Item 6, the reference to 10 CFR 54.3 appears inappropriate since Part 54 pertains to Part 50 license renewals.</p> <p>d) In Item 6, replace the term “design basis” with “licensing basis.” There may be analyses that were performed related to the design of a DCSS that are not reflected in the SAR or other docketed information. Thus, their results/conclusions were not utilized by the NRC as part of the basis for issuing the license or CoC and would not be part of the renewal review.</p>
20	Definitions, “Transfer Cask”	The current definition only reflects the use of the NUHOMS system transfer cask and should be revised to also include transfer casks used with vertical storage systems. Vertical storage systems do not involve having the transfer cask at the “storage area.” Suggest replacing “the storage area” with “the storage cask (overpack) or module location.”
21	Definitions, General	<p>a) Suggest adding a definition of “Overpack.”</p> <p>b) Suggest adding a definition of “Certificate Holder (CoC Holder),” consistent with the definition in 10 CFR 72.3.</p> <p>c) In the definitions section, NUREGs, ASTMs, and regulations are cited in bold. This implies that these are the references for these definitions. However this is not accurate in the case of NUREG-1571 because it does not contain a definitions section. Please clarify the intent of the boldface items and verify the references.</p>
22	Introduction, 2 nd para.	<p>a) In the first sentence, delete the 2nd occurrence of “license.” A CoC renewal is not synonymous with a license renewal.</p> <p>b) In the last sentence, delete “or the holder of a CoC for a DCSS.” CoC holders are not authorized to store fuel and the phrase “licensee of an ISFSI” is sufficient because it applies to both specific and general licensees.</p>

NO.	SECTION	COMMENT
23	Introduction, 3 rd para.	a) In the first sentence, replace “CoCs” with “DCSSs” b) In the 2 nd sentence, replace “a general licensee” with “a cask user or user’s representative” to be consistent with the language in 10 CFR 72.212(a)(3).
24	Figure A	a) The block for Section 1.0 should include another bullet for environmental assessment (or report) to be consistent with Section 1.2 b) In the block for Section 2.0, change “License” to “License/CoC” in the 2 nd and 3 rd bullets.
25	SRP Structure, “Regulatory Requirements”	a) In the 1 st sentence, add “(AMA)” after “activities.” b) In the 3 rd sentence, delete “as well as interim staff guidance (ISG) documents.” This item refers only to regulatory requirements, not guidance. ISGs and SRPs are not regulatory requirements
26	SRP Structure, “Review Guidance”	Please clarify whether this item refers only to this SRP and potential ISGs that modify it, or to NUREGs 1536 and 1567, and their associated ISGs.
27	Section 1.0	Please add a clarifying statement that the original CoC and all amendments are being renewed.
28	1.2	a) The first sentence repeats the bulleted list. Suggest deleting either the list or modifying the sentence. b) The 4 th bullet refers to an environmental “assessment” but Section 1.3 and others refer to an environment “report.” Suggest using consistent terms.
29	1.3	In the 1 st sentence, “complies with the most current regulatory requirements” needs clarification. For example, a licensee may have been granted an exemption to the regulations in the past.
30	Table 1-1	a) Should “Environmental Report” be “Environmental Assessment”? (See also Comment 28b) b) It would be helpful to the reader to delete Note 1 (and similar notes in subsequent tables) and simply add two rows to the tables – one labeled “Specific Licensees” and one labeled “CoC Holders” – with dots in the appropriate columns to indicate the regulations applicable to each entity. c) Regulation 72.2(a)(1) does not appear to contain any regulatory requirements associated with the renewal application content. d) Typo: “772.48.” Please correct.
31	1.4	Change “site-specific” to “specific.”

NO.	SECTION	COMMENT
32	1.4.1	Contrary to the 2 nd sentence, it appears that information in Section 1.4.1 would also be required of CoC holders. Suggest deleting the 2 nd sentence and labeling the subsections appropriately with all applicable regulatory citations included for both licensees and CoC holders, i.e., 1.4.1, “Specific Licensee/CoC Holder Information;” 1.4.2, “Specific Licensee Financial Information;” and 1.4.3, “Specific Licensee Environmental Report.”
33	1.4.2, 2 nd para.	The text in the 1 st and 2 nd sentences simply repeats the regulation. This is unnecessary and should be deleted.
34	1.4.3, 1 st para.	a) In the 1 st sentence, add “the” after “that.” b) In the 1 st sentence, add “or supplement” after “ER.” c) Need to clarify if the operating experience referred to in this sentence is all operating experience related to aging of DCSS or just those related to the environmental report.
35	1.4.4, 2 nd para.	The requirement in the 3 rd sentence that “all” dimensions indicated on drawings must include tolerances should be clarified as follows: i. Tolerances should only be required for dimensions of important-to-safety components where the safety analysis uses the dimension, and that safety analysis is sensitive to the variance in the dimension permitted by the tolerance. ii. Components whose fabrication tolerances are controlled by the governing code (i.e., ASME Section II or ASTM) need not be specified on the drawings.
36	1.4.4, 3 rd para.	Reference to NUREG/CR-5502 may be appropriate for the reviewer to use as helpful information, but this guidance should not instruct the reviewer to apply the criteria for drawings in NUREG/CR-5502 to the ISFSI or DCSS renewal. This would be an unnecessary and non-safety significant burden for applicants not committed to the NUREG.
37	1.4.4, 4 th para.	In addition to requiring the proprietary information to be marked, this paragraph should also have the PM ensure there is an affidavit, executed pursuant to 10 CFR 2.390, included for all information in the application designated as proprietary.

NO.	SECTION	COMMENT
38	2.3, 1 st para.	<p>a) In the 1st sentence, add “important-to-safety” before “SSCs.”</p> <p>b) Please clarify the 2nd and 3rd sentences. The 2nd sentence states that a license or CoC renewal is not intended to be a vehicle for imposing new regulatory requirements <i>unless it identifies new safety-related deficiencies</i> [emphasis added], implying that the license or CoC renewal <u>would</u> be the vehicle for addressing those newly identified deficiencies. However, the 3rd sentences states that those newly identified deficiencies would be dispositioned through the license or CoC amendment process, which appears to contradict the 2nd sentence. We would also suggest language be included in the SRP that a newly identified safety issue would be addressed in a time frame commensurate with the safety significance of the issue, and new generic safety issues would be addressed within the NRC’s generic safety issue resolution process governed by NRC Management Directive 64, “Generic Issues Program,” as appropriate.</p> <p>c) The 2nd sentence also does not appear to be consistent with Section 1.3 where it states all of the latest regulations (which may contain new requirements) must be complied with.</p>
39	Table 2-1	See Comment 30b.
40	2.4 and Appendix A and Table A-1	Delete reference to “phrases.” Appendix A contains only terms, no phrases. See also Comment 66.
41	2.4.1, 2 nd para.	<p>a) Suggest providing examples of design basis documents, such as calculations, specifications, and design change documents.</p> <p>b) Change “72.48 evaluations” to “72.48 reviews.” Most 72.48 reviews are screenings and not full evaluations.</p> <p>c) Please clarify NRC’s expectation with this bulleted list. Several items, including operating procedures, operating experience reports, 10 CFR 72.48 reviews, and vendor information would not typically be provided with the renewal application.</p>
42	Figure 2.1	<p>a) Adds “and performs a safety function” in the first diamond per Comment 44a.</p> <p>b) Rotate the two “No’s” 90 degrees for readability.</p>
43	2.4.2, Item 3	Delete “(3) They are identified as in-scope subcomponents” and out-dent the subsequent paragraph pertaining to subcomponents. Items (1) and (2) are sufficient to identify in-scope items and are consistent with Figure 2.1.

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44	2.4.2, 3 rd para.	<p>a) The discussion of ISFSI pads being not-important-to-safety should be revised to replace “because they are not important to safety” with “because they do not perform a safety function and their failure does not impact a safety function.” This recognizes the fact that some licensees designate the storage pads ITS for reasons of design and construction control, maintenance, and records retention, even though the pads do not perform a safety function and their failure does not impact a safety function. Such SSCs should be excluded from the scope of renewal.</p> <p>b) Because this section is dealing with identification of in-scope SSCs, it should not direct the reviewer to Table C-1 in Appendix C for review of inspection programs for storage pads that are in scope. The criteria cited would identify whether the storage pads are in scope. Following the process outlined in Section 3 would lead the reviewer to review the assessment that the inspection programs considered as a part of the effects of aging. There should be no need to single out the storage pads from any other SSC. In any case, the inspection program review should be directed to Section 3.6 and not Appendix C because Appendix C is simply an example specific to the NUHOMS System..</p>
45	2.4.3, 1 st para.	Change “nonsafety-related” to “not-important-to-safety” to be consistent with term used in Part 72.
46	2.4.3, 2 nd para.	In the 5 th bullet, change “provides” to “performs” and make “during a seismic event” an example “(e.g., during a seismic event).” The safety functions of the ISFSI pad, if any, may not just be limited to those related to seismic events.
47	3.1	Aging Management Programs and TLAAs should be introduced in this section and their purpose briefly described because the 4 th bullet of Section 3.2 and Figure 3.1 (referred to in Section 3.2) mentions them for the first time before they are discussed in detail in Section 3.5 and 3.6.
48	3.2, 2 nd para.	In the 3 rd sentence, add “calculations, specs,” before “drawings.”
49	Table 3-1	<p>a) See Comment 30b.</p> <p>b) The two tables are out of alignment.</p>
50	3.4.2, 1 st para.	Add “and component testing” and the end of the paragraph.
51	3.4.2, 3 rd para.	This paragraph instructs the reviewer to review root cause evaluations, repair or modification history, and maintenance activities identified under the corrective action program. However, this information is not included in the renewal application, but is retained at the sites. In addition, a CoC holder may not have copies of this information for all general licensees. Therefore, this should be removed from the list.

NO.	SECTION	COMMENT
52	3.4.3, 2 nd and 3 rd para.	<p>Delete these paragraphs. These paragraphs are specific to the stored fuel. However, no such detailed guidance is provided for the review of aging effects on any other SSCs. This seems inconsistent and out of place. Why is the fuel given unique treatment when other SSCs, subject to the ambient environment or thermal effects not mentioned at this level of detail?</p> <p>The 1st sentence of the 3rd paragraph provides instructions to applicants, which is not the purpose of this review guidance. The last sentence of the paragraph discusses opportunities for inspection of the interiors of casks storing high burnup fuel. This paragraph should be deleted because it is not NRC review guidance, but a summary of the status of aging information pertaining to high burnup fuel.</p>
53	3.4.3, 4 th para.	This paragraph addresses only CoC renewals and general licensees. Why are specific licenses and licensees excluded?
54	Figure 3.1	<p>a) In the top box on page 19, delete “license” or change “license” to “license/CoC”</p> <p>b) Delete “subcomponents” from the 2nd box on page 19. They are adequately covered by the term “SSCs.”</p> <p>c) In the 3rd box on page 19, make “Environments” all lower case.</p> <p>d) The first box on page 20 may be deleted because it duplicates the last box on page 19.</p>
55	3.5 Title	Delete “Management” from the section title to be consistent with the acronym “TLAA.”
56	3.5, 3 rd para.	<p>a) In the 3rd sentence, replace “reduced to” with “included as” or define “reduced to.”</p> <p>b) Inspections and examinations generally are not included in the license or CoC but are implemented as programs that may be inspected by the NRC. Only items that rise to the level of an immediate threat to public health and safety if not complied with should be included as license conditions or CoC terms and conditions.</p>
57	3.5.1, Item 2	<p>a) Change “design basis” to “licensing basis.”</p> <p>b) It is not clear why the fire protection plan and hazards analysis are included on this list. Suggest removing these items.</p>

NO.	SECTION	COMMENT
58	3.6.1	Recommend using the same 10 elements as defined in the GALL Report, NUREG-1801, Volume 1, pages 2 and 3, as opposed to the seven presently proposed. This would add 1) Preventive Actions, 2) Confirmation Process, and 3) Administrative Controls and allow the existing approved AMPs within the plant license renewal arena to be more cost-effectively utilized in the ISFSI arena. This standardization of format would benefit all licensees.
59	3.6.1, 4 th Bullet	In the 1 st paragraph, add “period” after “during the renewal.”
60	3.6.1, 6 th bullet	It is not clear how the reviewer can accomplished what is suggested in this bullet since this information is not provided in the renewal application. See also Comment 51.
61	3.6.1.1, 1 st para.	Replace “...lead to degraded performance or cause a condition affecting an...” with “...could result in a loss of a...” This would be better received by the general public and is the true definition of aging management.
62	3.6.1.2, 2 nd para.	In Item 1, change “tank” to “metal cask.”
63	3.6.1.2, 3 rd para.	Please clarify what “historic radiation survey data” is being referred to. There is very little, if any increase in recorded radiation data at most sites because the storage casks/modules emit no effluents and very low levels of direct radiation. In addition, a CoC holder does not collect this information.
64	3.6.1.3, 1 st para.	Delete this paragraph. Submittals of corrective action programs are not required as part of the renewal application.
65	3.7	<p>a) Delete this entire section. There is no reason to single out retrievability with its own section when no other performance requirements in the regulations are discussed. Retrievability is one of many regulatory-required performance requirements represented in Table 3-1. In addition, the example provided applies to one issue pertaining to retrievability of one specific storage system design, which is not appropriate for review guidance.</p> <p>b) If this section is retained, new sections should also be provided for the other regulatory performance requirements, such as shielding and criticality.</p> <p>c) If this section is retained, the term “ready retrievability” as specified in the first sentence and in 10 CFR 72.122(l) should be defined.</p>

NO.	SECTION	COMMENT
66	Appendix A	<p>a) Delete this appendix and the table. It is unnecessary and unhelpful. There is no regulatory prohibition against using qualitative terms in a license application. Complying with Appendix A would require a significant investment of time and resources without corresponding nuclear safety benefits. Existing usage of qualitative terms (e.g. insignificant) are valid judgments by the licensee/CoC holder. It is reasonable that NRC may have an interest in some particular subject and request additional information to provide supporting information for one or more specific uses of qualitative terms, but it is not reasonable to require applicants to perform a blanket review and provide supporting information for every occurrence of a qualitative term in an application.</p> <p>b) If the appendix and table are retained, in Table A-1, change “change in properties” to “change in material properties” in the first bullet of “Terms” under “Screened In.”</p>
67	Table C-1	<p>a) Repeat the table headers across all pages of the table.</p> <p>b) Based on this SRP, components in this table with Intended Function indicated as "None" are within scope for license renewal and the process, as described in Section 3, takes them all the way through the aging management review process on an equivalent footing with important-to-safety components. Therefore, it seems that they should have their materials, environments, etc. detailed here, as opposed to having "N/A" entries.</p>
68	Appendix E	<p>The purpose of this appendix is not clear. A “lead” DCSS inspection program is not specifically required by any regulation. This information may be helpful to licensees and CoC holders that choose to perform these types of inspections, but the guidance should not imply that such an inspection program is a regulatory requirement. Required inspections would be developed and scoped consistent with the review that identifies those SSCs subject to age-related degradation.</p>
69	Appendix E, 3 rd para.	<p>The 2nd sentence says to inspect on 20 year intervals, but the CoC/license is being renewed for 40 years. This appears to be inconsistent. Please clarify.</p>