**CoC Condition/TS Identifier: TS-4.0 (Form #27) Revision 0 (no NRC questions – no changes made)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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|---|---|---|---|
| **Requirement** | | | **TS 4.0: Design Features**<br><br>**The specifications in this section include the design characteristics of special importance to each of the physical barriers and to maintenance of safety margins in the Standardized NUHOMS® System design. The principal objective of this section is to describe the design envelope that may constrain any physical changes to essential equipment. Included in this section are the site environmental parameters that provide the bases for design, but are not inherently suited for description as LCOs.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | **No** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |

| | | |
|---|---|---|
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **No** |
| **Evaluation Summary** | | **Delete from TS Appendix B since it does not meet the criterion for inclusion in the new TS format and the risk insight questions provide no reason to keep in TS.**<br><br>**This is strictly introductory material.** |

**CoC Condition/TS Identifier:** **TS-4.1 (first paragraph and table) (Form #28) Revision *4* (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="2">Requirement</td><td>
TS 4.1: Canister Criticality Control<br><br>
The Standardized NUHOMS® DSC models listed below are designed to take credit of the boron content in the neutron absorber plates provided in the DSC basket and/or soluble boron in the spent fuel pool per LCO 3.2. The DSCs have multiple basket configurations based on the absorber material type (borated aluminum alloy metal matrix composite (MMC) or Boral®) number of poison rod assemblies or PRAs (for 32PT and 37PTH DSCs) and boron content in the absorber plates as listed below.
<table>
<tr><th>DSC Model</th><th>Basket Type</th><th>Minimum B-10 Areal Density for Absorber Plates or Poison Rod Assemblies</th></tr>
<tr><td>61BT</td><td>A, B or C</td><td>Per Table 1-1k</td></tr>
<tr><td>32PT</td><td>A, A1, A2, B, C or D</td><td>Per Table 1-1h</td></tr>
<tr><td>24PTH</td><td>1A, 1B, or 1C<br>2A, 2B or 2C</td><td>Per Table 1-1 r</td></tr>
<tr><td>61BTH</td><td>A, B, C, D, E or F</td><td>Per Table 1-1v or Table 1-1w or Table 1-1w1 or Table 1-1x</td></tr>
<tr><td>32PTH1</td><td>1A, 1B, 1C, 1D, or 1E<br>2A, 2B, 2C, 2D, or 2E</td><td>Per Table 1-1ff</td></tr>
<tr><td>69BTH</td><td>A, B, C, D, E, or F</td><td>Per Table 1-1jj or Table 1-1kk</td></tr>
<tr><td>37PTH</td><td>There is just one basket.</td><td>Per Table 1-1rr or Table 1-1ss</td></tr>
</table>
</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td>Section I. Technology</td><td>No</td></tr>
<tr><td>Section II. Design Features</td><td>No<br>The minimum B-10 areal density is a key design feature to provide reasonable assurance of sub-criticality. However, the neutron absorber loading is covered by another TS – Fuel Selection Criteria in Section 2 and described in the Basket Type (see also Tables and Figures).</td></tr>
<tr><td colspan="2">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes – See Evaluation Summary</td></tr>
</table>

| | | | |
|---|---|---|---|
| Appendix B. Technical Specifications | Section 1 Definitions, Use and Application | | No |
| | Section 2 Approved Contents (Selection Criteria) | A1 | No |
| | | A2 | No |
| | | A3 | No |
| | Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria) | L1 | No |
| | | L2 | No |
| | | L3 | No |
| | Section 4 Administrative Controls | | No |
| Risk Insight**: Will removing this requirement from the CoC/TS result in… | A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR? | | No |
| | The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR? | | No |
| | A Significant reduction in the margin of safety for ISFSI or cask operation? | | Yes<br>The margin of safety would be reduced or eliminated if the B-10 areal density were reduced lower than the minimum requirements used in the criticality analyses. However, the neutron absorber loading is covered by another TS – Fuel Selection Criteria in Section 2 and described in the Basket Type (see also Tables and Figures). |

| | |
|---|---|
| **Evaluation Summary** | **The minimum B-10 areal density for absorber plates or poison rod assemblies is a key feature of the fuel specifications for each of the DSC models listed in TS Section 2.1. TS Section 2.1 provides the applicable fuel specification tables, which in turn reference the appropriate minimum B-10 areal density tables for absorber/poisons required for canister criticality control. These TS tables will be retained (See Tables and Figures evaluation).** ***For thoroughness and ease of explanation associated with the information to be added on Poison Acceptance as a part of the ITE (See Form #29), the table in this prior TS 4.1 is being moved to the ITE. In addition, the table is being expanded to add DSCs 24P, 24PHB and 52B with an explanation that these DSCs are not designed to take credit for boron content in neutron absorber plates or poison rod assemblies. See Form #29 Assessment and Attachment A at the end of Enclosure 5 for the information to be included in Appendix A ITE.*** |

**CoC Condition/TS Identifier:** **TS-4.1 (Notes and proposed alternatives provision) (Form #29) Revision 1 (no NRC questions yet, but Attachment A is corrected from "32PTH" to "32PT"**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**

**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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|---|---|---|
| **Requirement** | | **TS 4.1: Canister Criticality Control**<br><br>[NOTES] The sections of the UFSAR incorporated by reference contain specification, qualification and acceptance testing requirements for the neutron absorber materials.<br><br>[EXAMPLE: For the 37PTH DSC, Borated Aluminum, MMCs, or Boral® shall be supplied in accordance with UFSAR Sections Z.9.1.7.1, Z.9.1.7.2, Z.9.1.7.3, Z.9.1.7.4, portions of Section Z.9.1.7.7, portions of Section Z.9.1.7.8.4, and all of Sections Z.9.1.7.8.5, Z.9.1.7.9.1, and Z.9.1.7.9.2, with the minimum B10 areal density in Table 1-1rr. $B_4C$ for Poison Rod Assemblies (PRAs) shall be supplied in accordance with UFSAR Section Z.9.1.7.10 with the minimum B-10 areal density in Table 1-1ss. These sections of the UFSAR are hereby incorporated into the NUHOMS® 1004 CoC..]<br><br>Proposed alternatives to these requirements listed in these UFSAR sections other than those aforementioned requirements may be used when authorized by the Director of the Office of Nuclear Material Safety and Safeguards, or designee. The applicant should demonstrate that:<br><br>1. The proposed exceptions involve an acceptable level of quality and safety, or<br><br>**2.** Compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. |
| **CoC Body Certified Design** | **Section I. Technology** | **No** |
| | **Section II. Design Features** | **No** |
| **Appendix A - Inspections, Tests, and Evaluations** | | **Yes**<br>**Acceptance Testing for neutron poison material is necessary for the cask to operate in conformance with the certified design and fulfill its required safety functions.** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | **No** |

| | | | |
|---|---|---|---|
| | Section 2<br>Approved Contents<br>(Selection Criteria) | A1 | No |
| | | A2 | No |
| | | A3 | No |
| | Section 3<br>Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs)<br>(Selection Criteria) | L1 | No |
| | | L2 | No |
| | | L3 | No |
| | Section 4<br>Administrative Controls | | No |
| Risk Insight**:<br>Will removing this requirement from the CoC/TS result in… | A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR? | | No |
| | The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR? | | No |
| | A Significant reduction in the margin of safety for ISFSI or cask operation? | | No<br>The margin of safety would be reduced if these neutron poison acceptance tests were not met. The results of the criticality analyses would be subject to question since assumptions underlying the analysis may no longer be valid. However, the qualification and acceptance testing requirements for the neutron absorber materials is covered by another TS – Fuel Selection Criteria in Section 2 and described in the Basket Type. |
| Evaluation Summary | | | Maintain only the necessary neutron poison acceptance testing in TS and move to CoC Appendix A – Inspections, Tests and Evaluations. See Attachment A at the end of Enclosure 5 for the information to be included in Appendix A ITE. In addition, retain the existing detailed description in the UFSAR but remove all language regarding incorporation by reference. |

**CoC Condition/TS Identifier:** TS-4.2.1 (first two paragraphs) (Form #30) Revision 0 (no NRC questions – no changes made)

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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| **Requirement** | | | **TS 4.2.1: Codes and Standards / Horizontal Storage Module (HSM)**<br><br>**The Standardized HSM and HSM-H reinforced concrete are designed to meet the requirements of ACI 349-85 and ACI 349-97 Editions, respectively.**<br><br>**Load combinations specified in ANSI 57.9-1984, Section 6.17.3.1 are used for combining normal operating, off-normal, and accident loads for the HSM.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | **Yes** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **Yes**<br>**If the Dry Cask Storage System ITS SSCs are not built in accordance with these codes and standards, then the consequences of an accident might be significant increased.** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | | **No** |

| | | |
|---|---|---|
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **No** |
| **Evaluation Summary** | | **Move these codes and standards from TS to CoC Section II - Design Features.** |

**CoC Condition/TS Identifier:** TS-4.2.1 (third paragraph) (Form #31) Revision 0 (no NRC questions – no changes made)

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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| **Requirement** | | | **TS 4.2.1: Codes and Standards / Horizontal Storage Module (HSM)**<br><br>**If an ISFSI site is located in a coastal salt water marine atmosphere, then any load-bearing carbon steel DSC support structure rail components of any associated HSM shall be procured with a minimum of 0.20 percent copper content or stainless steel material shall be used for corrosion resistance. For weld filler material used with carbon steel, 1% or more nickel bearing weld material would also be acceptable in lieu of 0.20% copper content.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | **Yes** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **Yes**<br>**In an ISFSI site located in a coastal salt water marine atmosphere, if the Dry Cask Storage System HSM load-bearing carbon steel DSC support structure or the weld filler material used with carbon steel do not meet the content requirements, then the probability of an accident (corrosion due to stress corrosion cracking) could significantly increase.** |

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| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **Yes**<br>**The margin of safety would be reduced if the content requirements for the welds and load-bearing carbon steel DSC support structure were not met in an ISFSI Coastal salt water marine atmosphere.** |
| **Evaluation Summary** | | **Move these content requirements from TS to CoC Section II - Design Features.** |

**CoC Condition/TS Identifier: TS-4.2.2 (Form #32) Revision 0 (no NRC questions – no changes made)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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| **Requirement** | | | **TS 4.2.2 Codes and Standards / Dry Shielded Canister (DSC)**<br><br>**The DSCs are designed, fabricated and inspected to the maximum practical extent in accordance with ASME Boiler and Pressure Vessel Code Section III, Division 1, Subsections NB, NF, and NG for Class 1 components and supports. The ASME code edition years and any addenda for the various DSC types are provided in the table below. The Code alternatives are discussed in Section 4.2.4.**<br><br>**ASME code requirements for basket assemblies apply only to important to safety category A components.**<br><br>**DSC Type Applicable Code Edition/Year (See Table in 4.2.2)** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | **Yes** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **Yes**<br>**If the ITS DSCs are not built in accordance with the ASME B&PV Code requirements, then the consequences of an accident might be significant increased.** |

| | | |
|---|---|---|
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **Yes**<br>**The margin of safety could be reduced if these ITS DSCs are not built in accordance with the ASME B&PV Code requirements. Confinement safety function could be compromised.** |
| **Evaluation Summary** | | **Move these codes and standards from TS to CoC Section II - Design Features.**<br>**(NOTE: If the level of detail in the CoC body becomes excessive, possibly include in a supplemental information attachment to CoC Design Features)** |

**CoC Condition/TS Identifier:** TS-4.2.3 (first two paragraphs and table) (Form #33) Revision 0 (no NRC questions – no changes made)

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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| **Requirement** | | | **TS 4.2.3 Codes and Standards / Transfer Cask (TC)**<br><br>**The TC is designed, to the maximum practical extent in accordance with ASME Boiler and Pressure Vessel Code Section III, Subsection NC for Class 2 vessels.**<br><br>**The ASME Code edition year and any addenda are provided in the table below. The Code alternatives are discussed in Section 4.2.4.**<br><br>**TC Applicable Code Edition/Year (See Table in 4.2.3)** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | **Yes** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **Yes**<br>**If the ITS TC is not built in accordance with the ASME B&PV Code requirements, then the consequences of an accident might be significant increased.** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | | **No** |

| | | |
|---|---|---|
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **Yes**<br>**The margin of safety could be reduced if the ITS TC is not built in accordance with the ASME B&PV Code requirements. Confinement safety function could be compromised.** |
| **Evaluation Summary** | | **Move these codes and standards from TS to CoC Section II - Design Features.**<br>**(NOTE: If the level of detail in the CoC body becomes excessive, possibly include in a supplemental information attachment to CoC Design Features)** |

**CoC Condition/TS Identifier:** **TS-4.2.3 (last two paragraphs) (Form #34) Revision 3 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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|---|---|---|---|
| **Requirement** | | | **TS 4.2.3 Codes and Standards / Transfer Cask (TC)**<br><br>**For the OS197L TC, the supplementary trailer shield is designed to resist the normal operating dead weight and handling loads in accordance with "Manual of Steel Construction Allowable Stress Design", 9th Edition, American Institute of Steel Construction, Inc.**<br><br>**For the OS197L TC, the decontamination area shielding is designed to resist the normal operation dead weight, lifting loads, and seismic load in accordance with "Manual of Steel Construction Allowable Stress Design," 9th Edition, American Institute of Steel Construction, Inc.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | ***Yes*** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | ***Yes*** |

| | | |
|---|---|---|
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | ***Yes*** |
| **Evaluation Summary** | | ***These items show impact in risk criteria 1 and 3. They shall be retained but move to the CoC Section II Design Features.*** |

**CoC Condition/TS Identifier: TS-4.2.4 (Form #35) Revision *4* (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

| | | | |
|---|---|---|---|
| **Requirement** | | | **TS 4.2.4 ASME Code Alternatives**<br><br>**(Several tables provided in TS 4.2.4, followed by the provision below)**<br><br>**Proposed alternatives to the ASME code, other than the aforementioned ASME Code alternatives may be used when authorized by the Director of the Office of Nuclear Material Safety and Safeguards, or designee. The applicant should demonstrate that:**<br><br>**1. The proposed alternatives would provide an acceptable level of quality and safety, or**<br>**2. Compliance with the specified requirements of ASME Code, Section III, Edition year and Addenda indicated in Section 4.2.2 or Section 4.2.3 would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.**<br><br>**Requests for exceptions in accordance with this section should be submitted in accordance with 10 CFR 72.4.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | **Yes, but only to provide information regarding the location of the Code Alternatives. *The code alternatives will be placed in a new Appendix C to the CoC. In addition, the text will be retained that any changes to these code alternatives must be authorized by the Director of NMSS or designee.*** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions** | **L1** | **No** |

| | | | |
|---|---|---|---|
| | for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria) | L2 | No |
| | | L3 | No |
| | Section 4 Administrative Controls | | No |
| Risk Insight**: Will removing this requirement from the CoC/TS result in… | A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR? | | No |
| | The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR? | | No |
| | A Significant reduction in the margin of safety for ISFSI or cask operation? | | No |
| Evaluation Summary | | | ***T*he CoC will provide information as to where the ASME code alternatives are listed. *The ASME Code Alternatives will be moved to new Appendix C.***<br><br>**Regarding the provision that proposed changes shall be submitted to the Director of the Office of Nuclear Material Safety and Safeguards, or designee, *this provision will be moved to CoC Body Certified Design, Section II Design Features since review and approval of code alternatives forms part of the licensing basis.***<br><br>**Current TS 4.2.2 and 4.2.3 each have the statement, "The Code alternatives are discussed in Section 4.2.4." *These cross-reference statements will be deleted since a new section is being added* to the CoC Body Certified Design, Section II Design Features *labeled ASME Code Alternatives. This new section will state that, "ASME Code alternatives for DSC pressure boundary or confinement boundary components, DSC basket assembly components, and TC components can be found in CoC Appendix C."*** |

**CoC Condition/TS Identifier: TS-4.3 and 4.3.1 (Form #36) Revision 0 (no NRC questions – no changes made)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3 and 4.3.1 Storage Location Design Features – Storage Configuration<br><br>The following storage location design features and parameters shall be verified by the system user to assure technical agreement with the UFSAR.<br><br><u>Storage Configuration</u><br><br>HSMs are placed together in single rows or back-to-back arrays. An end shield wall is placed on the outside end of any loaded outside HSM. A rear shield wall is placed on the rear of any single row loaded HSM.<br><br>A minimum of two (2) HSM-H modules are required to be placed adjacent to each other for stability during design basis flood loads.<br><br>A minimum of three (3) high seismic option HSM-H modules are to be connected with each other.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>Yes<br>HSM storage configuration is a key part of the design features.</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>No</td></tr>
<tr><td rowspan="7">Appendix B. Technical Specifications</td><td colspan="2">Section 1<br>Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="3">Section 2<br>Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
<tr><td>A3</td><td>No</td></tr>
<tr><td rowspan="3">Section 3<br>Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)</td><td>L1</td><td>No</td></tr>
<tr><td>L2</td><td>No</td></tr>
<tr><td>L3</td><td>No</td></tr>
<tr><td colspan="2">Section 4<br>Administrative Controls</td><td>No</td></tr>
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| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | **Yes**<br>**The probability of HSM sliding and overturning portion of the flood accident would be significantly increased.** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **Yes**<br>**The margin of safety would be reduced if the HSM storage configuration is not maintained. Shielding safety function could be significantly reduced.** |
| **Evaluation Summary** | | **Move these storage configuration design features from TS to CoC Section II - Design Features.** |

**CoC Condition/TS Identifier: TS-4.3.2 (Form #37) Revision 0 (no NRC questions - no changes made)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

| | | | |
|---|---|---|---|
| **Requirement** | | | **TS 4.3.2 Concrete Storage Pad Properties to Limit DSC Gravitational Loadings Due to Postulated Drops**<br><br>The TC/DSC has been evaluated for drops of up to 80 inches onto a reinforced concrete storage pad. |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | **No** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | | **No** |

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| **Evaluation Summary** | **Delete from TS. An administrative limit will be imposed to limit TC/DSC lifting height (currently TS 5.3.1 proposed to become an ITE in TS Appendix A). In addition, the FSAR already contains an analysis of the cask drop accident (Section 8 and associated appendices) that includes bounding drop scenarios that show the TC will maintain structural integrity for an 80 inch drop height to support the TS 5.3.1 limits. Having the system user verify this information is unnecessary.** |

**CoC Condition/TS Identifier: TS-4.3.3-1 (Form #38) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-1 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>1. The analyzed Flood conditions of 50 ft. height of water (full submergence of the loaded HSM with DSC) and water velocity of 15 fps.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>Verify that site-specific conditions are bounded by the enveloping design basis flood conditions of 50 ft. height of water and a velocity of 15 fps stated in *UFSAR* Section 3.2.2, "Water Level (Flood) Design."</td></tr>
<tr><td rowspan="8">Appendix B. Technical Specifications</td><td colspan="2">Section 1<br>Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="3">Section 2<br>Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
<tr><td>A3</td><td>No</td></tr>
<tr><td rowspan="3">Section 3<br>Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)</td><td>L1</td><td>No</td></tr>
<tr><td>L2</td><td>No</td></tr>
<tr><td>L3</td><td>No</td></tr>
<tr><td colspan="2">Section 4<br>Administrative Controls</td><td>No</td></tr>
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| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **No** |
| **Evaluation Summary** | | **Move from TS to Appendix A – Inspections, Tests and Evaluations. A 72.212 evaluation by the General Licensee will perform written evaluations confirming that the site meets the terms, conditions and specifications of the approved cask CoC.**<br><br>***When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.*** |

**CoC Condition/TS Identifier: TS-4.3.3-2 (Form #39) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-2 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>2. One-hundred year roof snow load of 110 psf.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>Verify that site-specific conditions are bounded by the analyzed one-hundred year roof snow load of 110 psf stated in *UFSAR* Section 3.2.4, "Snow and Ice Loads."</td></tr>
<tr><td rowspan="7">Appendix B. Technical Specifications</td><td colspan="2">Section 1 Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="3">Section 2 Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
<tr><td>A3</td><td>No</td></tr>
<tr><td rowspan="3">Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)</td><td>L1</td><td>No</td></tr>
<tr><td>L2</td><td>No</td></tr>
<tr><td>L3</td><td>No</td></tr>
<tr><td colspan="2">Section 4 Administrative Controls</td><td>No</td></tr>
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| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **No** |
| **Evaluation Summary** | | **Move from TS to Appendix A – Inspections, Tests and Evaluations. A 72.212 evaluation by the General Licensee will perform written evaluations confirming that the site meets the terms, conditions and specifications of the approved cask CoC.**<br><br>***When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.*** |

**CoC Condition/TS Identifier:** **TS-4.3.3-3 (Form #40) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-3 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>3. The maximum yearly average temperature shall be 70°F for the 24P, 52B and 61BT DSCs only. The average daily ambient temperature shall be 100°F or less for the 52B, 61BT, 32PT, 24PHB, 24PTH, 61BTH, 69BTH, and 37PTH DSCs. For the 32PTH1 DSC, the average daily ambient temperature shall be 106°F or less.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>This site-specific parameter of maximum ambient temperature will need to be validated against the key design criteria used and evaluated in the CoC cask design in the decay heat removal-related UFSAR sections.</td></tr>
<tr><td rowspan="7">Appendix B. Technical Specifications</td><td colspan="2">Section 1 Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="3">Section 2 Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
<tr><td>A3</td><td>No</td></tr>
<tr><td rowspan="3">Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)</td><td>L1</td><td>No</td></tr>
<tr><td>L2</td><td>No</td></tr>
<tr><td>L3</td><td>No</td></tr>
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| | **Section 4 Administrative Controls** | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | **No**<br>**The consequences of the accident event would likely be greater but not significantly greater.** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **No** |
| **Evaluation Summary** | | **Relocate from TS to CoC Appendix A –Inspections, Tests and Evaluations to be confirmed by General Licensee in 10 CFR 72.212 evaluation.**<br><br>***When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.*** |

**CoC Condition/TS Identifier: TS-4.3.3-4 (Form #41) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-4 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>4. The temperature extremes either of 125°F (for the 24P, 52B and 61BT DSCs) or 117°F (for the 32PT, 24PHB, 24PTH, 61BTH, 32PTH1, 69BTH, and 37PTH DSCs). The 117°F extreme ambient temperature corresponds to a 24 hour calculated average temperature of 102°F for the 32PT DSC only. The extreme minimum ambient temperature is –40°F for storage of the DSC inside HSM.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>The maximum extreme ambient temperatures used for accident analyses (blocked vents) will need to be validated against the site-specific temperatures. This key design criteria for the CoC cask design for each of the DSC models is given in the following decay heat removal-related UFSAR sections:<br>Section 1.2.2 – 24P Section N.4.5 – 24PHB<br>Section 1.2.2 – 52B Section P.4.4 – 24PTH<br>Section K.4.5 – 61BT Section T.4.4 – 61BTH<br>Section M.4.5 – 32PT Section U.4.4 – 32PTH1<br>Section Y.4.4 – 69BTH Section Z.4.4 - 37PTH</td></tr>
<tr><td rowspan="3">Appendix B. Technical Specifications</td><td colspan="2">Section 1 Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="2">Section 2 Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
</table>

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| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **No**<br>**The consequences of the accident event would likely be greater but not significantly greater.** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | | **No** |
| **Evaluation Summary** | | | **Relocate from TS to CoC Appendix A –Inspections, Tests and Evaluations to be confirmed by General Licensee in 10 CFR 72.212 evaluation.**<br><br>***When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.*** |

**CoC Condition/TS Identifier: TS-4.3.3-5 (Form #42) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-5 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>5. The potential for fires and explosions shall be addressed, based on site-specific considerations.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>Verify that loadings resulting from potential site-specific fires and explosions are bounded by other generic cask design basis events as described in UFSAR Section 3.3.6, "Fire and Explosion Protection."</td></tr>
<tr><td rowspan="8">Appendix B. Technical Specifications</td><td colspan="2">Section 1 Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="3">Section 2 Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
<tr><td>A3</td><td>No</td></tr>
<tr><td rowspan="3">Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)</td><td>L1</td><td>No</td></tr>
<tr><td>L2</td><td>No</td></tr>
<tr><td>L3</td><td>No</td></tr>
<tr><td colspan="2">Section 4 Administrative Controls</td><td>No</td></tr>
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| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | **No**<br>**The consequences of the accident event would likely be greater but not significantly greater. Licensees are required by 10CFR72 Subpart K to confirm that no conditions exist near the ISFSI that would result in pressures due to off-site explosions which would exceed those postulated in the UFSAR for tornado missile or wind effects.** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **No** |
| **Evaluation Summary** | | **Relocate from TS to CoC Appendix A –Inspections, Tests and Evaluations to be confirmed by General Licensee in 10 CFR 72.212 evaluation.**<br><br>***When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.*** |

**CoC Condition/TS Identifier: TS-4.3.3-6 (Form #43) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-6 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>6. Supplemental Shielding: In cases where supplemental shielding and engineered features (i.e., earthen berms, shield walls) are used to ensure that the requirements of 10 CFR 72.104(a) are met, such features are to be considered important to safety and must be evaluated to determine the applicable Quality Assurance Category.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>If supplemental site-specific shielding or engineered features are required to keep doses to any real individual located beyond the controlled area below the dose requirements in 10 CFR 72.104(a), then these features are considered ITS and must be designed and controlled accordingly.</td></tr>
<tr><td rowspan="5">Appendix B. Technical Specifications</td><td colspan="2">Section 1<br>Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="3">Section 2<br>Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
<tr><td>A3</td><td>No</td></tr>
<tr><td rowspan="2">Section 3<br>Limiting Conditions for Operation (LCOs)* and Surveillance</td><td>L1</td><td>No</td></tr>
<tr><td>L2</td><td>No</td></tr>
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| | **Requirements (SRs) (Selection Criteria)** | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | | **Yes**<br>**As specified in UFSAR Section 7.4.2, Since the site dose for an ISFSI is highly site specific, each licensee must perform a dose analysis in accordance with 10CFR72.212. The analysis should consider existing plant conditions, the site specific arrangement of the ISFSI, the characteristics of the spent fuel to be placed in dry storage, and relevant empirical data as appropriate. The onsite dose analysis should demonstrate compliance with the 10CFR 72.104(a) limits for normal conditions and 10CFR72.106 and 10CFR100 for accident conditions.** |
| **Evaluation Summary** | | | **Relocate from TS to CoC Appendix A –Inspections, Tests and Evaluations to be confirmed by General Licensee in 10 CFR 72.212 evaluation.**<br><br>***When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.*** |

**CoC Condition/TS Identifier: TS-4.3.3-7 (Form #44) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-7 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>7. Seismic restraints shall be provided to prevent overturning of a loaded TC in a vertical orientation in the plant's FUEL BUILDING during a seismic event if a certificate holder determines that the horizontal acceleration is 0.4g or greater. The determination of the horizontal acceleration acting at the center of gravity (CG) of the loaded TC must be based on a peak horizontal ground acceleration at the site.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>The general licensee must perform an assessment to confirm that the cask seismic criteria are met (per TS 4.3.3-8). If the site-specific horizontal acceleration is determined to be 0.4g or greater, then seismic restraints must be provided to prevent overturning of a loaded TC in the vertical orientation in the plant's FUEL BUILDING during a seismic event – per UFSAR Section 8.2.3.2 (D) – Transfer Cask Seismic Evaluation.</td></tr>
<tr><td rowspan="4">Appendix B. Technical Specifications</td><td colspan="2">Section 1 Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="3">Section 2 Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
<tr><td>A3</td><td>No</td></tr>
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|---|---|---|---|
| | Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria) | L1 | No |
| | | L2 | No |
| | | L3 | No |
| | Section 4 Administrative Controls | | No |
| Risk Insight**: Will removing this requirement from the CoC/TS result in… | A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR? | | Yes<br>If the general licensee determines that the site-specific horizontal acceleration is 0.4g or greater, then the lack of seismic restraints for the loaded TC while in the vertical orientation in the FUEL BUILDING could lead to tipover – a significant increase in the probability of an accident. |
| | The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR? | | No |
| | A Significant reduction in the margin of safety for ISFSI or cask operation? | | No |
| Evaluation Summary | | | Relocate from TS to CoC Appendix A –Inspections, Tests and Evaluations to be confirmed by General Licensee in 10 CFR 72.212 evaluation.<br><br>*When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.* |

**CoC Condition/TS Identifier: TS-4.3.3-8 (Form #45) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-8 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>8. Site design spectra seismic Zero Period Acceleration (ZPA) levels of 0.25g horizontal and 0.17g vertical for the systems using the Standardized HSMs. Site design spectra seismic ZPA for systems using the HSM-H modules are payload specific as follows:<br>• 0.3g horizontal and 0.2g vertical for the 24PTH and 61BTH DSCs<br>• 0.3g horizontal and 0.25g vertical for the 32PTH1, 69BTH, and 37PTH DSCs<br>• Site design spectra seismic ZPA levels for the 32PT, 61BT, 24PTH, 61BTH, 32PTH1, 69BTH, and 37PTH DSC systems when stored within the "high seismic option" HSM-H modules are 1.0g horizontal and 1.0g vertical.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>The general licensee must perform an assessment to confirm that the site-specific seismic accelerations meet the cask seismic criteria applicable for each of the different cask payloads (DSC types).</td></tr>
<tr><td rowspan="2">Appendix B. Technical Specifications</td><td colspan="2">Section 1 Definitions, Use and Application</td><td>No</td></tr>
<tr><td>Section 2</td><td>A1</td><td>No</td></tr>
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| | **Approved Contents (Selection Criteria)** | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **Yes**<br>**If the site-specific seismic ZPA levels are greater than those analyzed - per UFSAR Sections 3.2.3 – Seismic Design Criteria and associated UFSAR Appendices. then this could lead to a cask tipover or sliding – a significant increase in the consequences of a seismic accident. The cask is conservatively designed to withstand the forces generated by a postulated design basis earthquake of the magnitude described for each DSC payload type.** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | | **No** |
| **Evaluation Summary** | | | **Relocate from TS to CoC Appendix A –Inspections, Tests and Evaluations to be confirmed by General Licensee in 10 CFR 72.212 evaluation.**<br><br>***When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.*** |

**CoC Condition/TS Identifier: TS-4.3.3-9 (Form #46) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-9 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>9. The storage pad location shall have no potential for liquefaction at the site-specific Safe Shutdown Earthquake (SSE) level.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>The general licensee must perform an assessment – per Regulation 10 CFR 70.212(b)(5)(ii) - to confirm that the 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.</td></tr>
<tr><td rowspan="7">Appendix B. Technical Specifications</td><td colspan="2">Section 1 Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="3">Section 2 Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
<tr><td>A3</td><td>No</td></tr>
<tr><td rowspan="3">Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)</td><td>L1</td><td>No</td></tr>
<tr><td>L2</td><td>No</td></tr>
<tr><td>L3</td><td>No</td></tr>
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| | **Section 4 Administrative Controls** | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **Yes**<br>**Soil liquefaction was not an accident considered since the regulation requires the cask storage pad and areas to be designed to adequately support the static and dynamic load of the stored casks considering soil liquefaction potential or other soil instability due to vibratory ground motion (10 CFR 70.212(b)(5)(ii)).** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **No** |
| **Evaluation Summary** | | **Relocate from TS to CoC Appendix A –Inspections, Tests and Evaluations to be confirmed by General Licensee in 10 CFR 72.212 evaluation.**<br><br>***When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.*** |

**CoC Condition/TS Identifier: TS-4.3.3-10 (Form #47) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-10 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>10. Any other site parameters or considerations that could decrease the effectiveness of cask systems important to safety.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>The general licensee must perform an assessment – per Regulation 10 CFR 70.212- that site-specific parameters or considerations are bounded by analyzed events. All relevant site parameters must be included that could decrease the effectiveness of cask systems important to safety.</td></tr>
<tr><td rowspan="8">Appendix B. Technical Specifications</td><td colspan="2">Section 1 Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="3">Section 2 Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
<tr><td>A3</td><td>No</td></tr>
<tr><td rowspan="3">Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)</td><td>L1</td><td>No</td></tr>
<tr><td>L2</td><td>No</td></tr>
<tr><td>L3</td><td>No</td></tr>
<tr><td colspan="2">Section 4 Administrative Controls</td><td>No</td></tr>
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| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **Yes**<br>**Other site-specific parameters or considerations could decrease the effectiveness of cask systems important to safety. These site-specific considerations must be evaluated to ensure they are bounded by existing analyses or new analyses performed to evaluate these conditions. Otherwise, a significant reduction in the margin of safety could be realized.** |
| **Evaluation Summary** | | **Relocate from TS to CoC Appendix A –Inspections, Tests and Evaluations to be confirmed by General Licensee in 10 CFR 72.212 evaluation.**<br><br>***When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.*** |

**CoC Condition/TS Identifier: TS-4.3.3-11 (Form #48) Revision 1 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

<table>
<tr><td colspan="3">Requirement</td><td>TS 4.3.3-11 Site-Specific Parameters and Analyses<br><br>The potential Standardized NUHOMS® System user (general licensee) shall perform the verifications and evaluations in accordance with 10 CFR 72.212 before the use of the system under the general license. The following parameters and analyses shall be verified by the system user for applicability at their specific site. Other natural phenomena events, such as lightning (damage to electrical system, e.g., thermal performance monitoring), tsunamis, hurricanes, and seiches, are site specific and their effects are generally bounded by other events, but they should be evaluated by the user.<br><br>11. The storage pad location shall be evaluated for the effects of soil-structure interaction which may affect the response of the loaded HSMs. Seismic responses at the location of the HSM center of gravity (CG) may be obtained from the soil-structure interaction analyses.</td></tr>
<tr><td rowspan="2">CoC Body Certified Design</td><td colspan="2">Section I. Technology</td><td>No</td></tr>
<tr><td colspan="2">Section II. Design Features</td><td>No</td></tr>
<tr><td colspan="3">Appendix A - Inspections, Tests, and Evaluations</td><td>Yes<br>The general licensee must perform an assessment – per Regulation 10 CFR 70.212(b)(5)(ii) - to confirm that the 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.</td></tr>
<tr><td rowspan="6">Appendix B. Technical Specifications</td><td colspan="2">Section 1 Definitions, Use and Application</td><td>No</td></tr>
<tr><td rowspan="3">Section 2 Approved Contents (Selection Criteria)</td><td>A1</td><td>No</td></tr>
<tr><td>A2</td><td>No</td></tr>
<tr><td>A3</td><td>No</td></tr>
<tr><td rowspan="2">Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance</td><td>L1</td><td>No</td></tr>
<tr><td>L2</td><td>No</td></tr>
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| | **Requirements (SRs) (Selection Criteria)** | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | | **Yes**<br>**Evaluation of the storage pad location for the effects of soil-structure interaction which may affect the response of the loaded HSMs – and lead to soil liquefaction was not an accident considered. The regulation requires the cask storage pad and areas to be designed to adequately support the static and dynamic load of the stored casks considering soil liquefaction potential or other soil instability due to vibratory ground motion (10 CFR 70.212(b)(5)(ii)).** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | | **No** |
| **Evaluation Summary** | | | **Combine this TS with related TS 4.3.3-9 on soil liquefaction – to reflect regulatory requirements in 10 CFR 70.212(b)(5)(ii).**<br><br>***When included in the new CoC Appendix A ITE, this will not affect the size of the CoC body.*** |

**CoC Condition/TS Identifier:** **TS-4.4 (Form #49) Revision 3 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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| **Requirement** | | | **TS 4.4 TC Design Features**<br><br>**The OS197L TC shall only be used with DSC models 61BT and 32PT with a maximum heat load of 12 kW per DSC or less, and 13 kW per DSC or less, respectively.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | ***Yes, but the heat load limits are redundant to TS Figures*** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | ***No*** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | | **No** |

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| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **Yes**<br>**If the maximum heat value for a given DSC model is higher than that analyzed in the design bases, then if a blockage of the vents were to occur, the accident consequences – thermal overheating and possible cladding rupture – would occur sooner than the TS limits currently specify. In addition, the use of these DSC models with a limited heat load is necessary to limit the occupational dose.** |
| **Evaluation Summary** | | **Move to *CoC Section II - Design Features, but the heat load limits are redundant to TS Figures 1-29 and 1-30 so that information has been removed in the CoC.*** |

**CoC Condition/TS Identifier:** TS-4.4.1 (Form #50) Revision 1 (changes made and tracked)

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

| | | | |
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| **Requirement** | | | **TS 4.4.1 TC Design Features**<br><br>**The following TC design features and parameters for the OS197L TC shall be verified by the system user to assure technical agreement with the UFSAR.**<br><br>**The OS197L TC decontamination area shielding shall be used for all LOADING OPERATIONS when the TC is not in the spent fuel pool or suspended on the crane. The OS197L TC trailer shielding shall be used for all TRANSFER OPERATIONS. This shielding is necessary to ensure the OS197L TC system provides adequate radiation protection when the TC is not in the pool, or when the TC is not handled by remote operations.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | **Yes**<br>**The bare OS197L TC provides less shielding than the OS197 TC system. The reduced shielding of the bare TC results in higher dose rates on and around the TC when being lifted from the fuel pool to the decontamination area and from the decontamination area to the transfer trailer. The use of decontamination area and skid shielding features of the OS197L TC is necessary to keep dose rates low and commensurate with the OS197 TC System.** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |

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| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | **No**<br>**The consequences of an accident involving the loss of the TC neutron shield plus the supplemental TC trailer shielding is evaluated in UFSAR Section W.11.1.4.** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | **Yes**<br>**The OS197L TC decontamination area shielding and trailer shielding are needed to assure the shielding safety design function is maintained.** |
| **Evaluation Summary** | | ***While this could fit under Administrative Controls or Design Features, m*ove from TS to CoC Body, Section II – Design Features. In addition, retain the detailed description in the UFSAR.**<br><br>**The criteria for radiological protection are provided in 10 CFR 72.126 – SSCs must be shielded to control radiation exposures to personnel.**<br><br>**The OS197L TC decontamination area shielding and trailer shielding are necessary to ensure the OS197L TC system provides adequate radiation protection under the specified operations. The supplemental shielding for the OS197L TC are key design features needed to assure the shielding safety design function is maintained.** |

**CoC Condition/TS Identifier:** TS-4.4.2 (Form #51) Revision 3 (changes made and tracked)

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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| **Requirement** | | | **TS 4.4.2 TC Design Features**<br><br>**The following TC design features and parameters for the OS197L TC shall be verified by the system user to assure technical agreement with the UFSAR.**<br><br>**The bare OS197L TC shall be handled using remote operations, including the use of laser/optical targeting and camera for confirmation of the cask location.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | ***Yes*** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | | ***Yes*** |

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| **Evaluation Summary** | ***This item shall be retained and moved to CoC Section II Design Features.***<br><br>***Additionally, the second sentence has been revised as shown below to clarify that this requirement only applies when the TC is carrying a loaded DSC.***<br><br>***"The bare OS197L TC, when carrying a loaded DSC, shall be handled using remote operations, including the use of laser/optical targeting and camera for confirmation of the cask location."*** |

**CoC Condition/TS Identifier:** TS-4.4.3 (Form #52) Revision 3 (changes made and tracked)

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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| **Requirement** | | | **TS 4.4.3 TC Design Features**<br><br>**The following TC design features and parameters for the OS197L TC shall be verified by the system user to assure technical agreement with the UFSAR.**<br><br>**The placement of the Outer Top Shield of the Transfer Trailer Shield on the loaded OS197L TC shall take place in the FUEL BUILDING unless the FUEL BUILDING load limits would be exceeded. In that case, the placement of the Outer Top Shield takes place outside the FUEL BUILDING. If the placement of the Outer Top Shield is delayed due to building load limits, it must occur as soon as the Transfer Trailer has been moved to an area with acceptable load limits. The licensee must plan accordingly to minimize, to the greatest extent practicable, the delay of the placement of this Outer Top Shield.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | ***Yes*** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **No** |

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| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | ***Yes*** |
| **Evaluation Summary** | | ***This item shall be retained and moved to CoC Section II Design Features.*** |

**CoC Condition/TS Identifier: TS-4.4.4 (Form #53) Revision 3 (changes made and tracked)**

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

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| **Requirement** | | | **TS 4.4.4 TC Design Features**<br><br>**The following TC design features and parameters for the OS197L TC shall be verified by the system user to assure technical agreement with the UFSAR.**<br><br>**During TRANSFER OPERATION of a loaded OS197L TC, every hour, visually monitor the Outer Top Trailer Shield vents and the opening around the cask ends for any sign of steaming which may indicate leakage of water from the cask neutron shield (NS). If steaming is determined to be due to leakage of NS water and not due to any rain or snow or other ambient conditions, then licensee must take appropriate corrective actions including use of supplemental cooling or replenishing the NS water or terminating the transfer operation and returning the loaded cask to the FUEL BUILDING for further assessment.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | ***Yes*** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **No** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |

| | | |
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| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | ***Yes*** |
| **Evaluation Summary** | | ***This item shall be retained and moved to CoC Section II Design Features.*** |

**CoC Condition/TS Identifier:** TS-4.5 (Form #54) Revision 1 (changes made and tracked)

*** All LCOs also require an Applicability, Condition(s), Required Action(s), Completion Time(s), Surveillance Requirement(s), and Frequency(ies). Refer to NUREG-1745 for additional guidance.**
**** In performing the risk insight evaluation above, the evaluator should think about subsequent changes to a relocated CoC requirement. Specifically, ask the question "what is the likelihood and worst possible consequences of a future change to this requirement in the less-conservative direction"?**

| | | | |
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| **Requirement** | | | **TS 4.5 Leakage Testing of the Confinement Boundary**<br><br>**The DSC shell (including the inner bottom cover plate) base metal and associated confinement boundary welds are tested during fabrication to $1x10^{-7}$ ref $cm^3/s$. The inner seal welds, inner top cover and port covers are tested upon closure of the loaded DSC as specified in Section 5.2.4c of the Technical Specifications.** |
| **CoC Body Certified Design** | **Section I. Technology** | | **No** |
| | **Section II. Design Features** | | **No** |
| **Appendix A - Inspections, Tests, and Evaluations** | | | **Yes**<br>**This test during fabrication ensures that the cask will meet cask confinement criteria.** |
| **Appendix B. Technical Specifications** | **Section 1 Definitions, Use and Application** | | **No** |
| | **Section 2 Approved Contents (Selection Criteria)** | **A1** | **No** |
| | | **A2** | **No** |
| | | **A3** | **No** |
| | **Section 3 Limiting Conditions for Operation (LCOs)* and Surveillance Requirements (SRs) (Selection Criteria)** | **L1** | **No** |
| | | **L2** | **No** |
| | | **L3** | **No** |
| | **Section 4 Administrative Controls** | | **No** |
| **Risk Insight**: Will removing this requirement from the CoC/TS result in…** | **A significant increase in the probability or consequences of an accident previously evaluated in the cask FSAR?** | | **No** |
| | **The possibility of a new or different kind of accident being created compared to those previously evaluated in the FSAR?** | | **No** |
| | **A Significant reduction in the margin of safety for ISFSI or cask operation?** | | **Yes**<br>**Removal of this test during fabrication would reduce the margin of safety for confinement.** |

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| **Evaluation Summary** | ***1st sentence*** **- Move from TS to CoC Appendix A – Inspections, Tests and Evaluations. This Leakage Testing of the DSC shell (including the inner bottom cover plate) base metal and associated confinement boundary welds during fabrication is part of the leaktight criteria ($1x10^{-7}$ std. $cm^3$/sec) of ANSI N14.5-1997.**<br><br>**In addition, it should be noted that fabrication and testing processes are covered by the QA program.**<br><br>***2nd sentence – Delete as it is not needed.*** **The leakage testing of the inner seal welds, inner top cover and port covers after loading of the DSC is covered by another TS (*former* TS Section 5.2.4 c *that is proposed to become a new LCO*).** |

***Revision 4***

**Attachment A: INSERT – ITE for Canister Criticality Control**

The neutron absorber used for criticality control in the DSC basket may consist of any of the following types of material:

- Borated aluminum
- Boron carbide / aluminum metal matrix composite (MMC)
- BORAL® (except for the 32PT DSC)

The minimum B-10 areal density requirements are specified in in the CoC 1004 Appendix B Technical Specifications (TS) tables referred to in the table below:

| DSC Model | Basket Type | Minimum B-10 Areal Density for Absorber Plates or Poison Rod Assemblies |
|---|---|---|
| *24P and 24PHB* | *N/A* | *These DSC models do not contain borated absorber plates. Poison rod assemblies are not credited.* |
| *52B* | *N/A* | *The 52B utilizes borated stainless steel basket plates. The minimum natural boron content is 16 mg/cm$^2$.* |
| 61BT | A, B or C | Per TS Table 1-1k |
| 32PT | A, A1, A2, B, C or D | Per TS Table 1-1h |
| 24PTH | 1A, 1B, or 1C<br>2A, 2B or 2C | Per TS Table 1-1 r |
| 61BTH | A, B, C, D, E or F | Per TS Table 1-1v or Table 1-1w or Table 1-1w1 or Table 1-1x |
| 32PTH1 | 1A, 1B, 1C, 1D, or 1E<br>2A, 2B, 2C, 2D, or 2E | Per TS Table 1-1ff |
| 69BTH | A, B, C, D, E, or F | Per TS Table 1-1jj or Table 1-1kk |
| 37PTH | There is just one basket. | Per TS Table 1-1rr or Table 1-1ss |

**Acceptance of Borated Aluminum**

In no case shall the boron content in the aluminum or aluminum alloy exceed 5% by weight.

Neutron Transmission acceptance testing procedures shall be subject to approval by the Certificate Holder.

**Acceptance of Boron carbide / aluminum metal matrix composite (MMC)**

The boron carbide content shall not exceed 40% by volume. The boron carbide content for MMCs with an integral aluminum cladding or produced by molten metal infiltration shall not exceed 50% by volume.

The final MMC product shall have density greater than 98% of theoretical density demonstrated by qualification testing. For MMC with an integral cladding, the final density of the core shall be greater than 97% of theoretical density demonstrated by qualification testing.

**Attachment A: INSERT – ITE for Canister Criticality Control (continued)**

At least 50% by weight of the B4C particles in MMCs shall be smaller than 40 microns. No more than 10% of the particles shall be over 60 microns.

**Acceptance of BORAL®**

Before rolling, at least 80% by weight of the B4C particles in BORAL® shall be smaller than 200 microns. The nominal boron carbide content shall be limited to 65% (+ 2% tolerance limit) of the core by weight.