

Renewal CoC 1030 NUHOMS® HD

Pre-Application Meeting – NRC and Orano TN Americas
Non-Proprietary Portion

August 3rd 2026



Agenda: Non-Proprietary Session

- 1. Background**
- 2. NRC Regulations & Guidance**
- 3. Proposed Content of Renewal Application**
- 4. Scoping & Aging Management Reviews (AMRs)**
- 5. Aging Management Programs (AMPs)**
 - **Code Case N-860**
- 6. Licensing Schedule**
- 7. Questions**
8. Proprietary Topics

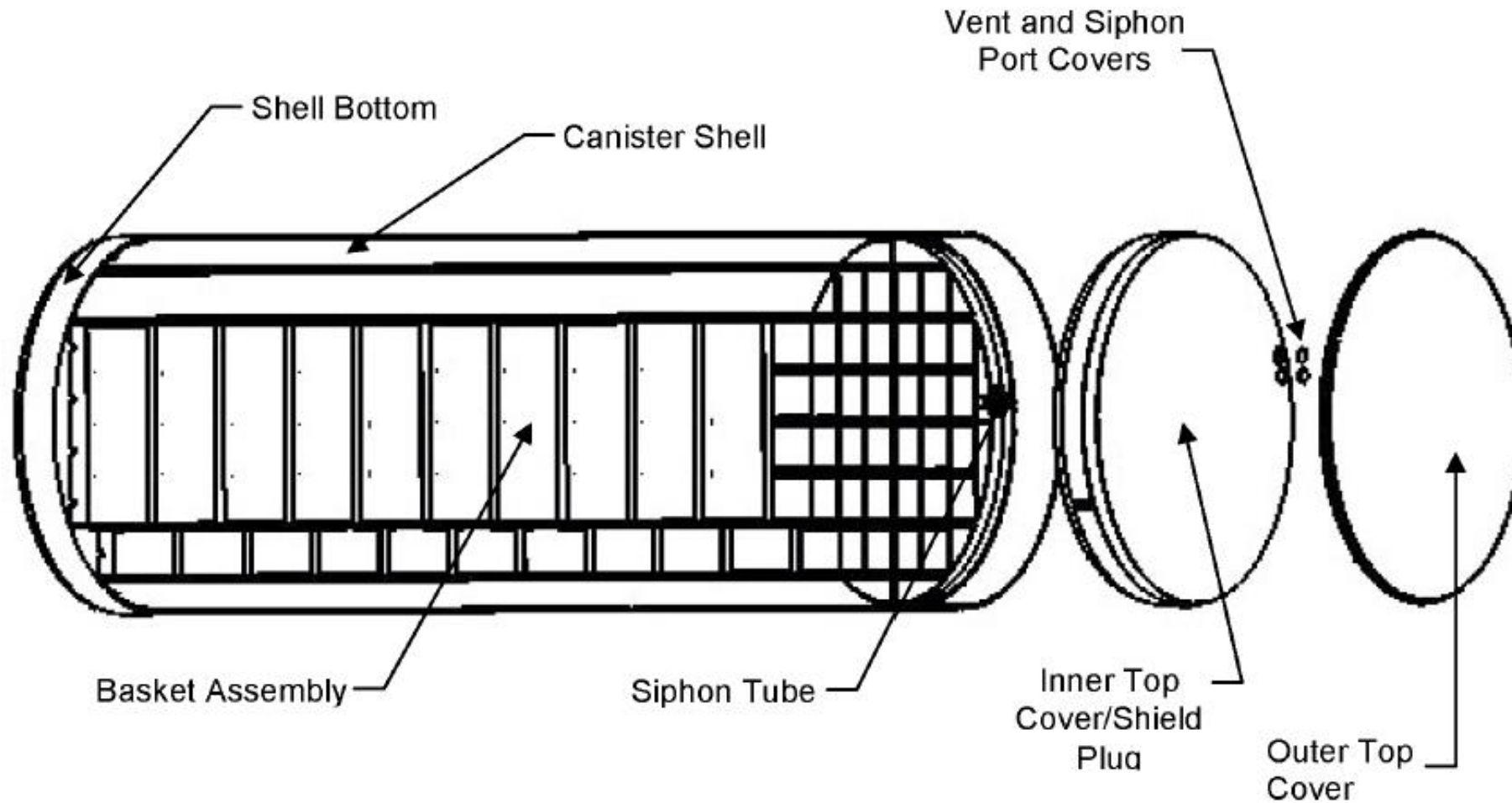
Background – CoC 1030 NUHOMS® HD

- CoC 1030 became effective 1/10/2007 for an initial 20-year term
 - Set to expire on 1/10/2027
- Amendments 0, 1, and 2 previously approved
 - Renewal to apply to all amendments
- The renewal application will request a 40-year Period of Extended Operation (PEO)

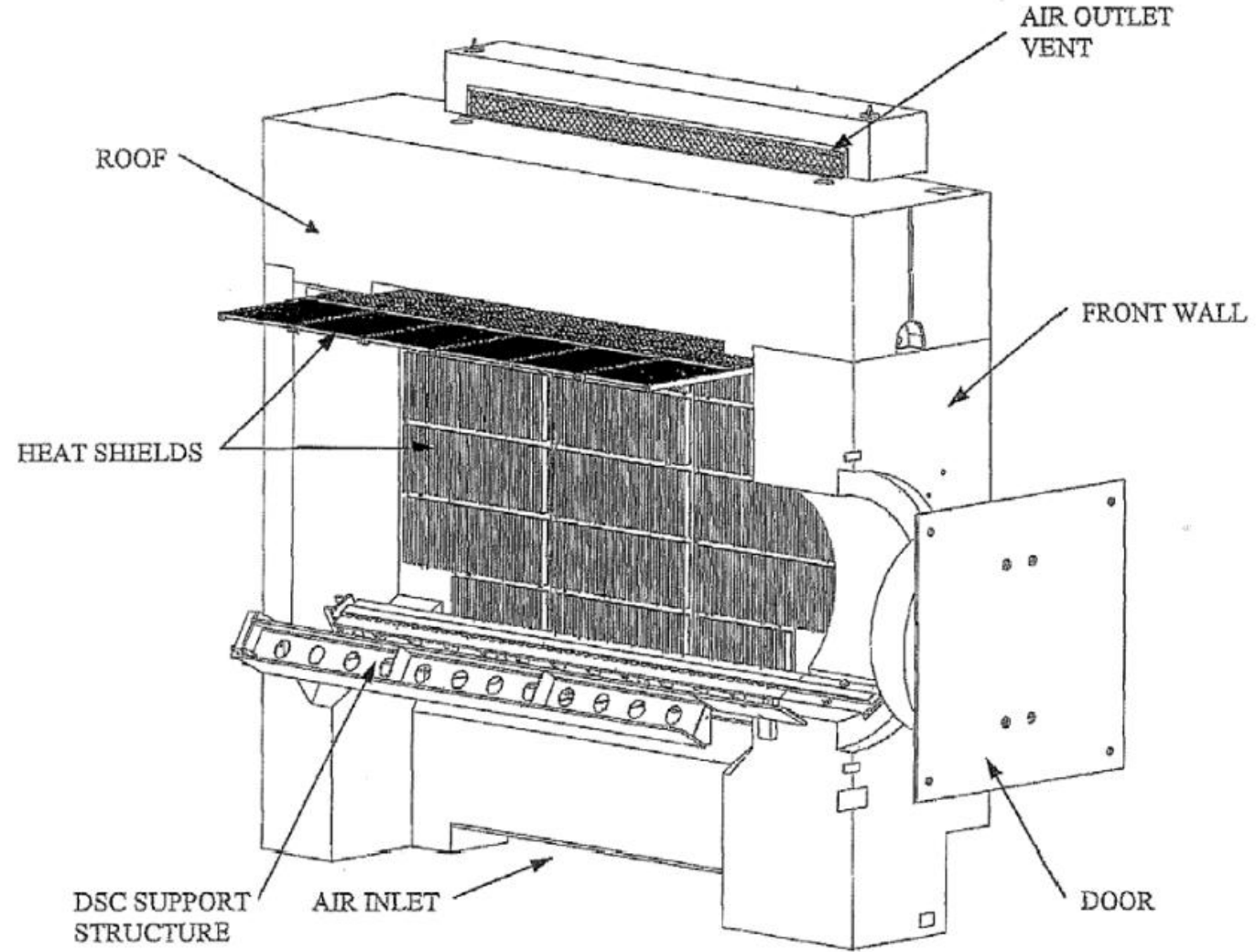
Background – Major SSCs

- CoC 1030 NUHOMS HD Major SSCs:
 - Three Dry Shielded Canisters (DSCs) that vary in length:
 - 32PTH
 - 32PTH Type 1
 - 32PTH Type 2
 - HSM-H, reinforced concrete horizontal storage module (HSM) for storage of DSCs
 - Three Transfer Casks (TCs) that vary in length:
 - OS187H,
 - OS187H Type 1
 - OS187H Type 2

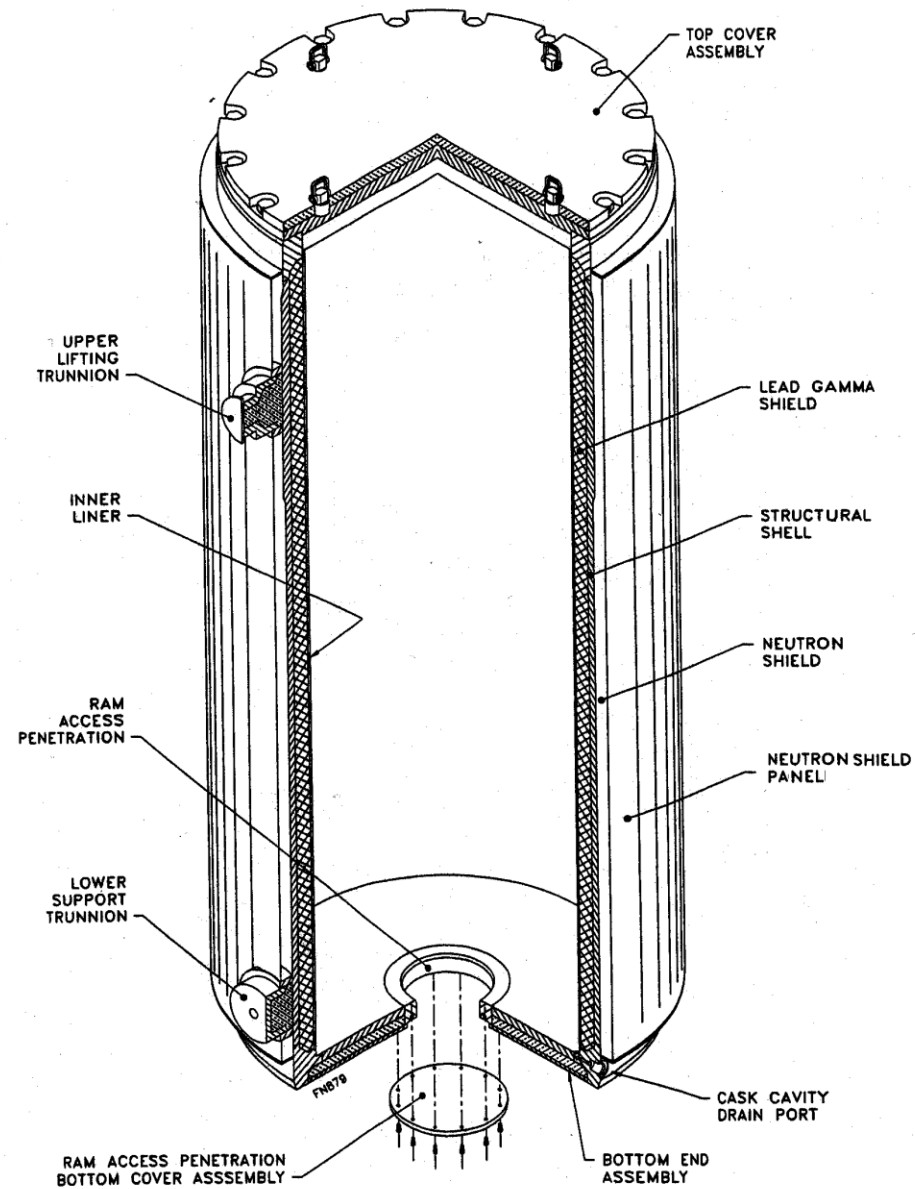
Background - 32PTH DSCs



Background - HSM-H



Background - OS187H Transfer Cask



NRC Regulations and Guidance

- TN will submit the renewal application for CoC 1030 at least 30 days before its expiration date, in accordance with 10 CFR 72.240.
- Submittal planned prior to 12/10/2026, to be in timely renewal.
- The renewal application will consider the following additional documents:
 - NUREG-1927 Rev. 1, Standard Review Plan for Renewal
 - NUREG-2214 Final Report, Managing Aging Processes In Storage (MAPS)
 - NEI 14-03 Rev. 2, Format, Content and Implementation Guidance for Dry Cask Storage Operations – Based Aging Management
 - Code Case N-860, Inspection Requirements and Evaluation Standards for Spent Nuclear Fuel Storage and Transportation Containment Systems Section XI
 - Lessons Learned

Proposed Content of Renewal Application

- General Information
- Scoping Evaluation
- Aging Management Review
- Aging Management Program
- Aging Management Tollgates
- Time-Limited Aging Analyses
- Supplemental Calculations
- Changes to CoC 1030 UFSAR
- Changes to CoC 1030 Tech Specs

Scoping Evaluation

- Identified Systems, Structures and Components (SSCs) subject to aging management review (AMR)
- Scoping criteria from NUREG-1927, Section 2
- Scoping process:
 - Review drawings for each of the main SSCs and identify equipment to the subcomponent level as either “In-Scope” or “Not In-Scope”
 - Summarize Scoping Evaluation results in a table within the CoC Renewal Application

Aging Management Review

- Materials/Environments/Aging Effects
 - Identify materials associated with in-scope SSCs
 - Identify the service environments for these SSCs
 - Identify the aging effects and mechanisms requiring monitoring and/or management
- Materials of In-Scope SSCs:
 - 32PTH, 32PTH Type 1, and 32PTH Type 2 DSCs
 - HSM-H
 - Fuel Assemblies
 - ISFSI Basemat
 - OS187H, OS187H Type 1, and OS187H Type 2 Transfer Casks

Aging Management Review

- Identification of Environments for In-Scope SSCs:
 - Air – Outdoor (OD): Direct exposure to weather
 - Embedded in Concrete (E-C); Embedded in Metal (E-M) : One or more surfaces of component in contact with another component or material
 - Fully Encased (FE): Fully enclosed or fully lined by another material
 - Helium (HE): Fill gas inside a canister
 - Groundwater/soil (GW): Subsurface water in wells, tunnels, etc, or naturally flowing water
 - Sheltered (SH): Outside canister but within confined internal space of a shielded structure

Aging Management Review

- Aging Mechanisms and Effects:
 - Evaluate all aging mechanisms & effects
 - Aging mechanisms are depended on materials and environment combinations

Aging Management Review

- TLAA Definition (NUREG-1927)
- TLAAAs are calculations or analyses meeting all the following criteria:
 - Involves SSCs in-scope for CoC Renewal
 - Considers the effects of aging
 - Involves time-limited aging assumptions defined by the current operating term
 - Is relevant to making a safety determination
 - Involves conclusions forming the basis for SSCs to perform their intended functions
 - Contains or is incorporated by reference in the design bases

Aging Management Review

- The following TLAAAs for the CoC 1030 renewal were identified as requiring re-evaluation:
 - Mechanical fatigue analysis for DSC Shells
 - Mechanical fatigue analysis for TCs
 - Boron Depletion, Thermal Aging, and radiation embrittlement of TC neutron shielding materials
 - Irradiation embrittlement of metals in DSCs
 - Irradiation embrittlement of metals in TCs
 - Irradiation effects on concrete in HSM

Aging Management Programs

- Aging Management Programs
 - For in-scope components and subcomponents not having a TLAA
 - Addresses each of the 10 elements from NUREG-1927 to include aging effects
- Tollgates
 - As addressed in NUREG-1927
 - NEI 14-03 guidance
 - Reviewing other recent renewal projects

Aging Management Programs

- Proposed AMPs:
 - HSMs
 - DSCs
 - ISFSI Basemat
 - High Burnup Fuel
 - Transfer Cask
- Frequency of AMPs:
 - Baseline AMP inspection: Prior to entering the PEO
 - HSM/DSC/Basemat: frequency commensurate with expected aging effects
 - High Burnup Fuel: based on information from the HBU Research Cask Project
 - Code Case N860 - Uses EPRI 3002005371, Susceptibility Assessment Criteria for CISCC to set inspection population and frequency

Aging Management Programs

- Code Case N-860
 - Endorsed in RG 3.78
 - Uses EPRI Report 3002005371, Susceptibility Assessment Criteria for CISCC to set inspection population and inspection intervals
 - Maximum inspection interval can be increased depending on Z_{ISFSI} susceptibility values

Z_{ISFSI}	Number of ISFSI sites (estimated)	Number of canisters (estimated)	Maximum inspection interval (yr)
1-3	60	3,259	40
4-7	6	307	20
8-10	5	315	10

Aging Management Programs (Code Case N-860 Cont)

- Implementation

- **Evaluate Site Susceptibility:** Determine your site's CISCC susceptibility using the methodology in (EPRI) Report TR-3002005371. Sites with an ISFSI ranking of 7 or lower are deemed "low" susceptibility, while 8 or higher dictates "high" susceptibility.
- **Determine Inspection Frequency and Sample Size:** Use the aforementioned susceptibility rankings to define your examination schedule and population:
 - **Low Susceptibility Sites:** Maximum inspection intervals of up to 20 years with an initial population requirement of at least 1 canister.
 - **High Susceptibility Sites:** Shorter inspection intervals and an initial inspection requirement of at least 2 canisters.
- **Perform Initial Baseline AMP** Inspections within 1 yr of PEO and set interval to 10 yrs and population based on ranking.

Licensing Schedule

- Submittal of the CoC 1030 renewal application is scheduled for October 2026
- Timely renewal is prior to 12/10/2026
- Q&A

End of Non-Proprietary Portion of the Meeting

