


Industry Guidance for Operations-Based Aging Management for Dry Cask Storage (NEI 14-03)

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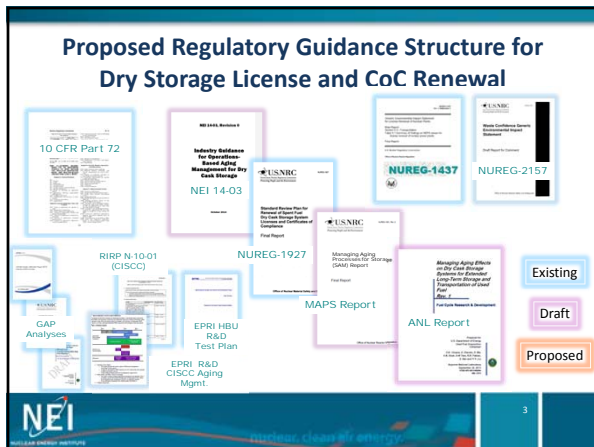
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NEI 14-03 Content

- Key administrative resource to ensure consistency in cask license renewal applications
- Process Focused:
 - Technical details of applications up to licensees and cask designers (CoC holders)
- Augments NUREG-1927 and specific aging management plan guidance being developed (e.g., MAPS Report)
- Two areas of focus
 - Forward looking approach to gathering dry cask storage operating data
 - Renewal application format and content




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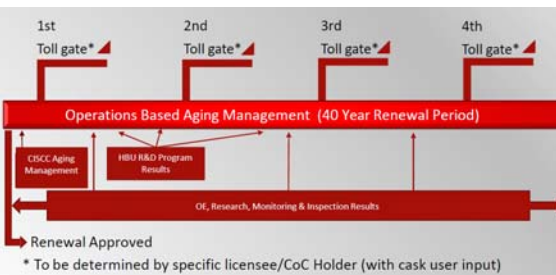


Toll Gates


- Commitment to periodic, documented safety assessments
- Assessment timing specified after renewed operating period begins determined by the specific licensee or CoC holder
- Integrates OE, research, monitoring, and inspection results and assesses aggregate impact (e.g. applies SCC susceptibility criteria & HBU R&D results)
 - If confirmatory, proceed to next toll gate (no action)
 - If not, pre-plan for possible outcomes – e.g., implement corrective actions, if needed, under licensee’s corrective action program
- Piloted in Calvert Cliffs and Prairie Island renewals tailored for specific issues – Canister corrosion, high burnup fuel



Toll Gates for ISFSI License Renewal




* To be determined by specific licensee/CoC Holder (with cask user input)




Calvert Cliffs Example of “Toll Gate”

- “Exelon Generation shall submit an evaluation of the results of the confirmatory evaluation related to high burnup fuel cladding performance specified in the “High Burnup Fuel Aging Management Program” in Attachment 2 to the Response to Fourth Request for Additional Information for Renewal Application, in a letter to the NRC (submitted pursuant to 10 CFR 72.4), by April 30, 2028. The evaluation shall include an assessment of the ability of stored high burnup fuel assemblies to continue to perform the intended function(s). If the licensee identifies fuel which is unable to perform the intended function(s), the licensee shall cease use of such cask or submit a license amendment request to modify this license condition.”




Format and Content of CoC Renewals

- Focus is on CoC renewals
- Specific licenses have several precedents
- NEI 14-03 contains suggested format based on VSC-24 application (first CoC renewal)
- Applications must be detailed and address all required elements of identifying and managing aging mechanisms and effects
- Licensing basis documents for renewal operation should parallel Part 50 to the extent practicable
- 10 CFR 72.240(e) provides flexibility for aging management requirements in CoC



Format and Content of CoC Renewals


- Generally follows NUREG-1927
- Adds toll gate concept
- Include sufficient, detailed technical information to support TLAAAs and AMPs
- Include all aging mechanisms and effects applicable to important to safety DCS components
- Do not include CoC/TS changes unrelated to renewal
 - Use CoC amendment process
- Do not address design basis issues unrelated to aging
 - Use appropriate NRC process, e.g., generic issue process



Format and Content of CoC Renewals


- Identify which CoC amendments are being renewed
 - Identify renewal basis for each (CoC, FSAR, drawings, 72.48 changes)
- Key concept:

Effective licensee implementation of an operations-based DCS aging management program will require the ability to efficiently change AMAs based on feedback from operating experience, research, monitoring, and inspections
- CoC amendments require rulemaking and are not an efficient change mechanism
 - Later amendments are not applicable to tasks loaded under the renewed original CoC or earlier amendments
- Approach consistent with PRM 72-7 criteria




Program Implementation

- Many users will integrate ISFSI aging management into plant aging management program
- Aging management information for Parts 50 and 72 should reside in analogous documents with equivalent change controls
 - Consistent with relative operating risk
- Some things about the Part 72 general license are unique and need to be considered
 - Ex: ASME Section XI in-service inspection requirements not applicable to ISFSIs
- NRC involvement after renewal is approved is primarily through the inspection and enforcement process




Aging Management: Part 50 vs. Part 72

Part 50	Part 72
<ul style="list-style-type: none"> • Comprehensive, detailed, site-specific license renewal application • New license condition (no new TS) • TLAAs and plant-specific AMP summaries in UFSAR (50.59) • Licensees develop and maintain implementation program and procedures (50.59) • CAP and OE programs ensure continued AMP effectiveness 	<ul style="list-style-type: none"> • Comprehensive, detailed, generic CoC renewal application • New CoC condition(s) (no new TS) • TLAAs and generic AMPs described in cask FSAR (72.48) • Information on how to apply generic AMPs at various sites in FSAR (72.48) • GLs develop and maintain implementation program and procedures (72.48) • CAP and OE ensure continued AMP effectiveness




Operating Experience

- Identification, screening, and sharing of OE within and across DCS technologies is a key
- OE may be site-specific, region-specific, technology-specific, or all of dry cask storage
- May come from outside nuclear industry or outside United States
- OE should be screened consistently and shared among affected entities in a timely manner
- Technology users groups play a key role
- Example OE screening form included in NEI 14-03




NEI 14-03 Status

- NEI 14-03 completed in September 2014 and submitted to NRC for review and endorsement
- NRC Response received in January 2015 (ML15013A201)
 - Application Format and Content
 - Sharing of Operating Experience
 - Tollgates
 - Change Control of Aging Management Information
 - Lead System Inspections
 - AMPs and TLAAs
- Industry is working to address NRC Response and provide an updated revision for NRC final endorsement in NUREG-1927



Thank you

Questions?



Abbreviations

- AMA – Aging Management Activity
- AMP – Aging Management Program
- CAP – Corrective Action Program
- CISCC – Chloride-Induced Stress Corrosion Cracking
- CoC – Certificate of Compliance
- DCS – Dry Cask Storage
- OE – Operating Experience
- RIC – Regulatory Information Conference (NRC)
- TLAA – Time-Limited Aging Analysis
- TS – Technical Specifications
- UFGC – Used Fuel Management Conference (NEI)
- (U)FSAR – Updated Final Safety Analysis Report

