

NUREG-1927, Rev. 1

Standard Review Plan for Renewal of 10 CFR 72 Specific Licenses and Certificates of Compliance

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Background

- NUREG-1927 was first issued in March 2011
- Developed from preliminary NRC guidance for Part 72 renewal (VEPCO/Surry, 2001)
 - Adopted regulatory philosophy of 10 CFR 54
 - March 2011 rulemaking [10 CFR 72.42 specific, 72.240 - CoC]
- Specific license renewals completed prior to publication of NUREG-1927:
 - Surry (04/2002; 02/2005)
 - Robinson (02/2004; 03/2005)
 - Oconee (01/2008; 05/2009)
 - Fort St Vrain (11/2009; 07/2011)
- These renewals did not include HBU fuel

Background

- Renewal applications submitted since Rev. 0 issuance:
 - Calvert Cliffs (09/2010; 10/2014)
 - Prairie Island (10/2011; in-house)
 - ES VSC-24 (10/2012; in-house)
 - TN NUHOMS® 72-1004 (expected Fall 2014)
- Calvert Cliffs and Prairie Island do include storage of HBU fuel
- Review of applications revealed:
 - Inadequate aging management reviews
 - Lack of detail in Aging Management Programs
 - Insufficient NRC guidance on lead system inspections
- Multiple rounds of requests for additional information
- Staff determined high-priority need to update guidance

Recent Efforts

- Team created in December 2013 to revise NUREG-1927
 - Staff members from NMSS, NRR/DLR, and RES
 - Developed 40+ crosswalk issues to resolve
- Held public meeting on storage renewal in July 2014
 - Addressed issues raised at this meeting in NUREG
- Ensured consistency with HBU fuel RIS draft
- Reviewing Rev. 2 of ANL's Aging Managing Report (FCRD-UFD-2014-000476)
- Incorporated lessons learned from ongoing and recently completed reviews

Upfront Material

- Updated terminology and definitions
 - Added new definitions
 - Made consistent with 10 CFR 72.3, NUREG-1536 and NUREG-1567
- Clarified that although the NUREG *could* be used for MRS, as well as consolidated interim storage facilities and GTCC storage, additional guidance would be necessary
- Clarified basis for staff review is the design bases, not current licensing basis

Chapter 1 – General Information

- Added detail on CoC renewal application content (1.4.4)
- Added new section (1.4.5) on amendment applications submitted during renewal reviews and after the renewal is issued
- Added new section (1.4.6) on conditions for licenses and CoCs during renewal period

Chapter 2 – Scoping

- Minor changes made to this chapter
- Clarified sources of information that may be used to support an application (2.4.1)
- Expanded section on SSCs within scope to discuss fuel internals (2.4.2)

Chapter 3 – AMRs

- Bulk of changes made in this chapter
- Revised AMR process flowchart (3.2) and applicable regulatory requirements (3.3)
- Expanded guidance on environmental data (3.4.1.1) and identification of aging effects and mechanisms (3.4.1.2)
 - Use of maintenance records, operating experience specific to material/service environment (site-specific, industry-wide)
 - NRC reports
 - Use of consensus codes/standards

Chapter 3 – AMR (cont'd)

- Updated TLAA section (3.5) to ensure consistency with rule and provide guidance for review of calculations/analyses not part of approved design bases
- Revised AMP section (3.6) to expand discussion on each AMP element, provide new guidance on learning AMPs, and use of operating experience
 1. Scope of the Program
 2. Preventive Actions
 3. Parameters Monitored/Inspected
 4. Detection of Aging Effects
 5. Monitoring and Trending
 6. Acceptance Criteria
 7. Corrective Actions
 8. Confirmation Process
 9. Administrative Controls
 10. Operating Experience
- Deleted Retrievability section (formerly 3.7)

Appendices

- Appendix A – minor editorial changes
- Deleted:
 - Appendix B “Example of ISFSI Material and Components” deleted.
 - Appendix C “Example of AMR Results” was replaced with 3 example AMPs for CISCC, concrete structures, and HBU fuel (Appendix B)
 - Appendix D “Aging Effects Table”
 - Appendix E “Component Specific Aging Management”
- Added new appendices:
 - Lead system inspections (Appendix C)
 - Use of a demonstration program for HBU fuel performance (ISG-24) (Appendix D)
 - Special considerations for CoC renewals (Appendix E)
 - Storage terms (Appendix F)

Ongoing and Future Efforts

- Review of NEI 14-03: *Guidance for Operations-Based Aging Management for Dry Cask Storage* (ML14266A225) for NRC endorsement.
- ACRS presentation in January 2015
- Publish NUREG-1927 for public comment
 - Resolve comments
 - Publish as final
- Develop supporting documents
 - Storage Aging Management Report
 - Office Instruction

Acronyms

- AMP: Aging Management Program
- ANL: Argonne National Laboratory (DOE)
- CFR: Code of Federal Regulations
- CISCC: Chloride Induced Stress Corrosion Cracking
- CoC: Certificate of Compliance
- DLR: Division of License Renewal
- DOE: Department of Energy
- FSAR: Final Safety Analysis Report
- HBU: High Burnup
- GTCC: Greater than Class C
- ISFSI: Independent Spent Fuel Storage Installation
- MRS: Monitored Retrievable Storage
- NEI: Nuclear Energy Institute
- NMSS: Office of Nuclear Material Safety and Safeguards
- NRR: Office of Nuclear Reactor Regulation
- RES: Office of Nuclear Regulatory Research
- RIS: Regulatory Issue Summary
- SRP: Standard Review Plan
- TLAA: Time-Limited Aging Analysis
- VEPCO: Virginia Electric and Power Company
- VSC: Ventilated Storage Cask