



**U.S.NRC**

UNITED STATES NUCLEAR REGULATORY COMMISSION

*Protecting People and the Environment*

**SUBSEQUENT LICENSE RENEWAL  
GUIDANCE AND PROCESS**

**Bennett Brady  
NRR/DMLR/MRPB**

**May 17, 2018**

# SLR Regulatory and Technical Development

- 2008 and 2011
  - International workshops on long-term operations defined major issues for SLR:
    - reactor pressure vessel neutron embrittlement at high fluence;
    - irradiation-assisted stress corrosion cracking of reactor internals and primary system components;
    - concrete and containment degradation, and
    - electrical cable qualification and condition assessment

# SLR Regulatory and Technical Development (cont)

- 2011 – 2014 NRC begins defining potential regulatory changes
  - Working group of program managers, technical experts and senior level advisors
  - Public meetings to solicit stakeholder input
- SECY 14-0016 –proposed a rule change for a more efficient process

# SLR Regulatory and Technical Development (cont)

- SECY 14-0016 –proposed a rule change for a more efficient process
- SRM to SECY 14-0016 – Did not approve the staff's recommendation
  - Revise guidance
  - Keep the Commission informed on the progress in resolving the major technical issues

# SLR Technical Development

- 2011-2014 –Collected proposed changes to technical guidance
  - Aging Management Program (AMP) Effectiveness Audits
  - Review of the draft Expanded Materials Degradation Assessment
  - Input from industry and staff on needed changes
- 2014 –Began expert panel meetings to disposition proposed changes
- 2015 – Draft guidance documents published for public comment

# SLR Technical Development (cont)

- February 2017 – Engaged ACRS on draft guidance documents
- July 2017 – Final GALL-SLR (NUREG-2191, Vols. 1 and 2) and SRP-SLR (NUREG-2192) published
- December 2017 – Published companion documents
  - NUREG-2221 (Technical Bases for Changes in the Subsequent License Renewal Guidance Documents, NUREG-2191 and NUREG-2192), and
  - NUREG-2222 (Disposition of Public Comments on the Draft Subsequent License Renewal Guidance Documents, NUREG-

# Regulatory Guides

- December 2017 – NRC issues letter providing interim endorsement of NEI 17-01, Industry Guidance for Implementing the Requirements of 10 CFR Part 54 for Subsequent License Renewal, Revision 0 Industry developing NEI 17-01, until the end of 2019
- NRC will revise RG 1.188, Revision 1, standard content and format for license renewal applications

# Significant Changes in the Guidance Documents

- New GALL-SLR AMPs
  - Fluence Monitoring
  - High Voltage Insulators
- Deleted AMPs for
  - Feedwater nozzle and control rod drive return line nozzle
- Withdrawal and testing of at least one capsule addressing the subsequent PEO (if specified criteria not already met)



# Significant Changes in the Guidance Documents (cont)

- A plant-specific data gap analysis for inspection of PWR reactor vessel
  - to address differences from first license renewal period to subsequent license renewal period
- Expanded Electrical Insulation of Cables AMP from one AMP to three AMPs
  - to address aging of submerged cables at different voltages
- Aging management of concrete
  - Updated for alkali-silica reaction
  - Added further evaluation for irradiation of concrete
- Added over 1035 new items to GALL-SLR tables

# SLR Review Optimization Efforts

- Piloted on the River Bend license renewal review
- Pre-Submittal Meetings
  - Environmental at least 12 months prior
  - Safety at least 6 months prior
- SLRA acceptance review performed by technical staff
- Schedule initiates on acceptance of the SLRA (18 months)

# SLR Review Optimization

- Applicant provides access to electronic portal (no later than acceptance of the SLRA in order to support the review schedule)
- Aging Management Audits (Safety)
  - Offsite Aging Management Program Operating Experience Audit
  - In-Office Aging Management Audit via telecom/webinar breakout sessions
  - On-Site Aging Management Audit with regional participation to walk down specific material conditions and plant configurations

# SLR Review Optimization

- Documents and meetings
  - Draft SEIS public meeting if necessary (environmental)
  - Advisory Committee on Reactor Safeguards (ACRS) meetings on safety review