Discussion on the Potential Optimization of the Subsequent License Renewal Application Safety Review Process and Guidance

Office of Nuclear Reactor Regulation
Division of License Renewal

Category 2 - Public Meeting
June 23, 2016

Agenda

Opening Remarks

Overview & Regulatory Framework

Considerations for Optimizing the Safety Review Process

Evaluations on the Use of Portals & Safety Review and Regional Inspection Activities

Public Comments and Questions

Summary of Action Items and Closing Remarks

Opening Remarks, Purpose, & Objectives

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Purpose and Objectives

Exchange views and perspectives on the safety review processes used to review license renewal applications.

- Identify areas and topics for future public meetings

- Discuss a plan for the next interactions

Overview - Safety Review for Power Reactor License Renewal

- NRC has completed the safety reviews for 46 initial license renewal applications and granted renewed licenses to 83 reactors.

- Eight initial license renewal applications for 12 reactors still under review

- NRC and Industry are preparing for the next round of license renewal applications (LRA) (i.e., Subsequent License Renewal (SLR) applications)

  - First application is expected in 2018

Regulatory Framework

- Current license renewal regulatory framework applies for SLR applications

  - 10 CFR Part 54, "Requirements For Renewal Of Operating Licenses For Nuclear Power Plants"

- NRC determined the need to update the guidance for SLR applicants

  - Generic Aging Lessons Learned (GALL) and Standard Review Plan to be issued in 2017

- NRC is seeking to "optimize" the current processes

  - To leverage experience gained during initial reviews

  - To improve efficiency, transparency, and timeliness

- Parallel effort ongoing for environmental reviews

Some Considerations for Optimizing Safety Reviews

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Application	• Quality of application (consistency with GALL-SLR) • Lessons learned from initial LRA (requests for additional information (RAIs), interim staff guidance) • Aging management review (AMR) content for SLR applications relative to the initial submittal
Review Activities	• Resources and timeframes • Format and scope of in-office & on-site activities
Project Management	• Request for additional information and quality of responses • Facilitating conduct of review (use of portals) • Schedule discipline (milestones)
Safety Evaluation Report	• Issue draft Final Safety Evaluation Report (SER) in lieu of SER with open items
Advisory Committee on Reactor Safeguards	• Decreasing the timeframe between Subcommittee and Full Committee meetings
Other	• Electronic submittals • Electronic correspondence

Use of Portals

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Use of Portals

- Portals can facilitate a more efficient and effective staff review, especially in support of audit activities

- During the audit the staff reviews basis documents to determine whether the information included in the documents support the LRA and to identify information that may require docketing

- Use of portals during the audit will allow the staff to perform the review of primarily non-docketed basis documents from head quarters, without the need to travel to the applicant's site

- The staff will identify documents to be placed on the portal early in the review process (during the acceptance review) to allow for staff preparation prior to audit activities

- Documents placed in the portal should be removed once the audit is completed

- The use of a portal by an applicant and the staff is optional

Portal Set-Up Minimum Terms & Conditions

- The portal will be password-protected, and passwords will be distributed to NRC staff members and contractors directly involved in the SLR application review on a need-to-know basis

- The portal will not support any printing, saving, or downloading functions

- The conditions associated with the portal will be maintained throughout its use during the SLR application review process

- NRC staff members given password access to the online reference portal will be informed of the conditions of use of the online reference portal by NRC project managers

Generic Content for the
SLR Safety Review Audit

- Aging management programs (AMPs) basis documents

- Implementation plans and procedures related to the AMPs as referenced in the basis documents

- Operating experience (OE) and corrective actions associated to AMPs

- Response to generic communications related to the AMPs

- Calculations/Analyses associated to the disposition of time-limited aging analyses (TLAAs)

Portal Capabilities and Current Practices

Best Practices

- Well organized database and user friendly navigation of the portal

- Allow for simultaneous opening of multiple documents

- Allow search of individual words and phrases

- Capability to zoom documents and drawings

- Applicant timely and effective support of the portal

Challenges

- Difficult and time consuming to find documents

- Large documents may take minutes to upload and may not open

- Inability to open more than one document at once

QUESTIONS?

Safety Review Process

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Optimization Proposals

Principle Concepts of SLR Safety Review Optimization

- SLR review considers the SLR application, supporting documentation, and relevant OE

- SLR safety review and audit activities include two categories:

    1. Scoping and screening (S&S) methodology and

    2. Aging management - AMPs, TLAAs, AMR line items, and relevant OE

- Portions of the aging management audit activities occur in-office using portals and telecommunications

- Portions of the aging management audit activities occur on-site

- All on-site activities are aligned to occur early in the review process

Optimization Proposals

Portals - Safety Review

The staff identifies a "portal preload" - a list of documents, which the applicant is requested to load to the portal, to allow staff to begin the safety review process

- The two primary components to the portal preload are:

  1. Common safety-review documents – procedures, analyses, S&S, and AMR reports; current licensing basis information and age-related OE identified by the staff; and

  2. Information required for the safety review of specific AMPs, TLAAs, and AMR line items

- Optimization: earlier access to specific aging management information will allow for earlier initiation of the review process and may reduce the need for certain on-site activities

Optimization Proposals

Scoping and Screening Methodology Audit

The staff will perform an on-site S&S modification and OE audit to:

- Review modifications to the S&S methodology used to develop the SLR application relative to which was used to develop the LRA and the effects of any modification on the S&S results

- Review the applicant's corrective action database and other applicable documentation to identify OE relevant to age-related degradation and AMP performance

- Optimization: reduced on-site staff time and resources and on-site applicant support

Optimization Proposals

Aging Management Audit

The staff will perform an aging management audit - AMPs, TLAAs, and AMR line items - that consists of both in-office and on-site activities.

- In-office portion of the aging management audit

  - A managed activity, in both length and conduct, with scheduled telecommunications in support of break-out sessions

  - Staff performs the majority of the review of aging management information during the in-office portion of the audit

  - In-office review activities consider information contained in the LRA and located on the portal. The staff will engage in organized interactions with the applicant, to discuss technical issues (break-out sessions), via telecommunications

  - Optimization: reduced on-site staff time and resources and reduced on-site applicant support

Optimization Proposals

Aging Management Audit (cont.)

- On-site portion of the aging management audit

    - Performed to observe pre-identified plant conditions and configurations as required to complete the aging management audit

    - Team members represent specific technical areas (e.g., mechanical, material, structural, electrical, and systems); team is capable of supporting the requests of multiple staff members, which were generated during the in-office portion of the aging management audit

    - Other on-site activities are aligned with the timing of the aging management audit such that all planned on-site activities occur as early in the review as possible

    - Optimization: reduced on-site staff time and resources and reduced on-site applicant support; increased scope provides opportunity for resolving additional questions; and alignment of on-site activities supports completion of staff's review

Optimization Proposals

Specific Technical Issues Audit

Staff performs on-site "Specific Technical Issues" (STI) audits as necessary to augment the aging management audit review activities

- STI audits are highly focused audits, used to address complex technical issues, which the staff has determined requires additional review to be resolved

- STI audits may be required for potentially complex technical issues identified by the staff during the sufficiency review and scheduled at the beginning of the review process

- STI audits may be required for complex technical issues identified by the staff during performance of the aging management audit and subsequently added, as necessary, to the review schedule

Optimization Proposals

Specific Technical Issues Audit (cont.)

- The STI audit goal is to maximize the efficiency and effectiveness of communications, minimize the need for multiple rounds of requests for additional information (RAIs), in order to resolve complex technical issues as efficiently and effectively as possible

- Optimization: STI audits used to facilitate and expedite communications with the applicant and access to information, in order to resolve complex technical issues early in the review process

QUESTIONS?

Regional Inspections

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Audits and Inspections

- Verify consistency with the GALL Report

- Review implementing procedures

- Review inspection and testing results, conduct plant walkdowns, interview site personnel

- Assess AMP effectiveness

- Verify completed implementation

Optimization

NRC Considerations

- On-site activities occur concurrently 3 to 5 months after LRA received

- Focus on AMPs not reviewed during first LRA review

- Resources dependent on time needed to review new information

    - LRAs reviewed against pre-GALL, GALL Report Rev. 0 or GALL Report Rev. 1 versus GALL Report Rev. 2

Timing and Scope of IP 71003

Future Plans

- 4-phase approach

  - Phase I: Last outage prior to period of extended operation (PEO), review inspection and testing activities in inaccessible areas

  - Phase II: 3-6 months prior to PEO, verify implementation of AMPs and completion of activities

  - Phase III: 1-2 years into PEO, follow-up on issues identified during Phase II, verify completion of activities

  - Phase IV (New): 5-10 years into the PEO, to verify the licensee is managing aging effects in accordance with the AMPs described in the updated final safety analysis report, ensure that systems structures, and components (SSCs) have maintained their ability to perform their intended function

- Evaluating resources expended based on time needed to review new information

Crediting Reactor Oversight Process

- Performed by a team of regional inspectors in three weeks

- Program-based inspection

- To credit reactor oversight process (ROP) baseline inspections

  - Performed by two resident inspectors over the course of a year

  - Performance-based inspection

- Several ROP baseline inspections are credited

  - IP 71111.07 – Heat Sink Inspection

  - IP 71111.08 – In Service Inspection

  - IP 71111.20 – Refueling Outage Inspection

QUESTIONS?

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Public Comments

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Division of License Renewal

Summary of Action Items and Closing Remarks

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