



JENSEN HUGHES

Advancing the Science of Safety

LESSONS LEARNED DEVELOPING THE 10 CFR 50.69 LICENSE AMENDMENT REQUEST

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AGENDA

OVERVIEW OF KEY 50.69 LAR DEVELOPMENT LESSONS LEARNED

- Establishing LAR format and content
- Planning for multiple submittals
- PRA technical adequacy
- Updating external hazard information



ESTABLISHING FORMAT AND CONTENT

- Exelon played a lead role in developing generic LAR template
 - LAR template development team started with the 50.69 rule itself
 - Description of the categorization process
 - Description of measures to assure quality and level of detail for categorization
 - » Plant-specific PRA (including F&O closeout results)
 - » All operating modes
 - » Internal and external hazards
 - » Margin-type approaches
 - Consistent level of detail in any LAR is critical to an efficient licensing review
 - Some optional sections included



PLANNING FOR MULTIPLE STATION LAR SUBMITTALS

- Single fleet LAR considered (NRC likely would not accept)
- Plan developed to submit individual station LARs based readiness
 - Master plan developed for Exelon fleet submittals
 - Major tasks and subtasks identified
 - » Completing a PRA peer review finding closure
 - » Confirmation of seismic safe shutdown paths
 - » Completion of “other” external hazard assessments
 - » Conducting PORC
 - Incorporated lessons learned from Limerick submittal
 - Consider sequencing with other risk-informed submittals



PRA TECHNICAL ADEQUACY DESCRIPTION

- Exelon conducted or plans to conduct follow-up finding closure reviews of open PRA peer review findings for all of its plants
 - Once closed, stations not required to present or explain in subsequent PRA peer reviews, NRC submittals, (excluding audits)
- Limerick was industry pilot for conduct of closure reviews
 - Observed by NRC
 - » NRC Audit of Limerick LAR planned for November 2017
 - Lessons-learned captured from F&O Review
 - » Posting model files in advance
 - » Using exact wording from findings
 - » Providing clear closure basis information for reviewers
 - » On-site preferred over remote reviewers
 - » Maintenance or upgrade



UPDATING EXTERNAL HAZARD INFORMATION

■ Seismic hazards

- NEI 00-04 methodology allows use of IPEEE seismic margins analysis (SMA) or seismic PRAs
- Important to start review of SMA early to avoid delayed submittals
- Retrieving the original IPEEE SMA component list can be difficult
 - » SMA list was not required to be retained as part of quality records
 - » Intent not to re-do the SMA but confirm the list of SSCs represents the current as-built as-operated plant



UPDATING EXTERNAL HAZARD INFORMATION

- **Basic tasks in updating the IPEEE SMA component list**
 - Obtain IPEEE SMA list of components; plot on P&IDs
 - Obtain engineering changes / modifications made to the SSD
 - Review for additions and deletions; keep as controlled document

- **Industry working group meeting held with NRC on September 13 to discuss alternate approaches, including for low seismic hazard plants**
 - Initial meeting with NRC is targeted for late October 2017



UPDATING EXTERNAL HAZARD INFORMATION

■ Fire Hazards

- NEI 00-04 methodology accepted by the NRC allows use of Fire-Induced Vulnerability Evaluation (FIVE) or fire PRAs that meet the quality requirements in the ASME/ANS PRA Standard
 - » All Exelon Plants except Nine Mile Pt 2 and James Fitzpatrick plants have quality fire PRAs
 - » Nine Mile Pt 2 and Fitzpatrick submitted a FIVE and have IPEEE Fire PRAs
- Updating FIVE analyses may be difficult (availability of data)
- Public Meeting held with NRC on September 6 to discuss use of fire safe shutdown equipment list for 50.69 submittals
 - » Multiple Spurious Operations
 - » Exemptions
- Subsequent LAR submittal needed to allow use of Fire PRA



CONCLUSION

TIMELY AND EFFICIENT LAR SUBMITTALS

- Proper coordination and early interaction is very important
- Consider detailed project plans
 - Resources, budgets, etc
 - Incorporate PRA models and/or IPEEE approaches that will be used
- Consider ways to maximize review efficiencies
 - Timing and sequencing of other risk-informed submittals



QUESTIONS?

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