

Pre-Submittal Meeting to Discuss Upcoming NextEra Energy License Amendment Request to Adopt 10 CFR 50.69

November 10, 2022



Participants

Keith Vincent, Manager – Acting Fleet Reliability and Risk Manager, NextEra

Luke Karten, Principal Engineer – Fleet Reliability and Risk, NextEra

Loren Heistand, Project Manager – Fleet Center of Work Excellence

Jerry Phillabaum, Principal Engineer – Fleet Licensing, NextEra

Justin Wheat, Principal Engineer – ENERCON



Agenda

- Purpose
- Regulatory Guidance
- PRA Model Technical Adequacy
- 10 CFR 50.69 LAR Overview
- Current Schedule
- Closing Remarks



Purpose

Purpose of adopting 10 CFR 50.69 at St. Lucie (PSL):

- Continues the strategy of adopting risk-informed decision-making processes across the fleet
- Utilize existing infrastructure (e.g., PRA models) to:
 - > Improve focus on risk significant components, which improves safety
 - > Apply alternate treatments to low-risk components, which improves operational flexibility and safety

RISC-1	RISC-2
Safety Related	Non-Safety Related
Safety Significant	Safety Significant
RISC-3	RISC-4
Safety Related	Non-Safety Related
Low Safety Significant	Low Safety Significant



Regulatory Requirements and Guidance

- 10 CFR 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors."
- 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit."
- NEI 00-04, Revision 0, "10 CFR 50.69 SSC Categorization Guideline"
- EPRI 3002017583, "Alternative Approaches for Addressing Seismic Risk in 10 CFR 50.69 Risk-Informed Categorization"



PRA Model Technical Adequacy

Internal Events and Internal Flooding PRA Model

- Full-scope peer review in July 2002
- Several self-assessments and focused-scope peer reviews followed (details in the LAR)
- Finding closure review conducted in September 2017
- Reviewed as part of NFPA 805, RMTS, and SFCP
- No open finding-level facts and observations (F&Os)

Fire PRA Model

- Full-scope peer review in June 2010
- Focused-scope peer reviews in 2013
- Finding closure review conducted in September 2017
- Reviewed as part of NFPA 805, RMTS, and SFCP
- Three open finding-level F&Os will be addressed in the LAR



10 CFR 50.69 LAR Overview

- Follows NEI 00-04
- PRA evaluations utilizing internal events, internal flooding, and fire PRAs
- Non-PRA evaluations such as external events screening and shutdown assessment
- Alternative approach for seismic risk categorization (Tier 1) using EPRI 30020175083
- Seven qualitative criteria in Section 9.2 of NEI 00-04
- Defense-in-depth assessments
- Passive categorization uses ANO-2 methodology
- Does not credit FLEX strategies
- Includes criteria for when categorization results need reevaluation due to issues that significantly impact the PRA models
- Models were reviewed for key assumptions and sources of uncertainty; each source was evaluated for impacts to 10 CFR 50.69



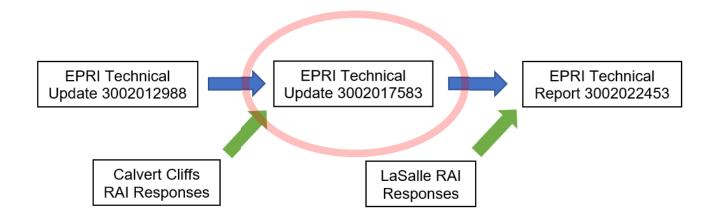
<u>10 CFR 50.69 LAR Overview – External Hazards</u>

- Screened in accordance with Generic Letter 88-20, NUREG/CR-2300, and NUREG-1407
- Updated to use criteria in ASME/ANS PRA Standard RA-Sa-2009
- All external hazards screened from applicability except internal flooding, internal fire, and seismic activity
- Future identification of unscreened hazards will follow NEI 00-04, Figure 5-6



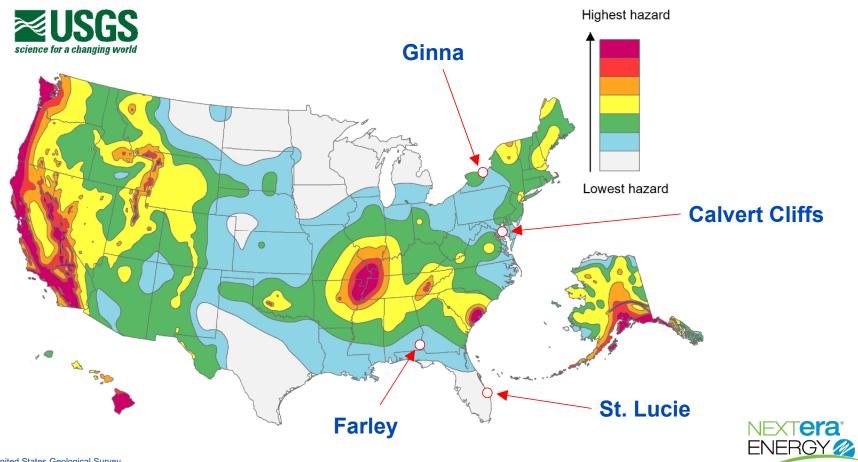
10 CFR 50.69 LAR Overview – Seismic Risk

- Approach for seismic categorization will follow EPRI 3002017583
- PSL meets the criteria for Tier 1 methodology
- EPRI 3002017583 uses the methodology for Tier 1 that was reviewed and approved by the NRC for (Calvert Cliffs Amendment 332/ML19330D909)



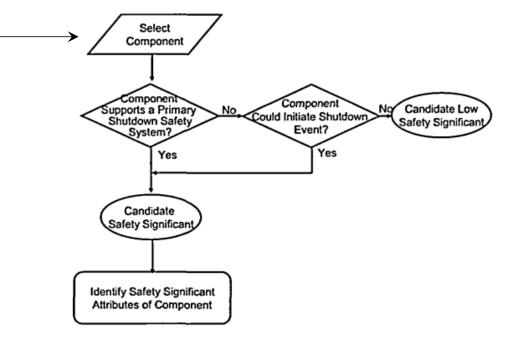


Precedents – Seismic Tier 1



10 CFR 50.69 LAR Overview – Shutdown Risk & Integral Assessment

- Shutdown risk follows the process illustrated in NEI 00-04, Figure 5-7
- Will use the shutdown safety management plan in NUMARC 91-06
- Integral assessment performed manually using NEI 00-04, Section 5.6





Current Schedule

- Plan to submit 10 CFR 50.69 LAR by December 6, 2022
- Approval requested within 13 months
 - One month acceptance review
 - o 12-month LAR review
- Plan to implement the amendment within 90 days



Closing Remarks

- PRA models are technically adequate and have been reviewed by the NRC in other applications
- SSC categorization follows NEI 00-04
- EPRI Tier 1 methodology for seismic is consistent with other precedents
- LAR includes learnings from many other submittals
- Not crediting FLEX equipment or operator actions





Questions

