NMP 2 RICT & 50.69 LARs
NRC Pre-submittal Meeting

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Introduction

- Desired Meeting Outcomes
  - Discuss license amendments
  - Variances from TSTF-505-A Rev. 2
  - Timeline for submittals
  - PRA Technical Adequacy
  - Evaluation of PRA uncertainties and assumptions
  - External hazards
  - Discuss efficiencies

Discuss License Amendments

- 50.69 LAR based on NEI 00-04
  - No deviation from LAR template (except seismic)
- RICT LAR based on TSTF-505-A Rev. 2
  - New TS Section 6.0
  - NMP2 is a BWR/5 reactor design
  - TS markups follow TSTF for BWR/4
- Variances from TSTF-505
  - NMP2 TS are ITS
  - Variances from TSTF-505 are mostly nomenclature and section number sequencing
  - TSTF-505 LCOs/Conditions not in NMP2 TS
  - RICT added to plant-specific LCOs not in TSTF-505

Variances from TSTF-505

TSTF-505 LCOs/Conditions not in NMP2 TS

- TS 3.3.6.3 - Low-Low Set (LLS) Instrumentation
- TS 3.5.1.D.1 – HPCI System inoperable and Condition A entered.
- TS 3.6.1.7 – Reactor Building-to-Suppression Chamber Vacuum Breakers
- TS 3.6.3.1 – Drywell Cooling System Fans
- TS 3.7.1 – Residual Heat Removal Service Water (RHRSW) System
- TS 3.7.2.B – One [PSW] Pump in each subsystem inoperable
- TS 3.7.2.C – One or more cooling towers with one cooling tower fan inoperable

Variances from TSTF-505 (cont'd)

TSTF-505 LCOs/Conditions not in NMP2 TS

- TS 3.8.1.F – [One [required] [automatic load sequencer] inoperable
- TS 3.8.4.A.3 – One [or two] battery chargers on one division inoperable
- TS 3.8.4.C – One DC electrical power subsystem inoperable

Variances from TSTF-505 (cont'd)

TSTF-505 LCOs/Conditions added but not in TSTF-505

- TS 3.3.7.2 – Mechanical vacuum Pump instrumentation
- TS 3.6.1.4 – Drywell and suppression Chamber Pressure
- TS 3.6.1.5 – Drywell Air Temperature
- TS 3.6.1.6 – Residual Heat Removal (RHR) Drywell Spray System
- TS 3.6.2.1 – Suppression Pool Average Temperature
- TS 3.6.2.2 – Suppression Pool Water Level
- TS 3.6.2.3 - Residual Heat Removal (RHR) Suppression Pool Cooling
- TS 3.6.2.4 – Residual Heat Removal (RHR) Suppression Pool Spray

Time Line for Submittal

NMP 2 – 50.69 and RICT LARs

- Submittal will consist of 2 separate applications
- Submittal on the same day (or close to same day)
- End of July, Beginning of August.

PRA Tech Adequacy

- FPIE PRA – Peer Reviewed to RG 1.200 Rev. 2
  - Closure review performed
  - 3 resolved but not closed Finding F&Os (will be closed in 2019 model update)

- Fire PRA – Peer Reviewed to RG 1.200 Rev. 2
  - Closure review performed
  - No Open Finding F&Os

- NRC observed F&O closure and Final report (Feb 2019 and May 2019, respectively)

Evaluation of PRA Uncertainties and Assumptions

- Both NMP2 submittals will follow the process defined in NUREG 1855 Rev. 1, and the guidance in EPRI 1016737 and EPRI 1026511, including:
  - Identification of Internal events/internal flooding PRA model plant-specific sources, and generic sources per EPRI 1016737
  - Identification of Internal Fire PRA model plant-specific sources, and generic sources per Appendix B of EPRI 1026511
  - Consideration of generic Level 2 model sources per Appendix E of EPRI 1026511, as applicable to LERF
  - Assessment of potential sources that are key to the respective applications, and disposition or treatment for the application
  - Consideration of Parameter and Completeness uncertainties

External Hazards Screening Process

- IPEEE Initial Screening
- Reviewed Current Hazard Information
- Updated Analysis Using Part 6 Screening Criteria of ASME/ANS PRA Standard RA-Sa-2009
- Performed conservative or bounding analyses where appropriate

  - RICT – Incorporates NEI 06-09 guidance.
    - Justify exclusion of external risk sources from the PRA models based on their insignificance to the calculation of configuration risk
  - 50.69 – Incorporates NEI 00-04 guidance
    - Figure 5-6, "Other External Hazards"
      - Seismic will use EPRI alternative approach (TR 3002012988) for Tier 1 plants

External Hazards - Flooding

- Screens Out

  - Event damage potential is < events for which plant is designed (C1)
  - Design basis for the event meets the criteria in the NRC 1975 Standard Review Plan (PS2)

  - Note: for 50.69 - Several personnel doors are credited to screen out local intense precipitation
    - These doors will be treated as HSS per NEI 00-04 Figure 5-6

External Hazards – Extreme Wind or Tornado / Missiles

- Screens Out
  - Event Damage Potential Is < Events For Which Plant Is Designed (C1)
  - Design Basis for the Event Meets the Criteria in the NRC 1975 Standard Review Plan (SRP) (PS2)
  - Bounding Mean CDF is < 1E-6/y (PS4)

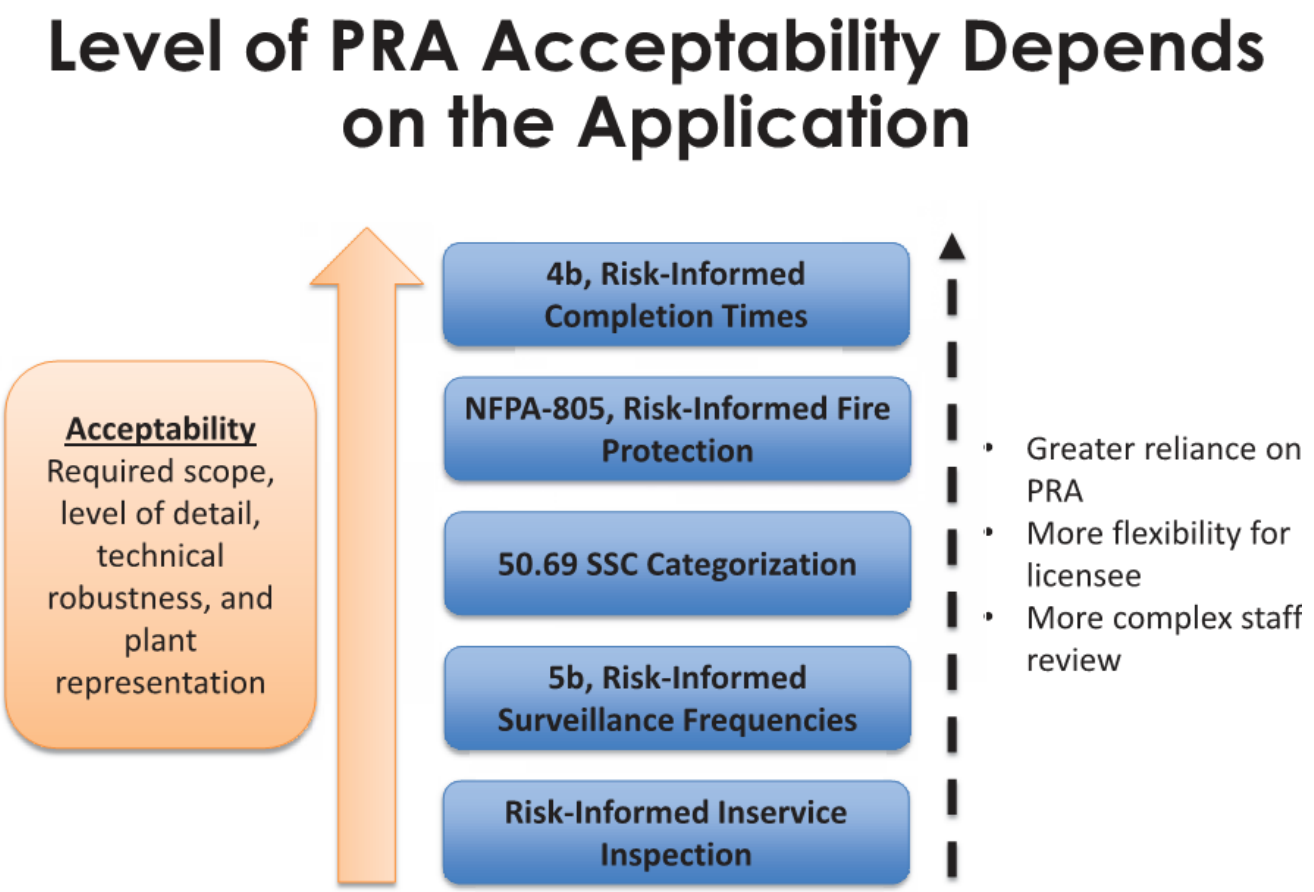
    -50.69 - No SSCS Credited to Screen Except for Seismic Category I Structures (HSS)

External Hazards - Seismic

- Not Screened
  - Seismic hazard is relatively low
  - RICT – Will Use Seismic Penalty Approach for RICT
  - 50.69 - Has SMA SSEL if needed, but will submit as an EPRI Seismic Alternative Tier 1 Plant For 50.69
    - Tier 1 - GMRS peak acceleration derived from the seismic hazard is at or below ≈ 0.2g **or** where the GMRS is below or ≈ equal to the SSE between 1.0 Hz and 10 Hz.
    - NMP2 meets this second criteria and only slightly exceeds the first criteria (0.2g) above 7 Hz.

Efficiencies

- Overlaps in level of PRA acceptability in applications



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Efficiencies

- RICT - No deviation from Model SE
- 50.69 – No deviation from LAR template (except seismic)
- PRA
  - Common assessment of PRA technical adequacy and sources of uncertainty for both applications
  - Assessments are application-specific but related in terms of details to be considered
- External Hazards
  - Common screening of hazards that can be screened
    - Application-specific assessment of screening impact but related in terms of details to be considered
- Same PRA teams reviewing common information