



Turkey Point Unit 3 and Unit 4

License Amendment Request: Revise Fire Protection Program in Support of Reactor Coolant Pump Seal Replacement Project

April 26, 2022

OPEN SESSION

Introductions – On the Call today

Florida Power & Light

- **FPL Nuclear Fleet Licensing**
 - Jarrett Mack – Fleet Licensing Lead
 - Michael Davis – Nuclear Fleet Licensing Manager
 - Steve Catron – Fleet Director of Regulatory Affairs
- **FPL Nuclear Engineering**
 - Phil Barnes – Nuclear Engineering Manager
 - Stet Hinds – Lead Nuclear Engineer
- **FPL Nuclear Fleet PRA**
 - Anil Julka – Nuclear Reliability and Risk Manager
 - Keith Vincent – Lead PRA Engineer

Contract and Support

- **Framatome**
 - Phil Opsal – Licensing Lead
 - Stuart Brown – Project Manager
 - Garrett Snedeker - PRA
- **Jensen Hughes**
 - Usama Farradj – Fire PRA
 - Andy Ratchford – NSCA/Licensing
 - Vinny Rubano – Consultant
- **Enercon**
 - Pat Furio – LAR Lead

Agenda – Open and Closed Sessions

- **Open Session**

- Background/Purpose
- License Amendment Request (LAR)
- Impact on Probabilistic Risk Assessment (PRA)
- Fire PRA Refinements
- PRA Quality
- Defense in Depth/Safety Margin
- Schedule
- Questions and Comments

- **Closed Session**

Reserved for proprietary questions/responses

Background/Purpose

- **History of Reactor Coolant Pump (RCP) Seal Configuration**
 - NFPA 805 submittal committed to replacement of the original RCP seals with a seal capable of minimizing RCP seal leakage and supporting a longer period of no RCP seal cooling/seal injection prior to the need for an RCP trip. (Amendments 262/257 - ML15061A237)
 - Business strategy - elected to install alternate seal design with longer service life
 - Framatome RCP Hydrostatic Seal Package equipped with the Framatome Passive Shutdown Seal (PSDS) chosen.

Background/Purpose

- **Initial Approach**

- On January 13, 2022, FPL held a drop-in meeting with NRC in preparation for a public meeting to discuss the replacement of the existing RCP seal with the Framatome RCP Hydrostatic Seal Package equipped with the Framatome PSDS.
- Since that meeting the licensing strategy has been revised to develop a site-specific analysis based on accepted industry practices.
- The revised licensing approach includes a LAR to address the impact of the RCP seal replacement on the Fire Protection Program as discussed in this meeting.

License Amendment Request

- **License Condition**

- The license condition related to the Fire Protection Program established at PTN Units 3 and 4 is listed below. This condition allows some risk-informed changes to be made to the Fire Protection Program without prior NRC approval, provided certain limits are met.

D. Fire Protection

Risk-Informed Changes that May Be Made Without Prior NRC Approval

(b) Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7} /year (yr) for CDF and less than 1×10^{-8} /yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

License Amendment Request

- **Reason for the LAR**
 - The revised risk values are expected to exceed the NFPA 805 self-approval limit listed in the license condition.
- **LAR to be submitted in accordance with 10 CFR 50.90**
 - Content of the LAR includes:
 - Reason for revised PRA values
 - Fire PRA refinements
 - PRA quality
 - Defense in depth
 - Safety margins

Impact on PRA

- Reason for Revised PRA Values
 - Change in RCP seal failure probabilities
 - Change in time available for RCP trip

Fire PRA Refinements

- The latest NRC guidance on interruptible fires and transient fire size was incorporated.
- Refinements of existing scenarios to incorporate fire modeling similar to that used elsewhere in the Fire PRA.

PRA Quality

- **Peer Review Facts & Observation (F&O) Status**

- PRA Quality conforms to Regulatory Guide 1.200, Rev. 2
- Risk informed applications currently in effect at Turkey Point include:
 - Surveillance Frequency Control Program (SFCP, TSTF-425, RITS initiative 5b)
 - Risk Informed Completion Time (RICT, TSTF-505, RITS initiative 4b)
- Four F&Os not formally closed via the Independent Assessment of F&O Closure review performed by the PWROG in 2019 (which included NRC and PWROG observers)
- Basis for open F&Os not impacting this LAR will be addressed as part of the submittal

- **Sources of Uncertainty**

- Will address uncertainty in accordance with NUREG-1855

Defense in Depth/Safety Margin

- As stated in the license condition and industry guidance both defense in depth and safety margin considerations must be addressed.

Schedule

- **LAR submittal scheduled for July 2022**
 - Request standard one year review period
- **Installation scheduled for Unit 4 fall 2023 outage and Unit 3 fall 2024 outage**



Questions and Comments

