



# **Turkey Point Extended Power Uprate (EPU) Spent Fuel Criticality (SFC) NRC Meeting**

**March 31, 2011**

## Agenda

- Opening
- Purpose
- Extended Power Uprate (EPU)
- Spent Fuel Criticality (SFC)
- Closing/Action Items

## Turkey Point -- Opening

- **Appreciate the Staff's support and participation today**
- **FPL seeks clarification and understanding of Staff questions**
  - Workshop style / open format for the meeting suggested
  - Goal to facilitate and improve the review and response process
  - Seek to improve understanding of open items
- **Encourage open and active dialogue to address open items from the Staff's review**

# Turkey Point -- Purpose

- **Extended Power Uprate**
  - Review status of RAIs
  - Discuss follow up clarifications
  - Discuss remaining areas under review
- **Spent Fuel Criticality**
  - Discuss staff feedback on review

# Turkey Point – Extended Power Uprate Summary

- **Received 140 final and draft RAIs as of March 29, 2011**
- **Issued responses to 40 RAIs**
- **Draft RAI status**
  - Containment and Ventilation (13)
  - Nuclear Performance and Code Review (7)
  - Quality and Vendor (1)
  - Health Physics (3)
  - Environmental (1)
  - Reactor Systems (14)
  - Mechanical and Civil (39)
- **Remaining responses should be issued in April 2011**
  - Unit 4 Mechanical and Civil Engineering (Piping and Supports) commitment is April 30, 2011

# Turkey Point – Extended Power Uprate Summary

- **Awaiting RAIs from remaining branch**
  - Accident Dose
- **Follow up questions**
  - Responded to 2 follow up questions (I & C Branch)
  - One follow up question received (Vessels & Internals Integrity)
  - Remaining response will be issued in April 2011

# Turkey Point – Extended Power Uprate

## Branch Status Summary

- **Fire Protection**
  - Responded to 5 RAIs
  - EPU modifications do not impact Fire Protection Program
- **PRA Licensing**
  - Responding to 2 RAIs, no issues
- **Piping and NDE**
  - Responded to 6 RAIs
  - Selected NDE inspection results
- **Component Performance and Testing**
  - No RAIs anticipated
- **Accident Dose**
  - Status of draft RAIs

# Turkey Point – Extended Power Uprate

## Branch Status Summary

- **Steam Generator Tube Integrity and Chemical Engineering**
  - Responded to 3 RAIs
- **Vessels and Internals Integrity**
  - Responded to 6 RAIs
  - One follow up RAI issued
- **Electrical Engineering**
  - Responding to 14 RAIs, no issues
  - Updated grid System Impact Study

# Turkey Point – Extended Power Uprate

## Branch Status Summary

- **Instrumentation and Controls**
  - Responded to 5 initial RAIs
  - Responded to 2 follow up RAIs
  - LEFM out of service power level restrictions
- **Mechanical and Civil Engineering**
  - Responded to 4 initial questions (piping and supports)
    - Unit 3 follow up response issued March 25, 2011
    - Unit 4 follow up response to be issued by April 30, 2011
  - Review of remaining draft RAIs (39)
- **Health Physics and Human Performance**
  - Responded to 8 Human Performance RAIs
  - Timing of critical operator actions
  - Review of remaining Health Physics draft RAIs (3)

# Turkey Point – Extended Power Uprate

## Branch Status Summary

- **Containment and Ventilation**
  - 13 draft RAIs issued
  - Resolution of EPITOME code error
    - Code error involves LOCA mass and energy release calculation
    - Turkey Point containment analysis is impacted
    - Plant operability has been addressed
    - Identifying analytical and operational margins
    - Affected EPU documents have been identified
    - Schedule for resolution under development

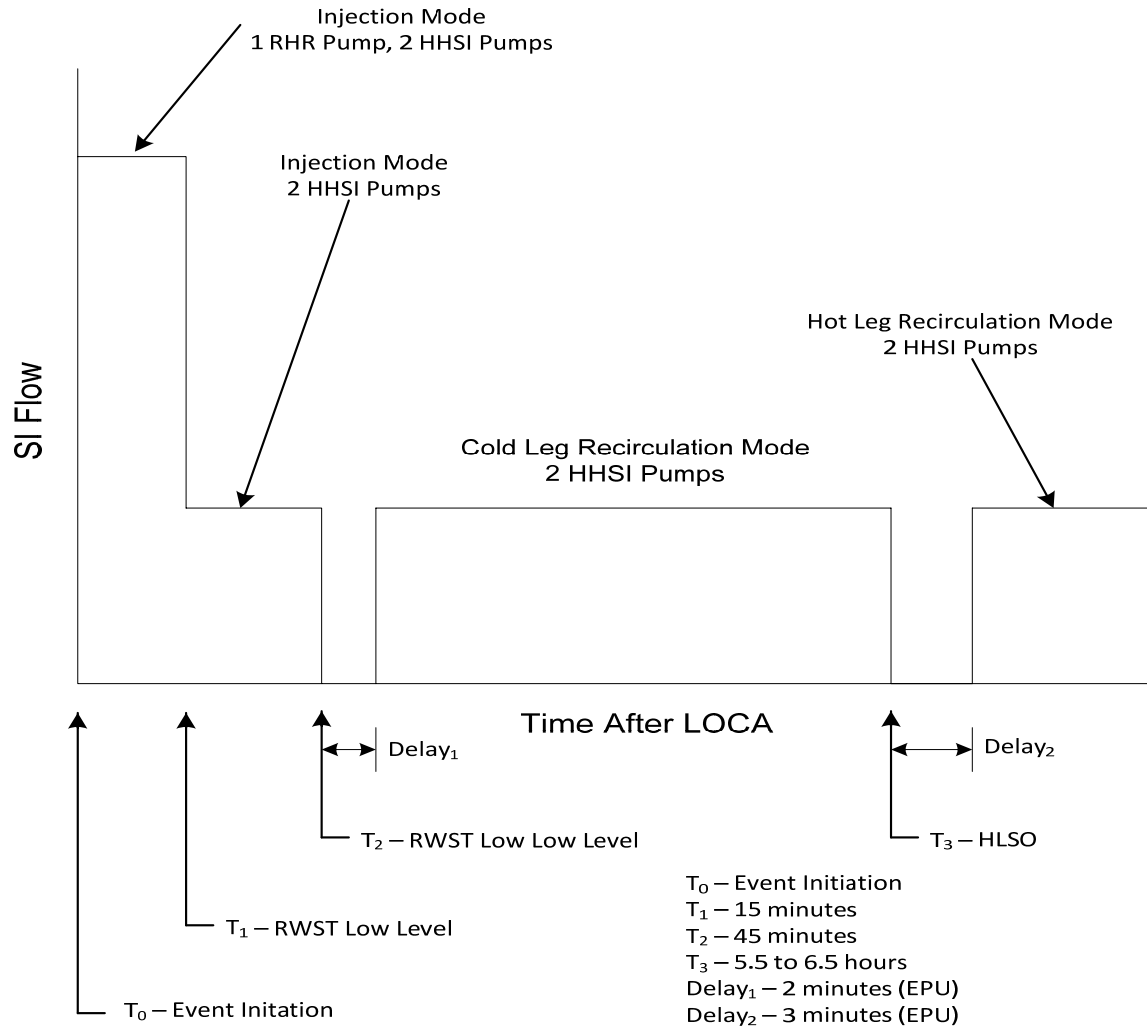
# Turkey Point – Extended Power Uprate

## Branch Status Summary

- **Containment and Ventilation**
  - Debris generation and NPSH considerations
    - EPU has no effect on insulation debris generation
    - EPU has no effect on sump flow
    - Classic NPSH requirements are met without credit for containment overpressure
    - Containment overpressure provides margin to address potential flashing and de-aeration effects
- **Nuclear Performance and Code Review**
  - Seven draft RAIs issued
  - Boric Acid Precipitation Analysis

# Turkey Point – Extended Power Uprate

## Boric Acid Precipitation Timeline



# Turkey Point – Extended Power Uprate

## Branch Status Summary

- **Balance of Plant**
  - Responding to 6 RAIs, no issues
  - Ultimate heat sink design and CCW HX performance testing
  - LOFTRAN plant transient modeling
- **Reactor Systems Branch**
  - Responded to 7 RAIs
  - Steam Generator Tube Rupture (SGTR) Margin to Overfill (MTO)
    - MTO greater than 300 ft<sup>3</sup> in affected steam generator
  - Review of remaining draft RAIs (14)
- **Quality and Vendor Branch**
  - Review of draft RAI (1)
- **Environmental Branch**
  - Review of draft RAI (1)

## Turkey Point – Spent Fuel Criticality

- Revised analysis addressing items in Draft Interim Staff Guidance submitted on February 22, 2011
- Staff review in progress
- Open discussion of Staff feedback and questions

## Turkey Point – Summary

- Staff issue remaining EPU RAIs and clarification requests
- FPL to respond to EPU RAIs and clarification requests
- Staff issue spent fuel criticality RAIs
- FPL respond to spent fuel criticality RAIs
- Schedule and prepare for ACRS sub-committee
- EPU and SFC implementation planned for 1<sup>st</sup> quarter 2012 for Unit 3 and 4<sup>th</sup> quarter 2012 for Unit 4