FNP NFPA 805 LAR AUDIT

March 19, 2013

Session 1 – LAR Overview

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LAR Overview

- Background
- Transition/LAR Process
- NFPA 805 Compliance
- Results/Conclusions

Joseph M. Farley Nuclear Plant Units 1 & 2

- Location: Near Dothan in Southeast Alabama.
- Operating Licenses: Issued -June 25, 1977 and March 31, 1981 for Units 1 and 2, respectively.
- Renewed License Issued – May 12, 2005
- License Expires: June 25, 2037 (Unit 1) & March 31, 2041 (Unit 2)
- Licensed MWe: 900 (Unit 1) & 920 (Unit 2)
- Reactor Vendor/Type: Westinghouse 3-loop
- Containment Type: Dry, Ambient, Pressure

Current FNP FP Licensing Basis

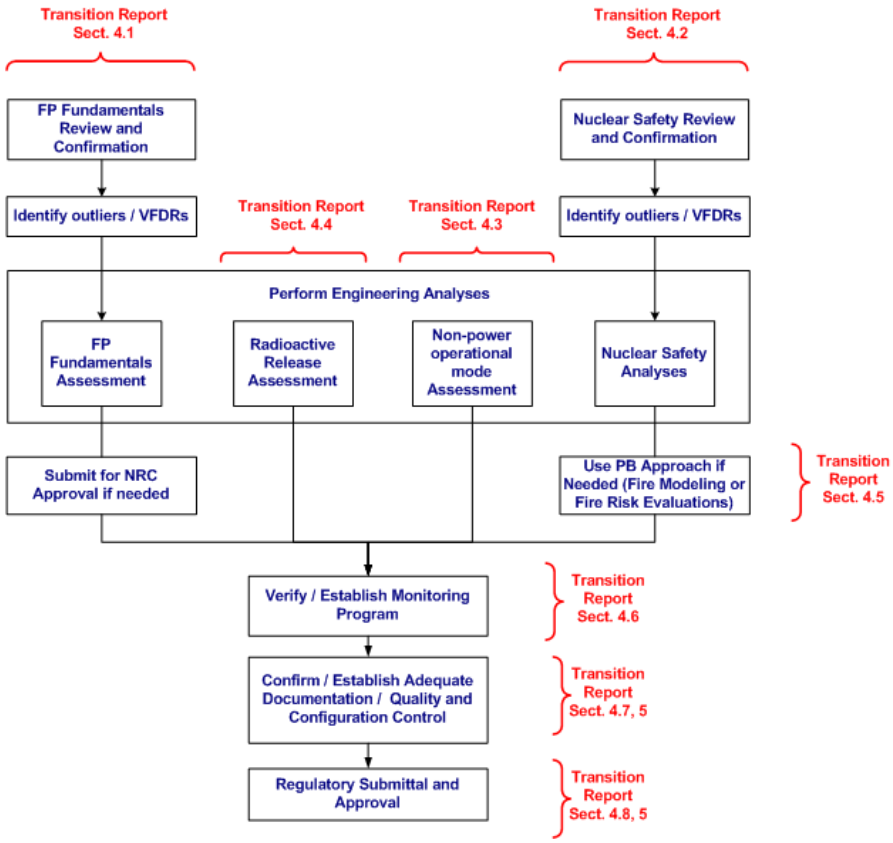
- FNP FP Licensing Basis is based on:
  - 10 CFR 50.48(a), 10 CFR 50.48(b),
  - 10 CFR 50, Appendix R, Sections III.G, III.J, and III.O
  - FP License Condition
- Branch Technical Position APCSB 9.5-1, Appendix A
- 81 exemptions (Unit 1)/deviations (Unit 2)

NFPA 805 LAR

- NFPA 805 Letter of Intent Sent 2/14/2008
- LAR Submitted on 9/25/2012
- NRC Requested Supplemental Info 12/12/12
- Supplemental Info Provided 12/20/2013
- LAR Accepted 1/24/2013

Process for Transition and LAR

- SNC and Contractor Team
- Utilized NEI 04-02 and FAQ Process
- Active Participation in NFPA 805 Task Force and LAR Template Development
- Adjusted Transition Activities as Process Evolved
  - Fire PRA Methods
  - Fire Risk Evaluations
- Addressed and Considered Non-Pilot Generic Issues



SOUTHERN COMPANY

NFPA 805 Chapter 3

- LAR Section 4.1 and Att. A – B-1 Table document results and conclusions
- The vast majority of Chapter 3 elements Comply or Comply via Engineering Evaluation (most evaluations are NFPA code compliance).
- There is 1 instance where FNP utilized compliance via previous NRC Approval.
- There are 5 NRC Approval Requests per 10 CFR 50.48(c)(2)(vii) (LAR Att. L).
- Two plant modifications resulted from the reviews of NFPA 805 Chapter 3 (Detection replacement and CO2).

Nuclear Safety Capability Assessment

- Attachment B – B-2 Table documents NSCA methodology
  - Gap Assessment performed between revision 1 and revision 2 of NEI 00-01
- Safe and stable
  - Defined as Mode 3, with the ability to cool down and place RHR system in service if necessary. Once on RHR, long term actions are related to replenishment of EDG fuel oil, replenishment of borated injection water or replenishment of condensate supplies.

Nuclear Safety Capability Assessment

- Recovery Actions
  - Followed FAQ 07-0030 process
  - Recovery actions defined as required for risk or DID in Attachment G.
- Multiple Spurious Operations
  - Followed FAQ 07-0038 process (LAR Attachment F)
  - MSO Scenarios integrated into NSCA and Fire PRA

Nuclear Safety Capability Assessment

- Attachment C – B-3 Table documents NSCA Fire Area Results.
  - NSCA evaluated for both units for each Fire Area
  - There are 163 total Fire Areas in Farley, Units 1 and 2
  - Of the 163 Fire Areas, 51 Fire Areas had impact to both units (FRE performed for impact on Unit 1 and Unit 2) – Total of 214 FREs
  - Performance-Based approach utilized Fire Risk Evaluation (Section 4.2.4.2 of NFPA 805)
- Engineering Evaluation Transition
  - None of the transitioning EEEEs require NRC approval.

Nuclear Safety Capability Assessment

- Licensing Action Transition
  - No Licensing Actions are to be transitioned to the new licensing basis

NPO and Radioactive Release

- Non-Power Operational Modes (NPO)
  - LAR Section 4.3 and Attachment D document methodology and results.
  - Utilized FAQ 07-0040 process.
- Radioactive Release
  - LAR Section 4.4 and Attachment E document methodology and results.
  - Utilized FAQ 09-0056 process.

Other Transition Topics

- Monitoring
  - Addressed in LAR Section 4.6
  - Will utilize FAQ 12-0059 Process
- Program Documentation, Configuration Control and Quality Assurance
  - Addressed in LAR Section 4.7.
  - FAQ 12-0061, Change Evaluations (under development) will be utilized for post-transition changes.
  - SNC will met the requirements of NFPA 805 Section 2.7.3

Fire PRA and Fire Risk Evaluations

- Fire PRA
  - Peer-Reviewed Fire PRA used to support FREs
  - PRA Quality addressed in LAR Section 4.7 and Attachments U and V.
  - Fire Risk Insights addressed in LAR Attachment W

Fire PRA and Fire Risk Evaluations

- Fire Risk Evaluations
  - Process from FAQ 08-0054 utilized
  - Integrated assessment of change in risk, DID, and SM
  - Change in risk and maintenance of DID and SM addressed for each fire area utilizing performance-based approach.
  - Results summarized in LAR Attachment W.
  - Required fire protection systems and features provided in LAR Attachment C, Table C-2.

Overall Results

- Overall results concluded acceptable change in risk, defense in depth adequate, and safety margin maintained, based upon:
  - Plant design, and
  - Reliance on recovery actions
  - Plant modifications (completed and committed)
  - Implementation items

Overall Results

- LAR dated September, 2012 discussed overall risk decrease related to transition.
  - Additional refinements and corrections during LIC-109 review indicate a small risk increase associated with transition. R1
- Additional reviews and refinements will be performed as part of RAI response.

Slide 17

R1 Don't know if this is true or not.
Rebecca, 3/12/2013

Implementation Items and Modifications

- 30 Implementation Items Identified
- Primarily associated with procedure and documentation updates, such as:
  - Non-Power Operational Modes Analysis
  - Radioactive Release Analysis
  - Monitoring Program
  - Safe Shutdown Procedures
  - Fire Brigade
  - FP Program Documents and Training
  - Fire PRA Model Update after Modifications
    - Will use the criteria in FAQ 61 for overall risk change
- 11 Committed Modifications (Table S-2)