

Robinson Nuclear Plant

24 Month Fuel Cycle Pre-Submittal Meeting
April 20, 2016 1:00 to 3:00 PM



Agenda

Opening Remarks/Meeting Objectives

Project Update/LAR Submittal Schedule

LAR Content

Closing Remarks

Duke Attendees

| | |
|----------------|--|
| Jim Kammer | RNP Eng General Manager |
| Gary Swider | RNP 24 Month Fuel Cycle Project Lead |
| Jeff Mungo | RNP 24 Month Fuel Cycle Project Lead Eng |
| Geoff Pihl | Nuclear Fuels Eng Radiological Eng Manager |
| Scott Connelly | RNP Licensing |

Opening Remarks

Introductions

Meeting Objectives :

- Common understanding of the proposed scope of the Robinson LARs for 24 Month Fuel Cycle and AST
- Provide overview of Duke efforts to develop LARs
- Update any regulatory positions on issues specific to the LARs
- Discuss LAR schedule from submittal to NRC approval

24 Month Fuel Cycle LAR Content

RNP Summary Engineering Change

- Modeled after requirements of GL 91-04 and other LARs
- Documents all changes and acceptability
 - Surveillances Extensions
 - Steam Generator Inspections
 - Appendix J Surveillances (LAR submitted to Option B in November 2015)

LAR Content (continued)

Drift and Uncertainty Methodology

- Engineering Change document was developed for Time Dependent Analyzed Drift (AD)
- Utilization of EPRI TR-103335 Rev 1 and 2
- Addresses seven items identified in Enclosure 2 of GL 91-04
- Use of Industry experts in Drift analysis
- Methodology similar to Oconee

24 Month Fuel Cycle LAR Content (continued)

Instrument Drift Analysis/Failure Review Methodology

- Reviewed of 10+ years of Previous Calibrations
- Statistical analysis to demonstrate extended interval acceptable
- Reviewed of 10+ years of Corrective Maintenance
- Dispositioned all found failures and assessed to ensure no significant plant impact due to longer Tech Spec interval

Fuel and Core Design

Core Design

- Removal of partial length shield assemblies (PLSAs) and implementation of mid-enriched blankets

Fuel Design

- Change to standardized design with larger pellet diameter

AST LAR Content

Analyses

- AST analyses revised in accordance with RG 1.183
- Source Term changes include addressing:
 - 24 month fuel cycle effects added
(source term will cover current 18 month fuel cycle and new 24 month fuel cycle)
 - Removal of PLSAs
 - Allowance to exceed RG 1.183 Table 3 Footnote 11 peaking requirements -
New gap fractions for these pins determined using ANS 5.4 [2011]
- Dose analysis changes from Current Licensing Basis:
 - New Rod Ejection analysis allowing fuel failure

LAR Content (continued)

Precedent LARs –

| | | |
|--|-------------------------------|--------------------|
| Oconee 1,2,3 - | Adams ML101330499 | LAR Submittal |
| | Adams ML110480489 | RAI response |
| | Adams ML11124A126 | RAI Response |
| | Adams ML11203A018 | RAI Response |
| | Adams ML091620074 | Information |
| | Adams ML12086A289 | Amendment Issuance |
| Indian Point 2,3 - | Adams ML100320955 | LAR Submittal |
| | 27 associated Adams documents | |
| Catawba, McGuire, Oconee (all units) – | New AST Gap Fractions | |
| | Adams ML15196A093 | LAR Submittal |

Project Timeline/LAR Submittal Date

| | |
|---|------------------|
| RNP 24 Month Fuel Cycle Project started | May 2014 |
| RNP LARs Submittal | Summer 2016 |
| Seeking NRC Approval Date | Late Summer 2018 |
| 24 Month Fuel Cycle Implementation | Fall 2018 RO32 |

Closing Remarks
