

Safety Analyses Transition

LAR submitted March 25, 2003

NRC- NMC

Meeting

May 20, 2003

Introductions

- ◆ NRC
- ◆ NMC
- ◆ Westinghouse

Summary

◆ Currently

- In-house group performs core design
- In-house group performs most AOR

◆ Transition

- In-house group performs core design
- Westinghouse performs most AOR

License Impact

◆ Methodologies

- Adopt NRC approved methodologies

◆ Technical Specification changes

- Generally conform to NUREG-1431
Revision 2

Organization of LAR

- ◆ Cover letter
- ◆ Licensee Evaluation – Exhibit A
- ◆ Marked up TS/Bases pages – Exhibit B
- ◆ Revised TS/Bases pages – Exhibit C
- ◆ Instrument Uncertainties for Plant Operating Parameter Inputs to the Westinghouse Revised Thermal Design Procedures – Exhibit D

Organization of TS Issues

◆ Group 1

- RAOC

◆ Group 2

- Relocation of limits

◆ Group 3

- Revision of Allowable Value – Pressurizer Pressure-Low

Group 1 - RAOC

◆ Relaxed Axial Offset Control

- Revise TS/Bases 3.2.1 and 3.2.3
- Currently use NSP version of CAOC
- Adopt approved WCAP-10216-P-A
- Miscellaneous changes
 - ◆ 200 cal/gm (Bases change only)

Group 2 – Relocation of Limits

◆ Reactor Core SLs

- Revise SL/Bases 2.1.1
- Relocate SL Figure to COLR
- SL calculation per approved WCAP – 11397-P-A
- Adopt approved WCAP – 14483-A

Group 2 – Relocation of Limits

◆ OT Δ T/ OP Δ T Parameters

- Revise TS/Bases 3.3.1
- Calculate OT Δ T/ OP Δ T per approved WCAP – 8745-P-A
- Remove $f(\Delta I)$ (and SR) input to OP Δ T
- Relocate limits to COLR
- Adopt approved WCAP – 14483-A

Group 2 – Relocation of Limits

- ◆ TS 5.6.5 references for COLR
 - Revise list of Specifications
 - Add methodologies (WCAPs) for COLR limits

Group 3 – Revision of Allowable Value

◆ Pressurizer Pressure – Low Allowable Value

- Revise TS 3.3.1 Function 8.a
- Currently ≥ 1760
- Revise to ≥ 1845
- Revise value in conservative direction
- Adopt WCAP – 8745-P-A
- PINGP Setpoint Methodology (uncertainty)
- Both NRC approved methods

Acceptance Criterion Change

- ◆ Tech Spec Bases 3.2.1
- ◆ Based on Westinghouse methodology for RCCA Ejection
- ◆ Maximum hot spot enthalpy criterion reduced from 280 cal/g to 200 cal/g

WCAP – 10216-P-A Rev 1A

◆ “Relaxation Of Constant Axial Offset Control And FQ Surveillance Technical Specification”

- Approved for power distribution control in Westinghouse designed PWRs
- Applicable to Prairie Island Units 1 and 2

WCAP – 11397-P-A

◆ "Revised Thermal Design Procedure"

- Approved for use with 7 conditions listed in SER
- 6 conditions addressed by Westinghouse
- 1 condition addressed by NMC

WCAP – 8745-P-A

◆ "Design Basis for the Thermal Overpower ΔT and Thermal Overtemperature ΔT Trip Functions"

■ Condition of SER Approval

- ◆ The adequacy of the standard power shapes in establishing DNB protection system must be evaluated whenever changes are introduced that could affect core power distribution

■ Response

- ◆ OT ΔT / OP ΔT parameter values will account for Prairie Island specific conditions

Previous Implementations

◆ Comparison to Other NMC Units

- Point Beach has implemented the RAOC and Relocation of Limits changes (NUREG-1431)
- Kewaunee has implemented the RAOC and Relocation of Limits changes (Custom Tech Spec)
- Both Plants added references to reflect methodologies for the RAOC and the COLR Relocation of Limits
- Prairie Island will be made the same as these units for the RAOC and Relocation of Limits changes
- References used by Kewaunee and Point Beach for the RAOC and Relocation of Limits changes are also in the Prairie Island LAR submittal

TS Page Changes

◆ SL 2.1.1/Bases

- Relocate SL Figure to COLR
- TSTF – 339

◆ Bases 3.1.1

- 200 cal/gm

◆ LCO 3.1.8/Bases

- Remove Function 7
- TSTF – 315

TS Page Changes

- ◆ LCO 3.2.1/Bases
 - Implement RAOC
- ◆ Bases 3.2.2
 - 200 cal/gm
- ◆ LCO 3.2.3/Bases
 - Implement RAOC
- ◆ Bases 3.2.4
 - 200 cal/gm

TS Page Changes

◆ LCO 3.3.1/Bases – Table Function 7

- Current TS differ from other plants
- Remove $f(\Delta I)$ input to $OP\Delta T$
- Remove SR 3.3.1.3/ SR 3.3.1.6

◆ LCO 3.3.1 – Table Function 8.a

- Increase Allowable Value

◆ LCO 3.3.1 – Notes 1 and 2

- Relocate parameters to COLR
- Remove $f(\Delta I)$ from $OP\Delta T$
- TSTF-339

TS Page Changes

◆ TS 5.6.5

- Add Specification references
- Add methodology references
- Revise previous methodology references
 - ◆ TSTF – 363
- Repagination
- Miscellaneous changes

TS Page Changes

◆ Conclusion:

- Generally conform Technical Specifications/
Bases to guidance of NUREG-1431,
Revision 2

Supplement to Submittal

- ◆ Status
- ◆ Delete OP Δ T from TS 3.1.8
- ◆ Remove dates/revisions etc. from COLR references
- ◆ Revise to 200 cal/gm on additional Bases pages

Implementation Activities

- ◆ Complete Westinghouse analyses
- ◆ Complete 10 CFR 50.59 Evaluations
- ◆ Perform modification of OP Δ T Function
- ◆ Revise plant procedures
- ◆ Revise COLR

Implementation Schedule

- ◆ Requested NRC Approval
 - December 31, 2003
- ◆ Implement both units
 - January 30, 2004

Conclusions

- ◆ Technical Specification changes generally conform to NUREG-1431 Revision 2
- ◆ Methodologies previously approved by the NRC
 - Westinghouse WCAPs
 - Prairie Island Setpoint Methodology

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- ◆ Questions?
 - ◆ Comments?