PWR Owners Group-NRC Meeting

RITSTF Initiative 8a – Relocate LCOs that do not Satisfy Criterion 3 and 4 of 10 CFR 50.36(c)(2)(ii)

March 2, 2011

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Agenda

- Purpose of the PWROG Program
- Background
- Benefits
- Previous NRC/PWROG Meetings
- Overall Approach
- Details of Approach
- Project Schedule
- Comments and Discussion

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Purpose of this Meeting

- Present and discuss with the NRC Staff the change in approach that was originally proposed and previously discussed.
  - Initially a generic approach, applicable to all <u>W</u> NSSS plants, was going to be followed
  - The revised approach is based on a plant specific application of the Criterion of 10 CFR 50.36(c)(2)(ii)
- Obtain Staff feedback

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Purpose of the PWROG program

- Submit a plant-specific application of RITS-8a "Relocate LCOs that do not satisfy Criterion 3 or 4 of 10 CFR 50.36(c)(2)(ii)"

- Limited to Reactor Trip System Instrumentation (RTS, TS 3.3.1) and Engineered Safety Features Actuation System Instrumentation (ESFAS, TS 3.3.2)

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Background

- The industry and NRC have been preparing a number of risk-informed (RI) applications focused on improving Technical Specifications (TS) using risk-insights.

- A number of these applications have been approved by the NRC and implemented by licensees.

- RITS-8a proposed to relocate RTS and ESFAS LCOs that do not satisfy TS Criterion 3 or 4 of 10 CFR 50.36(c)(2)(ii) to a licensee controlled document.

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Background (Cont'd)

Technical Specification Selection Criterion of 10 CFR 50.36(c)(2)(ii):

Criterion 1. Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

Criterion 2. A process variable, design feature, or operating restriction that is an initial condition of a DBA or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

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Background (Cont'd)

Technical Specification Selection Criterion of 10 CFR 50.36(c)(2)(ii):

Criterion 3. A SSC that is part of the primary success path and which functions or actuates to mitigate a DBA or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Criterion 4. A SSC which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

Background (cont'd)

- WCAP-11618 ("Methodically Engineered, Restructured, and Improved Technical Specifications, Merits Program – Phase II Task 5, Criteria Application", November 1987) proposed relocating a number of RTS, ESFAS, and interlock functions.

- NRC review of WCAP-11618 concluded that these Functions should be retained in the Tech Specs.

- The NRC stated "The Policy Statement criteria should not be used as the basis for relocating specific trip functions, channels, or instruments within these LCOs".

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Background (cont'd)

- CEOG and B&WOG also proposed to relocate RPS and ESFAS functions that do not satisfy any of the criteria
- NRC review of these criteria applications also concluded that these functions should be retained in the TSs for the same reason

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Benefits

- Reductions in potential TS violations
- Reductions in potential Notices of Enforcement Discretion
- Elimination of potential plant shutdowns
- Benefits are applicable to the SSCs that do not satisfy the TS Selection Criteria

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<u>Overall Approach</u>

- Step 1: Meet with the NRC to discuss the program.
- Step 2a: Review plant safety analysis to identify the RTS and ESFAS functions that satisfy Criterion 3.
- Step 2b: Review the plant PRA model to identify which RTS and ESFAS functions are credited that satisfy Criterion 4.
- Step 2c: Review RI applications that have resulted in changes to the plant's licensing basis that credited RTS and ESFAS functions that satisfy Criterion 4.
- Step 3: Identify the RTS and ESFAS functions that do not satisfy Criteria 3 & 4.
- Step 4: Prepare a LAR to propose the relocation of the RTS and ESFAS functions that do not satisfy Criteria 3 & 4.
- Step 5: NRC Review Activities

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<u>Overall Approach (Cont'd)</u>

- Lead plant participation required – generic assessment will be too limiting

- Lead plant is Comanche Peak

- Multi-step process – discussed on the following slides

- Initially apply the process to a <u>W</u> NSSS plant. Then apply it to CE and B&W NSSS lead plant

- Plant specific applications of the Criterion of 10 CFR 50.36(c)(2)(ii) following this approach will be submitted

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Step 2a: Assess Safety Analysis Requirements

- Review the lead plant safety analyses
- Identify primary RTS and ESFAS functions credited
- Any function that is not a primary function is a backup function, which does not satisfy Criterion 3

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Step 2b: Assess PRA Model Requirements

- Review the lead plant PRA model
- Typically plant PRA models do not model specific RTS/ESFAS functions for each event, but use representative functions
  - Quantitative function information (risk related) is not available
  - Two qualitative approaches will be used

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Step 2b: Assess PRA Model Requirements (Cont'd)

- First Approach
  - Identify the RTS and ESFAS functions credited explicitly or implicitly for each event considered in the PRA model
  - Identify those events that credit a backup function for RT and ESF actuation and the backup function
  - Primary and backup RTS and ESFAS functions identified satisfy Criterion 4.
  - Any functions that are not credited as a primary or backup function do not satisfy Criterion 4.

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Step 2b: Assess PRA Model Requirements (Cont'd)

- Second Approach
  - Applicable to primarily RT signals and ATWS risk
  - Consider a product of IE frequency and signal unavailability
  - For higher frequency events, diverse signals and OA backup are required
  - For low frequency events, diverse signals or OA backup may not be necessary

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Step 2c: Assess PRA Applications Requirements

- Review plant specific and implementation of generic RI applications that are included in the plant's Licensing Basis
  - Are the functions that were credited important to the results?
  - Are backup functions credited to get acceptable results?
- Identify the RTS and ESFAS primary and backup functions credited for each event considered in the RI application implemented
- Key RI applications are those that resulted in changes to TS 3.3.1 and 3.3.2

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Step 2c: Assess PRA Applications Requirements (Cont'd)

- Primary and backup RTS and ESFAS functions identified satisfy Criterion 4.

- Any functions that are not credited as primary or backup do not satisfy Criterion 4.

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Step 3: Identify RTS and ESFAS Functions that do not Satisfy Criteria 3 & 4

- Summarize the information from Steps 2a, 2b, and 2c
- For each TS function, identify if it is credited for event mitigation
- Primary RTS and ESFAS functions satisfy Criterion 3
- Primary and backup RTS and ESFAS functions satisfy Criteria 4
- Primary and backup RTS and ESFAS functions not credited are candidates for re-location

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<u>Step 4: Prepare Comanche Peak</u>
<u>License Amendment Request</u>

- Propose to relocate functions that do not satisfy Criteria 3 & 4 to licensee control

- Include technical justification that concludes the identified RTS and ESFAS functions can be re-located to licensee control

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Step 5: NRC Review Activities

- Respond to NRC's Requests for Additional Information
- Interface with the NRC

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Project Schedule

Task	Start	End
Kickoff meeting with Luminant	10/26/2010	
Meeting with the NRC	3/02/2011	
Review RTS and ESFAS Functions and Identify those Functions that do not Satisfy Criterion 3 or 4	1/01/2011	5/31/11
Prepare Comanche Peak LAR	TBD	TBD
NRC Review Activities	TBD	TBD

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Comments and Discussion