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US-APWR Design Centered Working Group Risk Informed Technical Specifications

Risk Informed Technical Specifications

November 3, 2010

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Challenges

- Need Technical Specifications for COL issuance
- Risk Informed Technical Specifications - issues for new plants
  - Risk metrics unresolved
  - PRA description needed to issue COL not identified
- Controls to allow NRC to confirm technical adequacy of PRA before fuel load not identified

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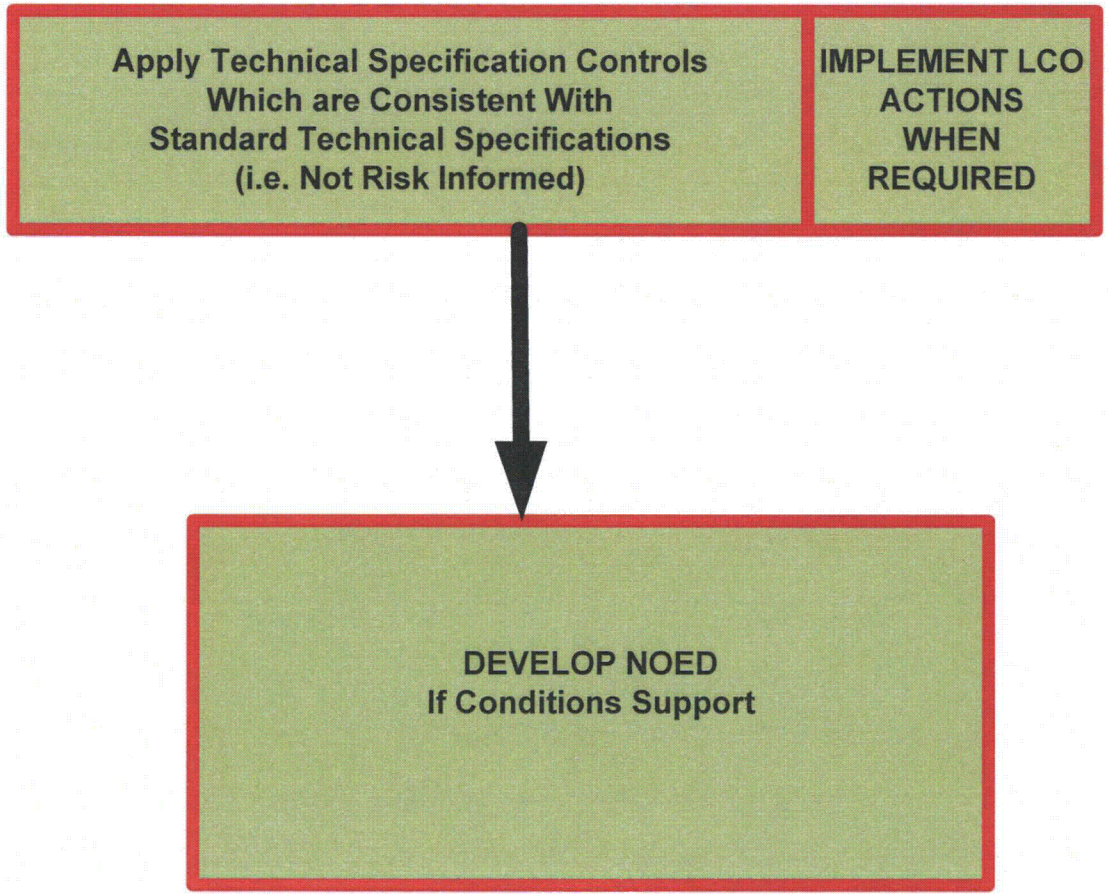
Standard Technical Specifications



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Final Interim Staff Guidance ISG-08

- All COL action items resolved prior to COL issuance.
- Options to resolve COL action items
  - (1) Provide a plant-specific value
  - (2) Provide a value that bounds the plant-specific value, but by which the plant may be safely operated (i.e., a useable bounding value)
  - (3) Establish a PTS Section 5.5 or 5.6 administrative controls program or report.

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Final Interim Staff Guidance ISG-08 (cont'd)

- Administrative controls technical specification
  - (a) use of an NRC-reviewed and -approved methodology for determining the plant-specific value,
  - (b) establishment of an associated document, outside the PTS, in which the relocated plant-specific value shall be recorded and maintained, and
  - (c) any other information or restrictions the NRC staff deems necessary and appropriate to satisfy 10 CFR 50.36.
- For example, some COL applicants have proposed an administrative controls technical specification for a set point control program to satisfy 10 CFR 50.36(c)(1)(ii)(A) in lieu of specifying explicit values for the limiting safety system settings in the PTS.

DCD TS Example

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required train inoperable.	A.1 Restore three trains to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

Implements RITS

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Administrative Controls TS

- 5.5.18 - Risk managed TS (Allowed outage time)
- 5.5.19 - Surveillance Frequency Control Program
- Both depend upon a technically adequate PRA model and risk metrics
  - Peer-reviewed PRA not available at COL
  - Risk metrics not resolved

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General Solutions

- Methodology to ensure PRA meets NRC expectations
- Controls to allow NRC confirmation
  - License Condition
  - ITAAC
  - Inspection/Audit

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Potential Options

- Allow operation with deterministic values if Administrative Controls Programs not complete
  - Add "if and only if" statement in each specification
  - Add clarifying paragraph in 5.5.18 and 5.5.19
- Confirm PRA via ITAAC, L.C., or inspection (preferred)
  - Technically adequate to implement NEI 06-09 and NEI 04-10
- Others?

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Technical Specifications with RITS Option - Example

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required train inoperable.	A.1 Restore three trains to OPERABLE status. OR A.2 Apply the requirements of 5.5.18, if and only if the PRA to be used has been Peer Reviewed against this application and a capability category 2 was achieved for SRs important to the RITS application	72 hours 72 Hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

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Technical Specifications with RITS Option (cont'd)

- If the "if and only if" conditions are not met, Technical Specifications are exactly as in the case that RITS was never considered
- Metrics issue can be addressed in 5.5.18 and 5.5.19
- Applicable NEI guidance identified in 5.5.18 and 5.5.19

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Optional RITS Path Forward