



Reactor Oversight Process (ROP) Transition Plan for Watts Bar Unit 2

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Purpose

- Continue the dialogue on NRC's Draft ROP Transition Plan for Watts Bar (WBN) Unit 2
- Align on path forward

Assessment

NRC's Draft Transition Plan (March 4th public meeting)

- Assessment conducted in accordance with Inspection Manual Chapter (IMC) 2517 until completion of IMC 2514 inspection program
- Action Matrix utilized after TVA notified of full transition into the ROP

Assessment

Treatment of violations identified prior to implementation of Action Matrix

- TVA proposes that violations identified (typically the date of the inspection exit meeting) while the IMC 2517 assessment process is in effect should be characterized and assessed in accordance this Manual Chapter
- Any greater than green inspection finding identified after the Action Matrix is implemented should be treated as an input into the Action Matrix

Significance Determination

NRC's Draft Transition Plan (March 4th public meeting)

- Significance Determination Process (SDP) will be used to characterize inspection findings once cornerstones have been transitioned to the ROP
- Prior to cornerstones being transitioned into the ROP, violations will be dispositioned in accordance with the Traditional Enforcement Process

Significance Determination

- During the March 4th public meeting the NRC staff acknowledged that prior to entering commercial operations, the risk profile for WBN Unit 2 would be lower than an operating nuclear plant
- TVA proposes that prior to commercial operations the SDP account for the lower risk profile of the plant

Significance Determination

Emergency Preparedness – IMC 0609, Appendix B

- Failure to implement – no impact
- Failure to comply should account for plant conditions and risk profile of plant
- Example: an inspection finding involving a loss of planning standard (ex. staffing)
 - Could be characterized as a White inspection finding
 - White characterization would not be appropriate for some plant conditions (i.e., prior to plant startup)

Significance Determination

Occupational Radiation Safety – IMC 0609, Appendix C

- No impact

Public Radiation Safety – IMC 0609, Appendix D

- No impact

Safeguards – IMC 0609, Appendix E

- Should account for plant conditions and risk profile of plant (i.e., significance of loss of target set equipment for a plant with low decay heat is less)

Significance Determination

- Use of other SDP Appendices to inform the characterization of noncompliances within the Traditional Enforcement Process should account for plant conditions and risk profile of plant
- Example: an inspection finding associated with a heat removal system (i.e., auxiliary feedwater)
 - Could be characterized as a greater than Green inspection finding using IMC 0609, Appendix A
 - Greater than Green characterization would not be appropriate for some plant conditions (i.e., low decay heat)

Mitigating System Performance Index (MSPI)

NRC Draft Transition Plan Approach (March 4th public meeting)

- MSPI for common unit equipment becomes effective when the Mitigating Cornerstone is transition into the ROP
- MSPI for Unit 2 specific equipment become valid after four full quarters have elapsed following the transition of the Mitigating Cornerstone into the ROP

MSPI for Common Unit Equipment

- TVA agrees that these indicators can become valid the first full quarter following the Mitigating Systems Cornerstone being transition into the ROP
- TVA proposes using Unit 2 specific data (critical hours, unavailability hours, failures, etc.) for each full quarter following the cornerstone being transition into the ROP and using the Unit 1 data for the balance of the 12 quarters
- Unit 1 PRA will be used for reporting Unit 1 MSPI and Unit 2 PRA will be used for reporting Unit 2 MSPI

MSPI for Unit 2 Specific Equipment

- Treating MSPI for Unit 2 specific equipment as valid prior to 12 full quarters having elapsed will result in the potential for false positives
- TVA proposes performing a WBN Unit 2 specific analysis to evaluate the likelihood of false positives to inform the NRC staff's decision on when these indicators should be treated as valid
- TVA plans to complete the WBN Unit 2 specific analysis and be in a position to present the results to the NRC by the end of April

Unit 2 Specific MSPI Analysis

Perform a sensitivity study for each MSPI using the following assumptions to determine the number of failures and/or unavailability hours necessary for the indicator to exceed the threshold each quarter between 4 and 12 quarters

- Unit 2 PRA will be used
- NEI 99-02 values for WBN Unit 1 will be used where Unit 2 values do not exist (i.e., common cause failure)
- Data accrual begins the first full quarter following transition of the Mitigating Systems Cornerstone into the ROP

Unit 2 Specific MSPI Analysis

- Critical Hours – 2000 hours per quarter
- Use Unit 1 values adjusted for number of quarters
 - Non-test and test run hours
 - Non-test and test demands
 - Planned and unplanned baseline unavailability (NEI 99-02)
 - Planned unavailability hours
- Unplanned unavailability hours assumed only for simulated failures - TS LCO allowed outage time will be assumed

Unit 2 Specific MSPI Analysis - Example

Illustrative example for one indicator

- Assuming 12 quarters of data (no failures)
 - MSPI is $-9.8E-7$
 - Margin is 4 start failures, 5 fail to load/run, 1 fail to run, OR 2700 hours unavailability
- Assuming 4 quarters of data (no failures)
 - MSPI is $1.7E-7$
 - Margin is 1 start failure, 1 fail to load/run, 1 failure to run, OR 372 hours of unavailability
- Treating this MSPI as valid after 4 quarters creates the substantial potential for a false positive