



Risk Managed Technical Specifications Guidelines

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ENCLOSURE 4

Goals of Effort

- Develop Guidelines to support a Risk-Informed Flexible AOT structure that:
 - Is integrated with Maintenance Rule (a)(4)
 - May be implemented by plants with robust (a)(4) programs
 - ◆ Full or phased implementation
 - ◆ flexibility commensurate with capability
 - Improves risk management decision-making
 - Doesn't require Rulemaking (No change to Part 50)
 - Maintain ISTS structure

Flexible AOT builds upon Existing Industry “Good Practices”

- Maintenance Rule Risk Management Process
 - 10CFR50.65 requires utility to:
 - ◆ (a)(1):SSCs monitored to ensure performance goals for equipment are commensurate with safety
 - ◆ (a)(3):Maintenance practices periodically reviewed to ensure appropriateness of preventive maintenance activities
 - ◆ (a)(4): Before performing maintenance activities licensees shall assess and manage plant risk
 - NUMARC-93-01, Revisions 3 Section 11 provides general guidance for implementation
 - ◆ Provides integrated and instantaneous risk goals
 - ◆ Revision 2 of NEI guidance endorsed by RG 1.182
 - ◆ Section 11 of Revision 3/Revision 2 are the same

What is the Flexible AOT?

- “Flexible AOT” includes a TS Action statement that provides for an allowable action to continue maintenance beyond the current or risk informed completion time, based on results of a contemporaneous risk assessment.
- Concept includes:
 - “Front stop” analogous to current AOT/CT process
 - Backstop –Maximum time beyond which plant configuration must be restored.
 - ◆ Thirty day backstop
 - Covers most anticipated repairs
 - Assures equipment restored to original design regardless of low risk importance

Why two pilots?

Single System Approach (TSTF 424)

- Provides detailed vertical slice and insights into risk assessment
- Proof of concept to industry and NRC
- Allows phased introduction of RMTS into plant
- Provides basis and understanding for extrapolation to a broad range of plants
- Allows for incremental integration of various RITS initiatives
- Implementation commensurate with PSA Capability

Full System Application (STP)

- Provides horizontal application of risk assessment over a broad range of systems
- Validates value of robust maintenance rule application
- Available to plants with full scope, high capability PSAs (per DG-1122) and robust risk assessment processes.

Role of RMTS Guidance

- Universal
- Inclusive, based on industry consensus
- Similar to, and an expansion of, existing (a)(4) guidance
- Applies to all Flexible AOT applications
- Intended to allow variability in implementation while capturing relevant risk insights

While Guidance is generic implementation may vary

- Plant design
- Plant maintenance practices
- Extent of the implementation
 - All systems, all combinations
 - Single Systems
 - Mixture
- PSA Capability

Key Features of RMTS

- A. Risks associated with Pre-planned entries into extended AOT evaluated prior to entry.
- B. Emergent Conditions Evaluated in a Time Frame consistent with Risk Impact
- On-Line Risk Assessment
 - Typically performed in under < 1hr
 - Includes all systems models and multiple trains of TS equipmentOr
 - Identify high risk operational considerations which may require expedited plant shutdown. Provide early detection of high risk system and system combinations.
 - 24 hour assessment limited to conditions. Not applicable to exigent shutdown Actions (based on Initiative 6)
 - Pre-determined list of risk significant combinations
- C. Demonstration of risk acceptability beyond Front Stop
- Quantitative process with qualitative considerations
 - Risk assessment of ICDP/ICLERP required, extent of qualitative input will be dependent on the comprehensiveness of the PSA and the ability of the PSA to model the condition under question
 - Greater PSA scope and capability allows potential increased reliance on PSA
 - Qualitative assessments used to bring in non-quantified factors, impact of concurrent maintenance activities (not modeled), grid stress etc.
 - Target risks to maintain activities beyond frontstop using normal work controls
 - ICDPs/ICLERPs tracked with intent to maintain impact of beyond front stop maintenance consistent with intent of RG 1.174 for small impact

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Key Features of RMTS

D. Define RI Backstop as 30 days.

- Thirty day backstop is deterministic and represents a compromise with the 90 day 50.59 allowed for temporary change.
- AOTs for extended repairs based on risk and need
- 30 days consistent with observation that NOEDs granted by NRC typically average 14 days with longer NOEDs reaching 28 days

E. Includes a Risk Informed Shutdown Decision Process

- Process entry triggered by Risk Assessment
- Guidance to shutdown will consider time to complete repair, and risk trade-offs
- Once entered basis for decision to be documented

F. Regulatory Control

- Use of Flexible AOT to be tracked and re-evaluated annually with respect to RG 1.174
- Many High risk maintenance decisions will be subject to review via Oversight Process
- Maintenance rule through components in (a)(1) and (a)(3) maintenance program look-backs

Key Features of RMTS

G. PSA Quality

- ◆ Must be capable of performing its task. “Capability commensurate with application”
- ◆ Likely Demonstration of tool and process required prior to implementation
- ◆ Consistent with ASME Standards
- ◆ Meets intent of DG-1122
- ◆ Peer review and issue resolution important
- ◆ Scope limitations (i.e. less than full scope PSAs) may restrict scope of implementation

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Benefits of Flexible AOT

- Allows plant actions to be commensurate with risk.
 - Focus emergent activities to repair high risk component in preference to AOT limiting component.
- Allows optimized repair strategies.
- Avoids risk of unnecessary plant shutdowns
- Allocates plant staff based on risk significance of inoperability
- Reduction in NOEDs

Expectations of Regulatory Process

- SER for RMTS Guidance
- SER for TSTF 422 including associated Topical Report
- HPSI CEOG plant specific LAR Referencing approved Topical Report
- SER on STP LAR

Conclusions

- Risk Informed Flexible AOTs allows potential risk improvements in plant operation.
 - Maintenance may be prioritized based on risk consequences as opposed to TS clocks
 - Added features to assessment improve quality of risk assessment
 - As a consequence of the rigid definition of OPERABILITY risk assessments may result in significant benefits without significantly altering plant risk profile
 - Graded application encourages enhancement of PSA scope and capability
 - Fewer Applications for NOEDs

BACKUP Slides

