Efficiency Opportunity

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Efficiency Opportunity: 18–EG–03

Maintenance Rule Program Efficiencies

Provide the utilities with recommended efficiencies that support the implementation and monitoring of a maintenance effectiveness program that complies with 10 CFR 50.65, effectively leverages utility resources, and is focused on equipment performance commensurate with safety.

Issue: Maintenance Rule programs create unnecessary burden in complying with 50.65

Summary of Efficiency Opportunity

- Desired end-state - The Maintenance Rule program will interface well with, and appropriately leverage, other station programs such as the corrective action program, configuration risk management, equipment reliability program, system health monitoring, work control, operations, and maintenance to reduce resources required to comply with 10 CFR 50.65.

- Value proposition (vision of excellence)

  Reduce hours associated with performance of Maintenance Rule implementation by:

  - optimizing the collection and usage of unavailability data to meet station needs
  - capitalizing on system monitoring and other data-driven techniques to identify trends
  - focusing causal evaluations commensurate with safety
  - reducing unnecessary duplicative effort in station programs

  Realigns focus on the effectiveness of the station's maintenance strategy with an emphasis on high safety significant systems. Use of a sophisticated approach to trending will reveal focused insights into the reliability of components. Provides more resources and more rapid attention to resolving high safety significant failures.

Relevant Standards

- ER.1 High levels of reliability are achieved for equipment that supports nuclear safety, plant reliability, and emergency response capability

Relevant Guidance

- 10 CFR 50.65, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants"
- NUREG-1526, "Lessons Learned from Early Implementation of The Maintenance Rule at Nine Nuclear Power Plants"
- NUREG-1648, "Lessons Learned From Maintenance Rule Baseline Inspections"

- NUMARC 93-01, Revision 2, “Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants”
- RG 1.160, Revision 2, “Monitoring the Effectiveness of Maintenance at Nuclear Power Plants”
- NEI 16-07, “Improving the Effectiveness of Issue Resolution to Enhance Safety and Efficiency”
- NEI 18-10, Revision 0, “Monitoring the Effectiveness of Nuclear Power Plant Maintenance”
- AP-913, Revision 6, “Equipment Reliability Process Description”

Recommended Industry Actions

- Using the guidance in NEI 18-10, revise applicable station procedures and processes, as appropriate. Change management plans are required and may include training, software changes, communication plans, bases documents, etc.
- When eliminating the use of availability criteria for demonstration under Maintenance Rule (a)(2), a reliable and efficient configuration risk management process must be implemented that records unavailability for the appropriate SSCs to ensure:
    - CDF trending can be leveraged to evaluate the balancing of availability and reliability in support of the required periodic Maintenance Rule (a)(3) assessment
    - Accurate unavailability data is available for PRA model updates

Change Management Considerations

Company Actions

- Procedure revisions
- Database/software changes
- Training
- Potential scoping review
- Alternate unavailability capture to support PRA updates (Ops Logs automatic updating of configuration risk management software)
- System health report modifications
- (a)(3) planning
- CDF Trending Evaluation
- Review NFPA 805 interface with respect to unavailability monitoring
- Identify metrics required to monitor implementation effectiveness

Guiderails

- Frequent and consistent communications with the NRC with both regional inspection staff and the program office
- Monitor trends of both high safety significant (HSS) and low safety significant (LSS) SSCs after implementation to ensure the new approach continues to demonstrate effective maintenance.
- Continue to effectively implement equipment reliability programs consistent with guidance provided in AP-913 to ensure that all SSCs scoped into 50.65 can perform their intended functions.
- Continue to monitor and trend all SSCs scoped into 50.65 consistent with guidance provided in NEI 16-07.
- Evaluate station licensing basis to ensure that any commitments to NUMARC 93-01 and RG 1.160 are not affected by guidance in this efficiency opportunity or in NEI 18-10.

Industry Review:

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