

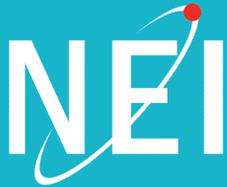
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September 14, 2017

**INDUSTRY  
PERSPECTIVES  
ON DRAFT  
SERVICE LIFE  
REGULATORY ISSUE  
SUMMARY**

# TODAY'S AGENDA

- Introduction of industry team
- Context and overarching industry concerns
  - Evolution of industry concerns with Service Life RIS
- Potential issues with current draft
  - Over-reliance on vendor maintenance recommendations
  - Insufficient consideration of Preventative Maintenance Programs and Maintenance Rule
- Station and fleet perspectives
- Closing remarks



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**Jerry Bonanno**

Associate General Counsel,  
Nuclear Energy Institute

**Darani Reddick**

Regulatory Affairs Manager &  
Assistant General Counsel,  
Exelon Corporation

**CONTEXT &  
OVERARCHING  
INDUSTRY  
CONCERNS**

# CONTEXT

- Regulatory Issue Summaries used to “communicate and clarify NRC technical or policy positions on regulatory matters that have not been communicated to or are not broadly understood by the nuclear industry. . . .”\*
- Given the evolution of the regulatory issues addressed by the RIS, review of the document should focus on whether it adequately communicates and clarifies the agency’s positions

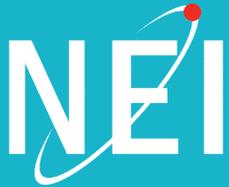
\*<https://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/>

# OVERARCHING **INDUSTRY CONCERN**

- Traditionally, from a backfitting perspective, review focused on identifying explicit statements communicating new or different staff positions
- **But lack of clarity on key regulatory issues can also result in the imposition of unanalyzed backfits in the field**

# OVERARCHING **INDUSTRY CONCERN**

- Imposition of new or different staff positions on the treatment of vendor replacement or refurbishment information could result from lack of clarity regarding:
  - Appropriate classification of vendor information
    - Misclassifying vendor information as design basis or supporting design basis information affects the regulatory consequences of not conforming to vendor recommendations
  - Relevance of existing programs and requirements
    - An overly narrow view of relevant programs and requirements can result in evolving standards regarding the need to conform to vendor recommendations, as well as the level of documentation and formality of evaluations required to disposition such recommendations



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**Steve Meyer**  
Regulatory Affairs  
Functional Area Manager,  
STARS Alliance

# VENDOR MAINTENANCE RECOMMENDATIONS

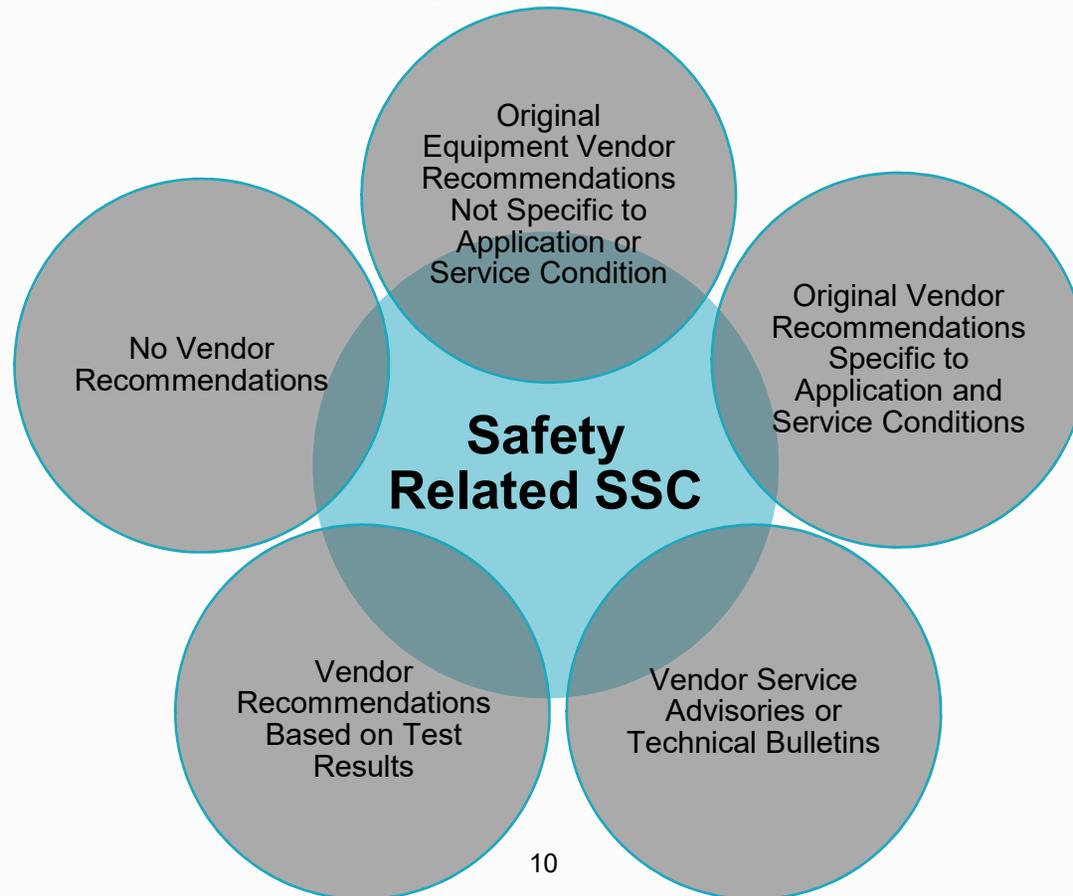
# VENDOR MAINTENANCE RECOMMENDATIONS

- Draft RIS discusses the time period that a safety-related SSC is installed which continues a message from withdrawn TIA 2014-01 regarding vendor recommendations:
  - “...inspectors identified examples of structures, systems, and components that were in operation beyond the service life specified in vendor manuals...”
  - “TIA documents the existing regulatory position... regarding safety-related SSCs that have been in service longer than their documented service life, as specified in the licensee’s 10 CFR 50.2 design bases or supporting design information...”
  - “...when a safety-related SSC’s service life has been exceeded or the licensee becomes aware of information that challenges the documented or licensee presumed service life, the licensee must promptly address and document this nonconforming condition...”

# VENDOR MAINTENANCE RECOMMENDATIONS

- Draft RIS conflates vendor recommendations with plant design information
  - Consequence – An incorrect conclusion may be reached that deviations from vendor recommendations results in a loss of quality unless the licensee has performed a technical evaluation to justify the deviation
  - Consequence – An incorrect conclusion may be reached that vendor recommendations are required to be followed in order to maintain ongoing qualification of components in mild environments

# VENDOR MAINTENANCE RECOMMENDATIONS

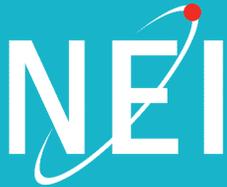


# EXAMPLES OF RECOMMENDATIONS

- “The frequency of the inspection and maintenance operations required should be determined by each operating company and will depend on the application of the breakers and the operating conditions.”
- “Factors which should be considered are: Importance to overall plant or system operation; number of operations and magnitude of currents switched by breaker; frequency of fault interruptions; and the atmospheric conditions in which the breaker normally operates.”
- “Breakers used for switching arc furnaces or capacitors will require more frequent and more detailed inspection and maintenance because of the repetitive nature of the applications.”
- Examples where no vendor replacement or refurbishment recommendations are provided.

## INDUSTRY RECOMMENDATION

The RIS should explicitly state that vendor information is rarely considered plant design information and should not be treated as such. Insinuation that 10 CFR 50.2 and Criterion III applies to vendor information should be removed.



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**Marty Murphy**

Director,  
Nuclear Regulatory Affairs & Licensing  
Xcel Energy

**Vince Bacanskas**

Director and Chief Engineer  
Entergy Services, Inc.

**Jaime McCoy**

Vice President, Engineering  
Wolf Creek Nuclear Operating  
Corporation

**EXISTING  
LICENSEE  
PROGRAMS**

# EXISTING LICENSEE PROGRAMS

- Draft RIS fails to consider pertinent programs which implement regulatory requirements and guidance for maintenance of SSCs
  - Consequence – The RIS may impose a new staff position which negates existing positions on the adequacy of preventive maintenance and surveillance activities to maintain equipment in mild environments
  - Consequence – An incorrect conclusion may be reached that vendor-provided information should be given greater consideration than actual, performance-based component performance history

# QUALITY ASSURANCE

- Reg Guide 1.33, Rev. 2, Appendix A, 9.b
  - Preventive maintenance schedules should be developed to specify lubrication schedules, inspection of equipment, replacement of such items as filters and strainers, and inspection or replacement of parts that have a specific lifetime such as wear rings.
- ANSI N18.7-1976
  - A preventive maintenance program...shall be established and maintained. A preliminary program based on service conditions and experience with comparable equipment should be developed. The program should be revised and updated as experience is gained with the equipment.
- NQA-1, 1994, Subpart 2.18
  - Equipment shall be evaluated to determine its preventive maintenance requirements. That evaluation shall include vendor recommendations as delineated in their Technical Manual and Bulletins, applicable industry standards and operational experience, and maintenance experience and equipment history files. Equipment shall be monitored and evaluated for degradation of performance because of age, as appropriate.

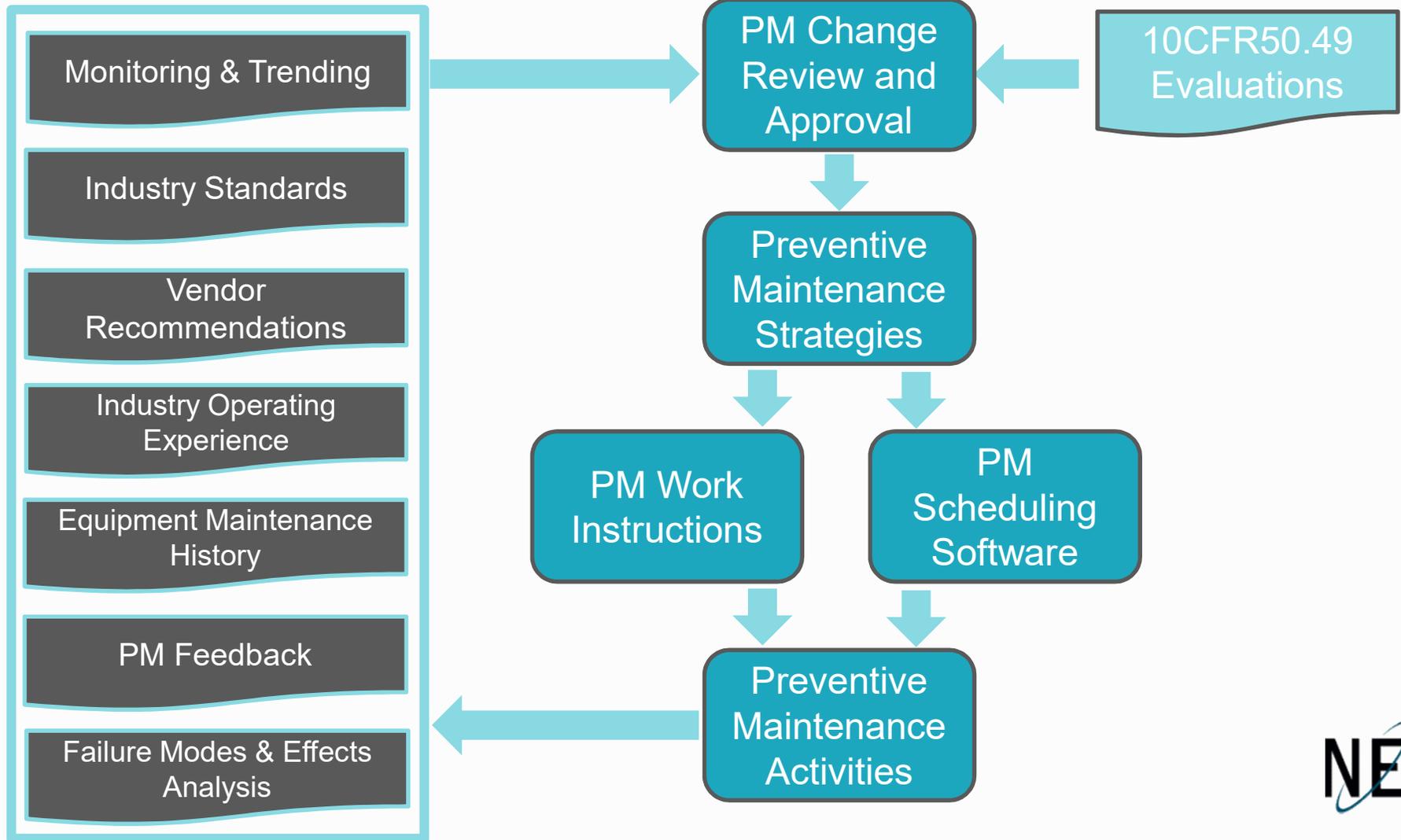
# EQUIPMENT IN MILD ENVIRONMENTS

- NUREG-0800 Section 3.11
  - “A well-supported maintenance/surveillance program, in conjunction with a good preventive maintenance program, is sufficient to ensure that equipment that meets the design/purchase specifications is qualified for the designed life.”
- This represents the current staff position that existing quality assurance programs for preventative maintenance ensure the reliability of SSCs in mild environments.
- Vendor information is an element of a “well-supported” maintenance program to ensure reliability, but not an input to maintain ongoing qualification of components in mild environments.

# MAINTENANCE RULE

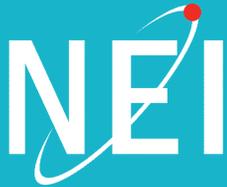
- NUREG-0800 Section 3.11
  - Compliance with 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," and associated guidance in Regulatory Guide 1.160 are **sufficient to provide reasonable assurance** that environmental considerations established during design are reviewed every refueling outage and maintained on a **continuing basis to ensure that the qualified design life has not been reduced** by thermal, radiation, and/or cyclic degradation resulting from unanticipated operational occurrences or service conditions. **Modification to the replacement program and/or replacement of equipment should be based on the review of maintenance/surveillance data.**

## Inputs to PM Strategies



## INDUSTRY RECOMMENDATION

The RIS should explicitly state that “A well-supported maintenance/surveillance program, in conjunction with a good preventive maintenance program, is sufficient to ensure that equipment that meets the design/purchase specifications is qualified for the designed life.”



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**Mike McBrearty**

Manager, Licensing  
TVA - Sequoyah

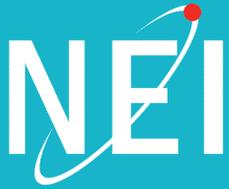
**Jaime McCoy**

Vice President, Engineering  
Wolf Creek Nuclear Operating  
Corporation

**Vince Bacanskas**

Director and Chief Engineer  
Entergy Services, Inc.

# STATION & FLEET PERSPECTIVES



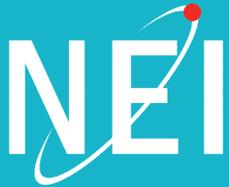
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# CLOSING REMARKS

# INDUSTRY RECOMMENDATIONS

The RIS should **explicitly** state that:

- Vendor information is rarely considered plant design information and should not be treated as such. Insinuation that 10 CFR 50.2 and Criterion III applies to vendor information should be removed.
- “A well-supported maintenance/surveillance program, in conjunction with a good preventive maintenance program, is sufficient to ensure that equipment that meets the design/purchase specifications is qualified for the designed life.”



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