

# efficiency bulletin

July 10, 2017

Efficiency Bulletin: 17-16

## Industry Coordination of Categorization and Alternative Treatments for 10 CFR 50.69 Implementation Plans

In parallel with implementing EB 17-09, develop a strategic plan for implementing 10 CFR 50.69 and institute management-established goals for milestones and deliverables. Share implementation plans with the industry to gain alignment, consistency and efficiency, and identify opportunities for sharing resources.

Performance of categorization and establishment of alternative treatments are to be accomplished in accordance with management goals and NEI guidance and are not within the scope of this EB.

**Addressees:** Chief nuclear officers, NEI APCs and INPO APCs

**Issue:** RIO-01b, Industry-Wide Implementation of 10 CFR 50.69: Categorization and Alternative Treatment

### Summary of Efficiency Opportunity

- Desired end-state—Sites have a fully developed 50.69 implementation plan, schedule and management-established goals for realizing the alternative treatment benefits. The framework/infrastructure for implementation (e.g., resources, procedures, integrated decision-making panel (IDP) training material, performance monitoring measures/budget) has been established and is aligned with industry-developed materials. A consistent industrywide infrastructure will reduce costs of implementation through the mitigation of regulatory risks as it is focused on the main areas that the NRC may inspect: procedures, training and documentation.

Color Code: Blue  
Due: December 2018

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- Value proposition (vision of excellence)—Coordinated industry implementation ensures efficient use of industry resources and reduces costs. Sharing implementation plans, categorization results and alternative treatments will benefit the industry as a whole in both consistency and efficiency. It optimizes savings, reduces regulatory risk and improves the market for procuring parts while increasing focus on safety-significant equipment.
- Why is it important?—To be successful, sites must develop implementation plans, so the industry can compare and find efficiencies.
- Industry benchmark value(s)—This EB supports industry coordination of 50.69 implementation, which is expected to reduce significant operational costs related to procurement of parts, maintenance, inspections, testing and reporting. Based on industry experience, 75 percent of safety-related components are expected to be categorized as low safety significant. Specific costs savings are site-specific and based on reactor design, number of systems categorized, and the alternative treatments implemented.
- Measure of effectiveness—
  - Percent of stations that develop an implementation plan.
  - Percent of stations that share their plan through NEI.
  - Station or utility estimate of person-hours that would have been spent self-developing implementation infrastructure to actual person-hours spent utilizing industry coordination.
  - Number of shared products utilized in development of station or utility implementation plan.

## Relevant Standards

- INPO 10-005, Principles for Maintaining an Effective Technical Conscience.
  - Principle 5: Engineers present technical considerations to decision-makers and insist on conservative decisions related to nuclear safety. They escalate concerns to appropriate levels of management. For decisions related to plant reliability, engineers understand and accept decisions based on facts and appropriate consideration for the potential risks to plant reliability. In all cases, engineers understand that risk-based decision-making may not result in selecting the most conservative option.
- INPO 15-011, Principles for Excellence in Integrated Risk Management
  - Principle 4: A consequence-biased approach is applied to risk determination, and decision-making reflects an intolerance for unacceptable end states.
- INPO Performance Objectives and Criteria
  - Technical Authority (EN.2): Engineering personnel recognize and accept their responsibility to address plant technical issues and act as the site technical conscience. They uphold the plant design and licensing bases and ensure a margin of safety is maintained.
  - Performance Objective CO.2, Criterion 11: Corporate policy clearly defines unacceptable risk conditions and includes procedures to minimize and manage risk. Integrated risk considerations include, but are not limited to, nuclear, radiological, industrial safety, and environmental safety.

### Key to Color Codes:

Red: NSIAC initiative – full participation required for viability

Blue: Action expected at all sites, but is not needed for broad industry viability

Green: Utility discretion to implement, consistent with its business environment

## Relevant Regulatory Requirements

- 10 CFR 50.69, Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors.
- Regulatory Guide 1.201, Guidelines for Categorizing Structures, Systems, and Components In Nuclear Power Plants According to Their Safety Significance
- Regulatory Guide 1.200 R2, An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities
- Any site-specific requirements committed to in license amendment request (LAR) or noted in NRC safety evaluation.

## Guidance

- NEI 00-04, "10 CFR 50.69 SSC Categorization Guidance"
- NEI 16-09, "Risk Informed Engineering Programs (50.69) Implementation Guidance"

## Recommended Industry Actions

- Establish a senior management sponsor and allocate appropriate resources to develop implementation plan and schedule.
- Using the guidance in NEI 16-09, develop an implementation plan that includes the following:
  - systems to be categorized and prioritized based on efficiency benefits
  - alternative treatments to be pursued and prioritized
  - resources necessary to implement categorization and alternative treatments
  - change management actions
  - budget required to execute the plan
  - schedule for implementation
  - mechanism for tracking savings.
- Develop implementation infrastructure:
  - Develop categorization procedures consistent with NEI 00-04 and NEI 16-09.
  - Utilize System Categorization Document Template in NEI 16-09 Appendix C to document the categorization of systems (living version of template resides on NEI webpage: [www.nei.org/riep](http://www.nei.org/riep)).
  - Develop alternative treatment "how to apply" process procedures consistent with NEI 16-09.
  - Training material developed (at a minimum, standardized IDP training).
- Establish utility management goals and metrics for implementation.
- Share implementation plan with the industry.

## Change Management Considerations

### *Industry Activities*

- Owners groups (PWROG and BWROG) consider generic system categorizations and recommendations for alternative treatment development.
  - Share results and generic categorization plans with the NEI Risk Informed Engineering Programs (50.69) Task Force.
- EPRI to conduct periodic categorization training workshops and develop alternative treatment guidance.

- NEI to maintain a Risk Informed Engineering Programs (50.69) Task Force webpage to facilitate information sharing and updates on industry activities.
- Industry webinar to provide background for initiative, industry peer discussion, and an open forum to clarify expectations and ask questions. Webinar information: <https://web.inpo.org/Pages/Nuclear-Promise-Issues.aspx>

#### *Company Actions*

- Provide utility and station training on the implementation process and benefits.
- Perform periodic effectiveness reviews to promote continuous learning and to improve risk management across the organization.
- Participate in the NEI Risk Informed Engineering Programs (RIEP) Task Force.
  - Provide a utility point of contact.
  - Communicate any issues encountered with the NRC via inspections, audits, etc.
- Utilize NEI's RIEP Task Force webpage ([www.nei.org/riep](http://www.nei.org/riep)).
  - Share implementation plans.
  - Share categorization documentation and results.
  - Share alternative treatment plans.
  - Share periodic reviews conducted per NEI 16-09.

#### *Guidelines*

- The implementation plan ensures the 50.69 process is consistent with the LAR, NEI 00-04 and NEI 16-09.
- In categorizing components and systems, a consequence-biased approach is applied to risk determination, and decision-making reflects intolerance for unacceptable end states.
  - In addition to safety, the impact on reliability is appropriately factored in decision-making.
- Training and Proficiency: The individuals involved in categorization process are adequately trained and are collectively proficient in PRA, safety analysis, plant operation, design and licensing basis, design engineering, and system engineering
- Learning Organization: Industry organizational effectiveness is adequately factored in decision-making.

### **Report Your Site's Results**

Please report your company's implementation of this improvement opportunity, including the date of completion. Send this information along with your company point of contact to [EfficiencyBulletin@NEI.org](mailto:EfficiencyBulletin@NEI.org).

### **Industry Contacts**


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**Industry Approval:**

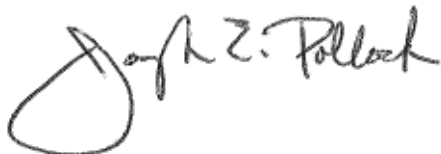
**Bob Bement, CNO Lead**

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