


Industry Efforts to Address Cumulative Effects of Regulation


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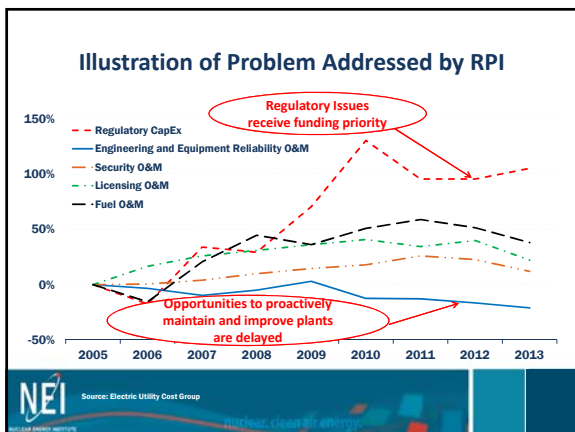
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Terminology

- Cumulative Effects of Regulation (CER)
 - An organizational effectiveness challenge that results from a licensee or impacted entity implementing a significant number of new and complex regulatory actions stemming from multiple regulatory actions, within a limited implementation period and with available resources.
- Risk Prioritization Initiative (RPI)
 - Provides approaches for allowing licensees to propose to the NRC a prioritization of the implementation of regulatory actions as an integrated set and in a way that reflects their risk significance on a plant-specific basis.



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Overview of Prioritization Approach

- Nuclear safety impact is the **primary focus**
- **SDP** thresholds are used (reverse perspective)
- Regulatory issues and plant-initiated activities are characterized into **broad categories** spanning a decade of risk
- Screening questions are risk-informed adaptations of NEI 96-07 (10 CFR 50.59) guidance
- Definition of **"more than minimal"** is consistent with RG 1.174 and 50.59 guidance
- Cost/benefit and personnel burden reduction are possible tie-breakers or adjustments at the end of the process.



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Key Elements and Features of Prioritization

- Generic characterization of regulatory issues by expert team
 - Problem statement and potential solutions
 - Assignment of generic priority if appropriate
 - Considerations for plant-specific prioritization
- Plant-specific evaluation
- Formal plant review by Integrated Decision-making Panel like 50.65, 50.69, RITS 5b



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Importance Characterization

- 5 categories
 - Nuclear Safety
 - Security (includes cyber)
 - Emergency Preparedness
 - Radiological Protection
 - Reliability of SSCs



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Safety Importance Characterization

- Step 1: No Impact or Adverse Impact?
- Step 2: Minimal Impact?
- Step 3A: Relative Impact versus Current Relative Risk
 - Very Low
 - Low
 - Medium
 - High
- Step 3B: Quantitative





Table 3-1 Matrix by Current Risk and Potential Impact

UB is upper bound of the risk range; Mid is "mid-range" (0.5 times UB); LB is factor of 10 lower than UB


Current Risk associated with Issue	Potential Impact of Action Resolving Issue (Reduction in Risk)				
	None	Very Small/Minimal	Small	Medium	High
	0%	0 to 25%	25 to 50%	50% to 90%	>90%
	Importance				
Green (VL) LB	Very Low	Very Low	Very Low	Very Low	Very Low
Green (VL) Mid	Very Low	Very Low	Very Low	Very Low	Very Low
Green (VL) UB	Very Low	Very Low	Very Low	Very Low	Very Low
White (L) LB	Very Low	Very Low	Very Low	Very Low	Very Low
White (L) Mid	Very Low	Very Low	Low	Low	Low
White (L) UB	Very Low	Low	Low	Low	Low
Yellow (M) LB	Very Low	Low	Low	Low	Low
Yellow (M) Mid	Very Low	Low	Medium	Medium	Medium
Yellow (M) UB	Very Low	Medium	Medium	Medium	Medium
Red (H) LB	Medium	Medium	Medium	Medium	Medium
Red (H) Mid	High	High	High	High	High
Red (H) UB	High	High	High	High	High

The thresholds in the left column are consistent with the SDP and are (in units of per yr), for CDF:
 Green/White = 10⁻⁴,
 White/Yellow = 10⁻⁵,
 Yellow/Red = 10⁻⁶,
 and for LERF:
 Green/White = 10⁻⁷,
 White/Yellow = 10⁻⁸,
 Yellow/Red = 10⁻⁹.



Adjusting Licensing/Regulatory Schedules

- Assessment results used to support existing processes for re-scheduling
- Process an exemption request per 10 CFR 50.12 or 52.7
- Use commitment change process as described in NEI 99-04, Rev. 0, *Guidelines for Managing NRC Commitment Changes*



Conduct of Prioritization Pilot

- The prioritization and scheduling process was piloted at six sites
 - Davis-Besse, operated by FirstEnergy
 - Hatch, operated by Southern Nuclear
 - Palisades, operated by Entergy
 - Prairie Island, operated by Xcel Energy
 - Robinson, operated by Duke
 - V.C. Summer, operated by SCANA
- Pilots addressed 105 issues
 - 59 plant improvement activities
 - 46 activities driven by a regulatory requirement or plant commitment



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Pilot Results

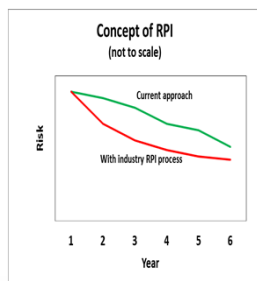
- Value seen in viewing varied projects through common risk-informed lens
- Pilots identified recommended changes to schedule/scope for both regulatory and plant-initiated activities
- NEI 14-10, *Guidelines for Prioritization and Scheduling Implementation*, released in November 2014 (ML14325A681)
- Final report on prioritization pilot issued in December 2014 (ML14349A375)



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Value Proposition of Prioritization

- Prioritization and associated scheduling actions allows plants to implement sooner some key plant improvements that have languished due to competing regulatory priorities
- Results in faster safety improvements
- A **WIN – WIN** Proposition



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