



Cumulative Effects of Regulation and Risk  
Prioritization Initiative: Operating Reactor Perspective  
Leading the NRC Staff - Risk Prioritization Initiative

Antonios M. Zoulis, Reliability and Risk Analyst  
PRA Operational Support and Human Factors Branch  
Division Risk Assessment  
Office of Nuclear Reactor Regulation

---

---

---

---

---

---

---

---

## Background

From SRM on RPI:

*"The Commission has approved an initiative to further explore the idea of enhancing safety by applying probabilistic risk assessment (PRA) to determine the risk significance of current and emerging reactor issues in an integrated manner and on a plant-specific basis."*

- ✓ Request NRC staff to develop a Notation Vote Paper
- ✓ Explore ideas on a process to incentivize Level 1, 2 PRA use
- ✓ Consider rulemaking options (voluntary) and resource estimates
- ✓ Address issue management (i.e., should not perpetually defer)
- ✓ Consider how inspection and compliance issues should be treated
- ✓ Should be risk-informed, i.e., follow NRC risk framework



---

---

---

---

---

---

---

---

## Background (Cont'd)

*Nuclear safety is advanced when licensees and the staff focus their time, attention, and resources on the issues of greater safety significance at each plant – i.e. addressing the most safety significant issues first.*



---

---

---

---

---

---

---

---

## Background (Cont'd)

- Public/Industry Interactions:
  - Draft Guidance developed by NEI
  - Generic and Plant-specific Tabletops
  - March 2014 RIC Technical Session
- COMSECY to the Commission to merge CER & RPI
- Demonstration Pilots

---

---

---

---

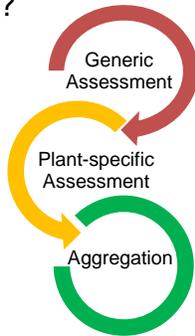
---

---

---

---

## What is Risk-informed Prioritization?



---

---

---

---

---

---

---

---

## Demonstration Pilots

- Prioritized regulatory issues:
  - National Fire Protection Association-805 modifications
  - Bulletin on Open-phase (Bulletin 2012-01)
- Plant initiatives:
  - Emergency Diesel Generator System Improvements
  - High Pressure Control Injection System Improvements

---

---

---

---

---

---

---

---

## Next Steps

- Roll-up of lessons-learned from above efforts are folded into March 2015 paper that develops and proposes options for RPI (Draft paper submitted to ACRS is publically available under ADAMS accession no. ML15036A181)

---

---

---

---

---

---

---

---

## Next Steps (Cont'd)

- Proposed options include continue CER efforts and:
  - Propose a pilot to explore an NRC expert team to evaluate and prioritize issues using risk insights
  - Augment existing regulatory processes with a RPI methodology
  - Enhance future rulemaking to incorporate flexible implementation schedules
  - Propose rulemaking to allow additional flexibility for scheduling based on level of PRA

---

---

---

---

---

---

---

---

## References

- SRM to COMGEA-12-0001/COMWDM-12-0002 – “Proposed Initiative To Improve Nuclear Safety And Regulatory Efficiency,” dated February 6, 2013 (ADAMS Accession No. ML13037A541)
- COMSECY-14-0014 – “Cumulative Effects of Regulation and Risk Prioritization Initiative: Update on Recent Activities and Recommendations for Path Forward,” dated April 9, 2014 (ML14086A729)
- SRM-COMSECY-14-0014 (July 18, 2014;ML14199A187)
- Staff’s Plan to Participate In Demonstration Pilots (July 20, 2014; ML14169A167)
- Summary of the NRC Staff Observations on NEI Demonstration Pilots (October 31, 2014; ML14302A269)
- NEI Report on Prioritization and Scheduling Pilot (December 15, 2014; ML14349A375)
- Information about RPI: [www.regulations.gov](http://www.regulations.gov) (Docket ID: NRC-2013-0064)

---

---

---

---

---

---

---

---



## Questions?

- For more information contact:
  - Antonios M. Zoulis
  - 301-415-1209
  - [antonios.zoulis@nrc.gov](mailto:antonios.zoulis@nrc.gov)

---

---

---

---

---

---

---

---