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Industry Perspectives on NFPA 805

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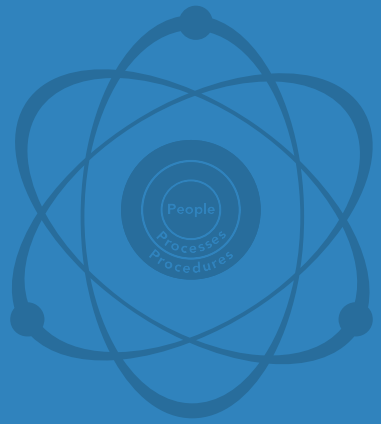


NFPA 805 Historic Experiences

- **Unpredictability of expectations**
- **Cost and schedule challenges**
- **Resource Challenge**
- **Planning Challenges**

Result is $M of added cost, high level of rework, reduced NRC and industry resources, and uncertainty regarding the final outcome

Highlights – What's Going Well?

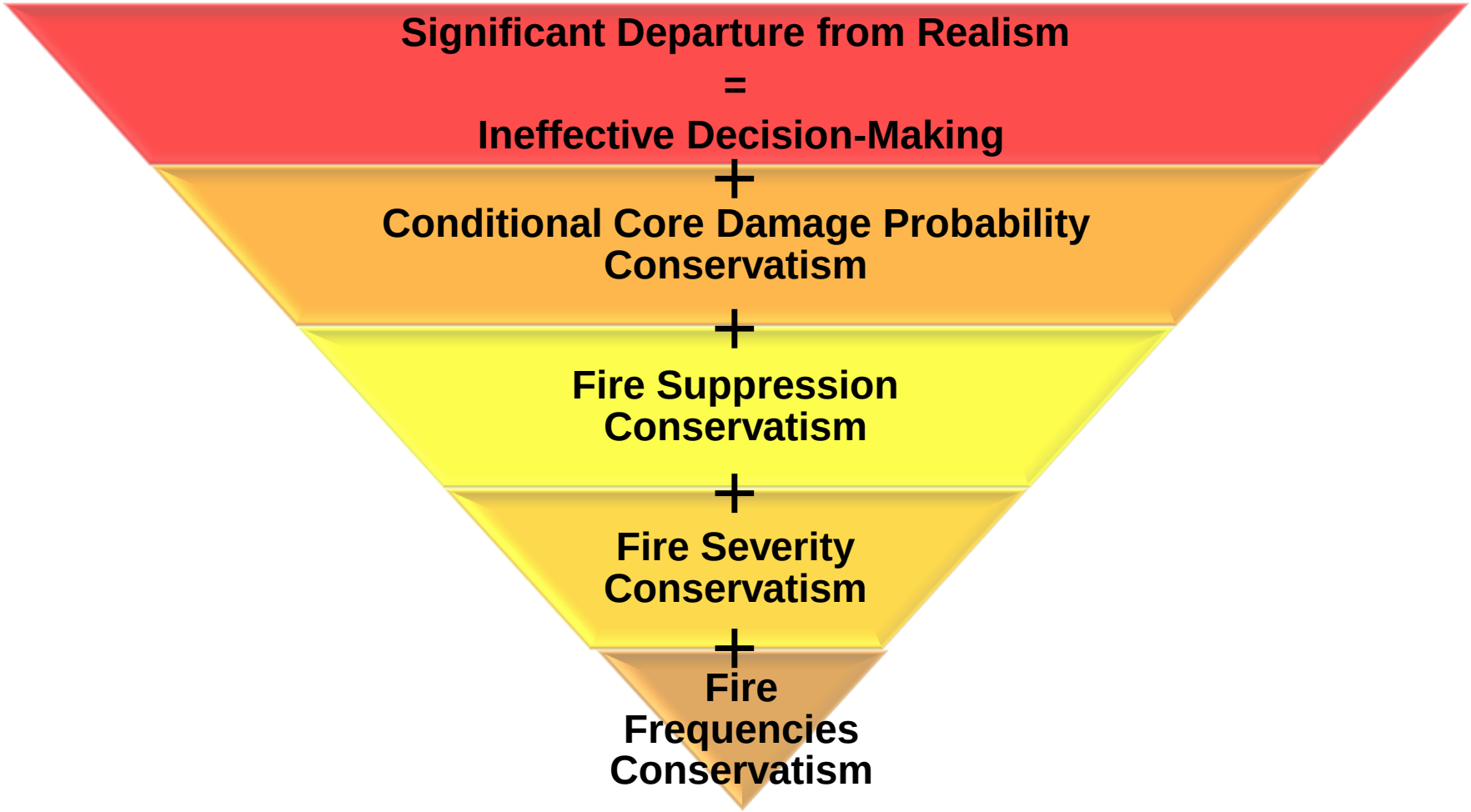
- **Improved understanding within Industry and NRC**
- **Openness to reviewing the process and seeking common ground to make things better**
  - Lessons learned meeting (October 2013)
  - RES and EPRI renewed working relationship
  - Plans for audit schedule changes and better focused RAIs
  - Fire PRA and NFPA 805 FAQ process improvements
- **Leadership engagement**
  - A high level of Leadership Engagement has been required to ensure the process moves forward with consistency

Incremental vs. Transformative Progress is being made

Industry Concerns

- **Fire PRA risks are over-stated – do not comport with OPEX – distorts safety and investment priorities**
- **NFPA 805 brings higher O&M cost compared to Appendix R without perceived commensurate improvement in safety**
- **Cost of LAR, SE development and compliance modifications significantly exceeds NRC and Industry estimates**
  - RAI Volume
  - PRA development resources
  - Modifications driven by conservative Fire PRA results
- **Need for Site Specific vs. Generic RAIs to better focus industry and NRC resources**

Large Conservatism in Fire PRA



Compounding conservatism reduces effectiveness of decision making tool

Current Hard Spots

- **Significant room for improvement of Processes:**
  - Must support timely State of Knowledge improvements
  - Imperative to address as majority of plants have yet to transition
  - Use Operating Experience Process to update models
    - Incorporate realistic data and methods
    - Establishment of freeze point for PRA
  - PRA peer review process must work and be trusted:
    - Majority of RAIs are derived from PRA
      - Refining results, not changing outcomes
      - Deterministic conservatism distorts PRA outcomes
    - Return to basics – use RG 1.200 to demonstrate PRA adequacy
    - Risk Informed Steering Committee Working Group to address

Future Concerns

- **Executive disillusionment with PRA**
  - Instability and uncertain outcomes
  - Time and resource drain
  - Unnecessary costs
  - Overstated risks results in skepticism about insights
- **Significant concern in industry for how NFPA 805 experience could affect and translate into other future Risk Informed Initiatives:**
  - NFPA 805 pilots were not effective at vetting out significant issues
  - We appear set up for similar experience with Seismic and Flooding PRA

Action is needed now to address hard spots and ensure success of future Risk Informed initiatives

Conclusions

- **Unpredictable process and over-stated risk hinders progress for RI programs and properly targeting safety improvements**
  - Need focus on long-term solutions as well as short-term process changes
  - When allowed to work, existing processes (peer review, use of OE and model updates) address PRA technical adequacy and incorporate state-of-knowledge
- **Risk Informed approaches must be an alternative, not another layer on top of deterministic processes**
- **Need improved alignment within NRC regarding the PRA Policy Statement to increase incentive for industry to expand use of Risk Informed approaches**
- **Continued NRC senior management engagement is key**

Significant progress requires addressing underlying Process and Culture issues