Update on Cumulative Effects of Regulation and Risk Prioritization Initiative

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Speakers

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Responsive to Commission Direction

- **Provided an update on CER activities for the agency (SRM-SECY-12-0137)**

- **Proposed use of risk insights to prioritize regulatory actions (SRM-COMGEA-12-0001/COMWDM-12-0002)**

- **Merged deliverables into one options paper (SRM-COMSECY-14-0014)**

Improving Safety by Addressing CER

- Increased public input through all phases of rulemaking
- Expanded use of risk insights to focus resources on the most risk-significant issues first
- Effectiveness and efficiency gained as a result

Focusing on Items of Greatest Safety Significance

- **Expanding the use of risk insights in decisionmaking**
  - RPI complements CER
  - If implemented, RPI could provide an effective tool to reduce unnecessary regulatory burden for operating reactor licensees on a generic and plant-specific basis

Improving Cost Estimation Accuracy

- Pilot use of contractors to perform independent cost estimates
- Update cost benefit guidance (per SECY-14-0002)

NMSS Implemented Additional Improvements

- **Engaging Agreement States in planning and evaluating initiatives**

- **Maintaining Integrated Schedule and holding quarterly meetings on Fuel Cycle regulatory activities**

Additional Staff Work Needed to Implement CER and RPI

- Develop infrastructure to support CER and RPI enhancements
- Achieve the desired level of quality and accuracy for our regulatory analyses

Options for Expanding CER
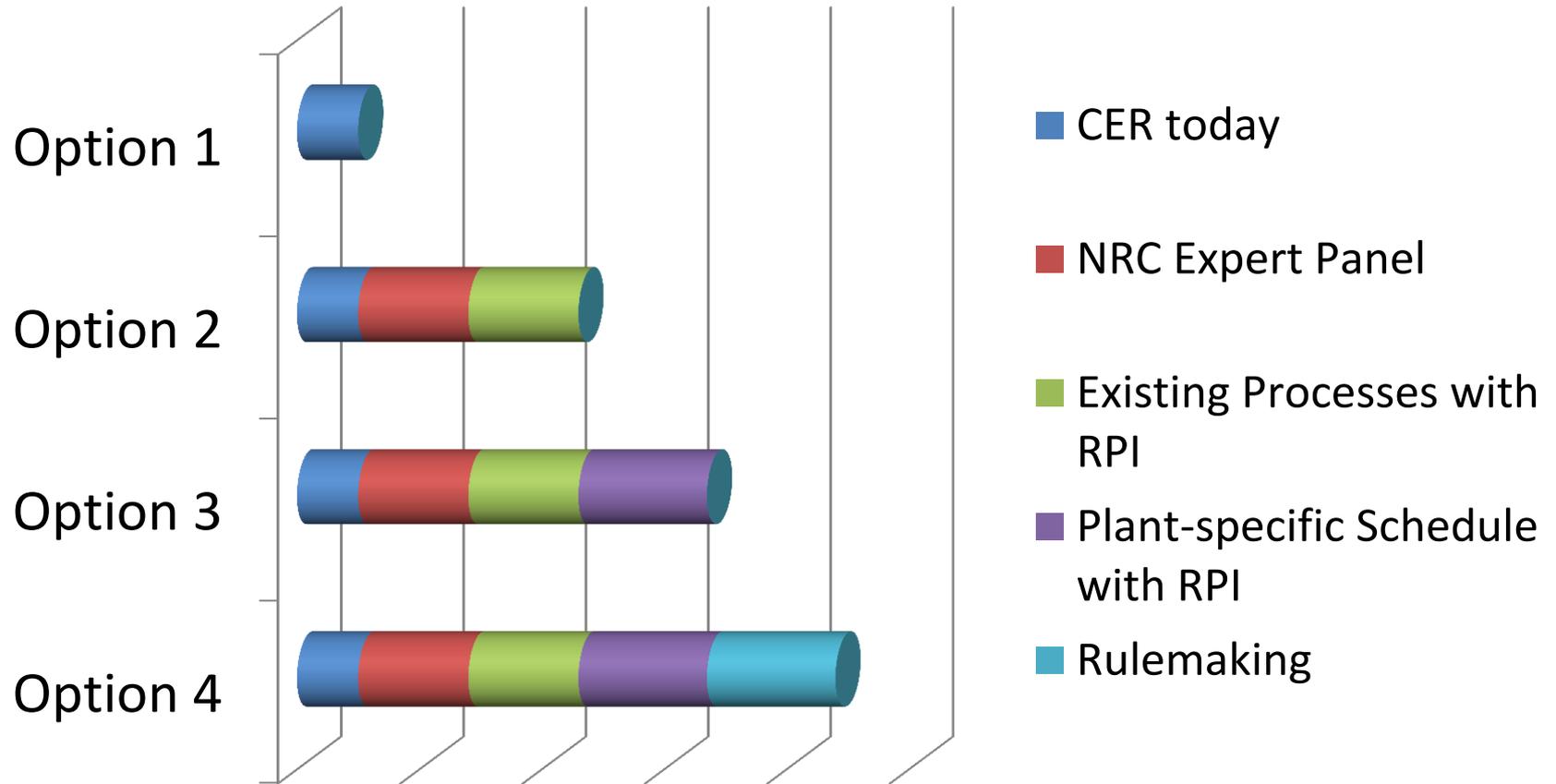
Options may be implemented in a phased approach

Improving Safety by Addressing CER (Option 1)

- Increasing stakeholder interactions

- Publishing supporting guidance concurrent with rules

- Requesting specific comment on CER in proposed rules

- Developing informed implementation timeframes

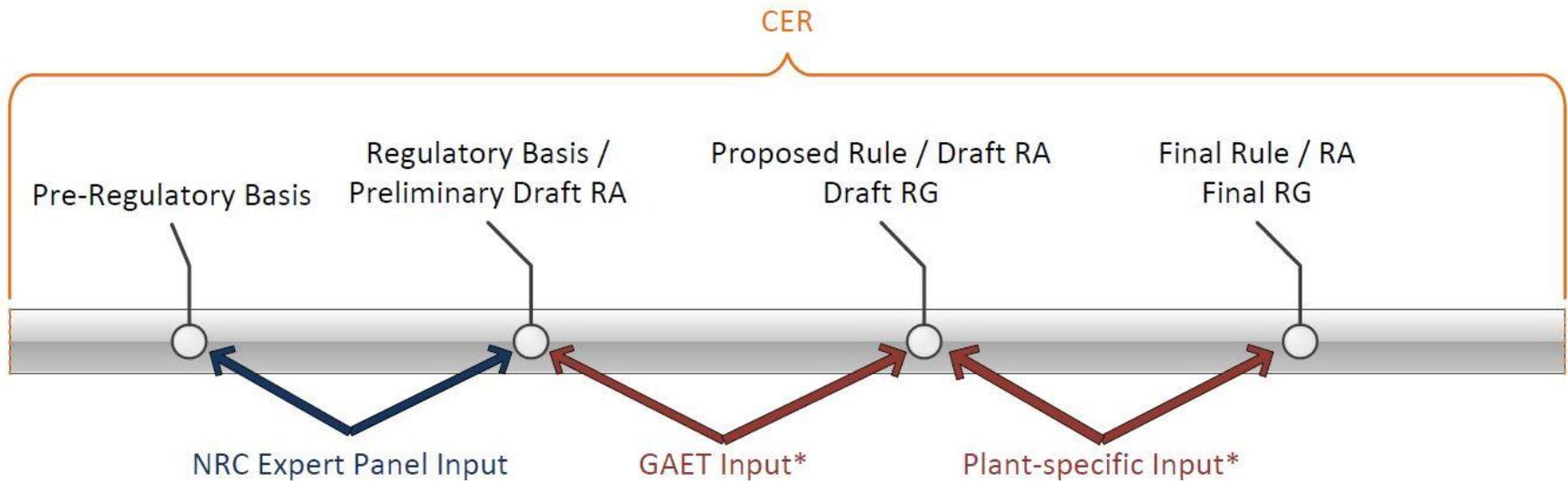# Expanding CER to Generic Letters (Option 1)

- Public feedback to expand CER to other regulatory actions

- Generic letter process already incorporates most aspects of CER

- Including CER questions in Federal Register notice for draft generic letters

Exploring the Use of an NRC Expert Panel (Option 2)

- **Make recommendations to prioritize (or eliminate) regulatory actions across operating reactors business line through expanded use of risk insights**

- **Ensure NRC's resources and skill sets are focused on the items of highest safety significance**

Increasing Interaction During Rulemaking

CER

Pre-Regulatory Basis

Regulatory Basis /
Preliminary Draft RA

Proposed Rule / Draft RA
Draft RG

Final Rule / RA
Final RG

NRC Expert Panel Input

GAET Input*

Plant-specific Input*

- NRC, Industry, and Public
- NRC
- Industry

* Plants may choose not to apply Generic Assessment or Plant-Specific Initiatives (voluntary)

Additional Considerations for Expert Panel

- **Concept not fully defined**
- **Charter would need to be established**
- **Schedule for regulatory actions could lengthen**

Nuclear safety is advanced when we focus on issues of greatest safety significance

- **Risk-informed prioritization focuses resources**

What is Risk-informed Prioritization?

Generic Assessment

Plant-specific Assessment

Aggregation
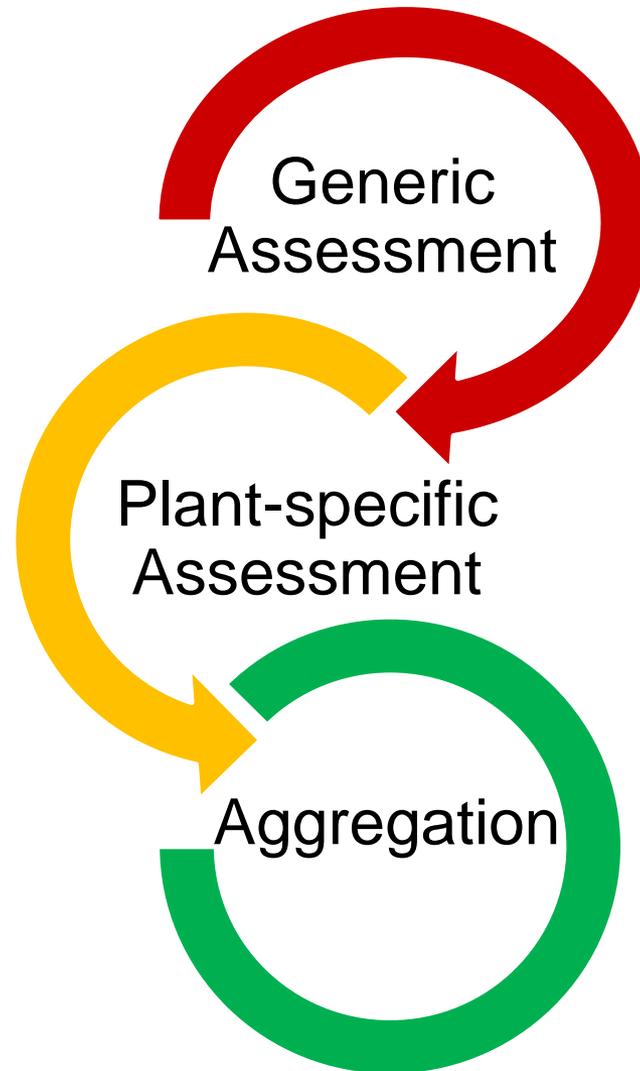
Engaging Stakeholders

- Public/Industry Interactions
- COMSECY to merge CER & RPI
- Demonstration Pilots

Demonstration Pilots address issues across Offices and Divisions

- **Inspection and Oversight**
- **Rulemaking**
- **Licensing**
- **Generic Issues and Communications**
- **Emergency Preparedness**
- **Radiation Protection**
- **Security**

Emergency Preparedness

Hold-down Spring Open Phase Protection

License Renewal Commitments

Rulemaking Generic Communications

NFPA 805 PRA Radiation Protection

Inspection Oversight

GSI -191 GL 08-01

NTTF Recommendations

Exemptions Licensing Changes

Security Cybersecurity
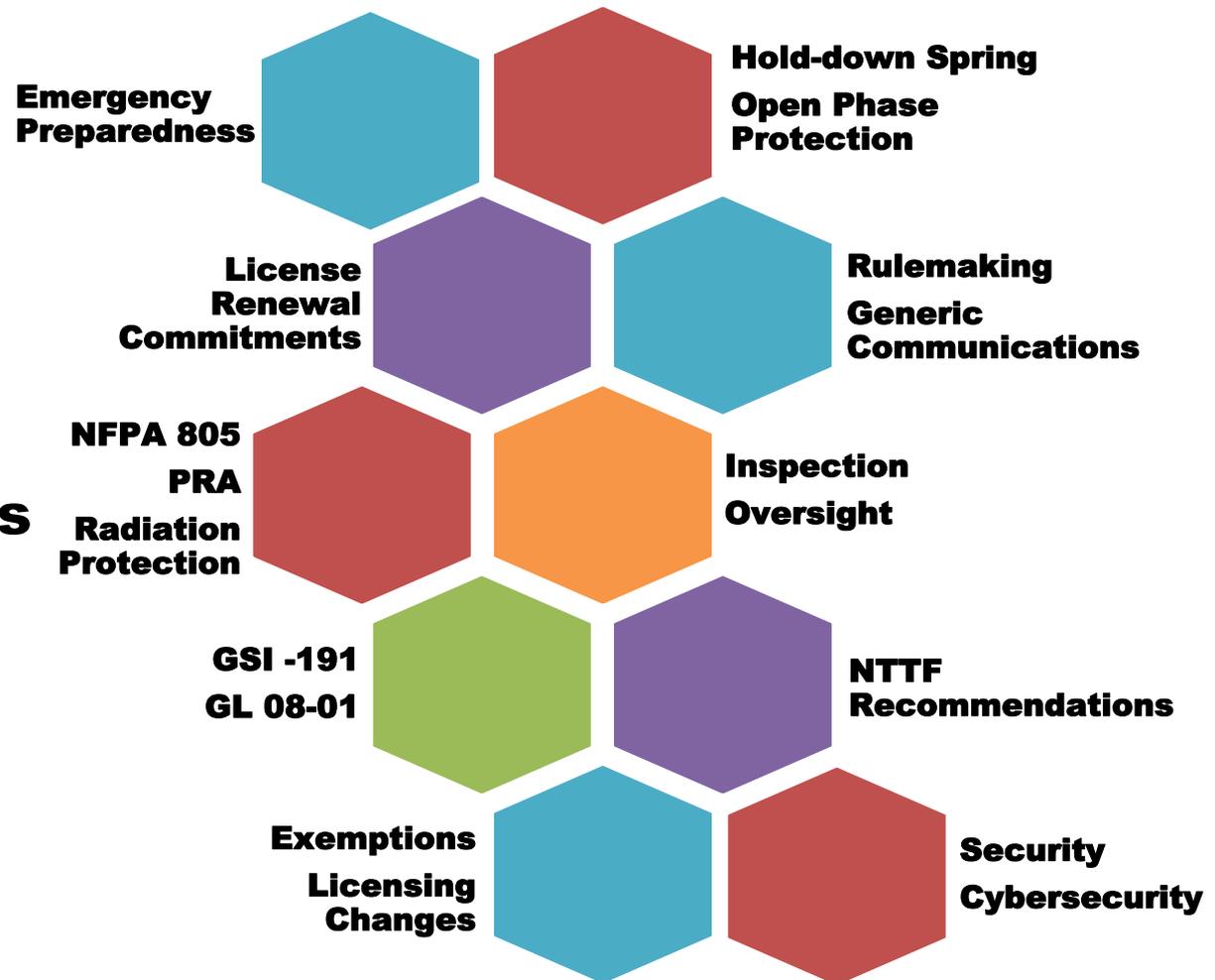
Augmenting Existing Processes with Risk Insights (Option 2)

NEI Guidance

NRC guidance that accepts NEI guidance (with exceptions and clarifications) (ISG/Reg. Guide)

Licensee Activities

Licensee (periodically) reviews issues to evaluate need for schedule modification

Licensee's documentation is prepared in accordance with Regulatory Guide

Submittal to NRC

Rules → **Licensee request exemptions (using § 50.12 or § 73.5 with template in NRC guidance)**

Orders → **Licensee request Orders relaxation (using template in NRC guidance)**

License Amendment → **Licensee request license amendment (using § 50.90 with template in NRC guidance)**

Others → **Licensee uses current applicable regulatory processes and justifies for schedule change**

Approval Process

Exemption approved for the licensee with NRC Letter issued by DORL

Order issued for the licensee with NRC Letter issued by DORL

License amendment issued for the licensee with NRC Letter issued by DORL

NRC Staff evaluated and addressed per applicable regulatory process

Developing Plant-specific Schedules for Rules (Option 3)

Proposed Rule

Licensees utilize the regulatory guide that endorses the risk prioritization methodology

Licensees could submit during the comment period of a proposed NRC regulation, a proposed plant-specific schedule to be codified in the text of the final regulation.
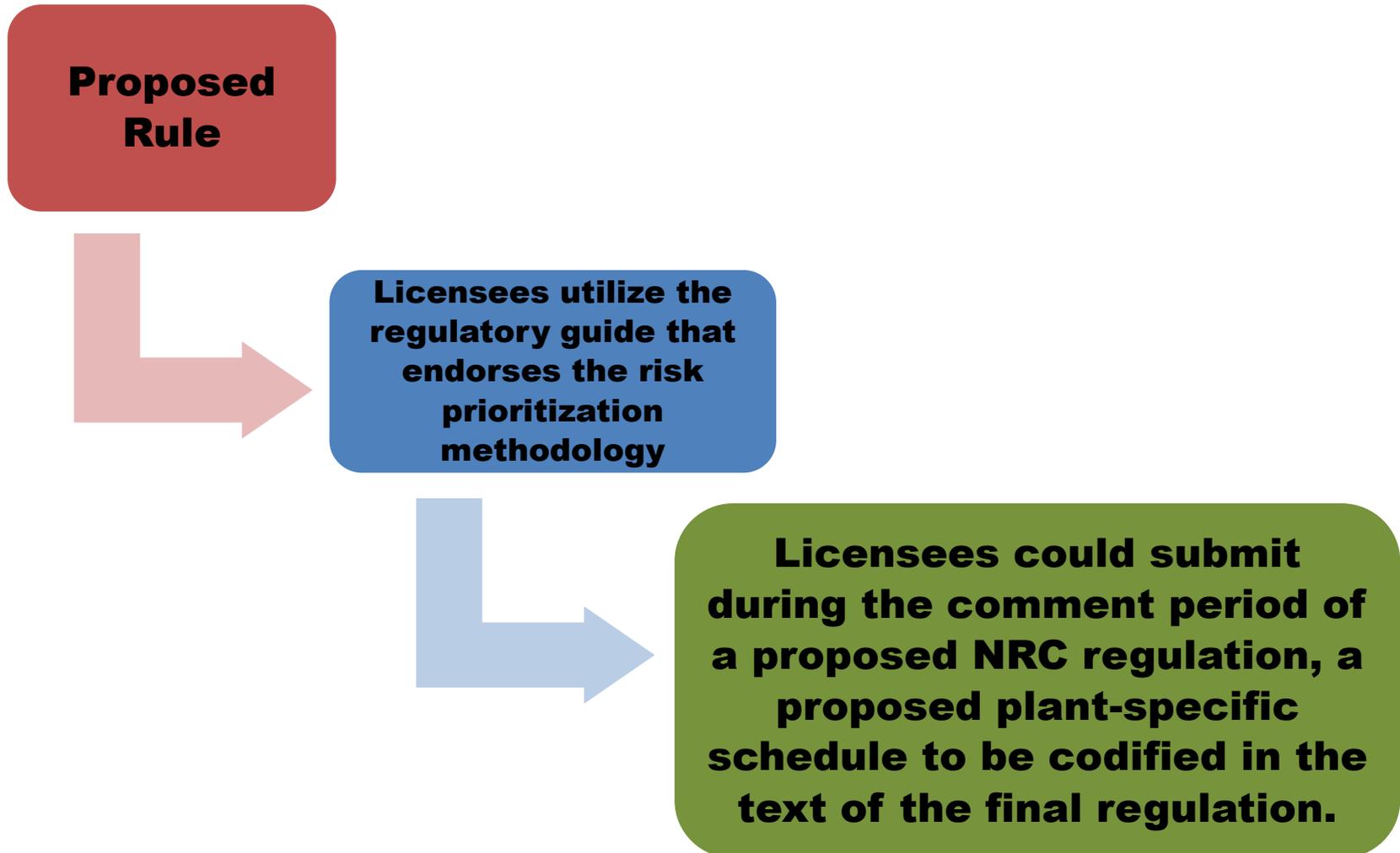
Developing a Rule To Implement RPI Process (Option 4)

- **Would allow scheduling flexibility for current and future regulations**
- **Would include a backstop to ensure issues are not continuously deferred**

Additional Considerations

- **Inspection, oversight and enforcement process could be impacted**
- **Additional resources would be needed to develop infrastructure**

Challenges to Risk-Informing Security and Emergency Preparedness/Incident Response

- Difficult to measure true risk due to uncertainty and lack of randomness of initiating events

- Focus on conditional risk and consequences

- Preparedness and response focus on mitigation of consequences, so address one element of risk

- Ongoing efforts to identify ways to better risk-inform security

Additional Considerations for Risk Informing Security

- **Need to use the correct risk model**
- **Timely detection and adequate delay are critical for security success**
- **Need to understand how security risk relates to safety risk**
- **Must be able to produce analytic results that are reproducible**

Staff Recommendations

- Augment existing processes with a risk-informed prioritization

- Explore an internal expert panel expanding the use of risk insights

- Pilot use of plant-specific implementation schedules for new rules

Conclusions

- **Several CER process enhancements already implemented**

- **Staff is recommending additional enhancements to better focus NRC and licensee resources on safety**

Acronyms

CER – Cumulative Effects of Regulation

DORL – Division of Operating Reactor Licensing

GAET – Generic Assessment Expert Team

GL – Generic Letter

GSI – Generic Safety Issue

ISG – Interim Staff Guidance

NEI – Nuclear Energy Institute

NFPA – National Fire Protection Association

NMSS – Office of Nuclear Material Safety and Safeguards

NRC – Nuclear Regulatory Commission

NTTF – Near-Term Task Force

PRA – Probabilistic Risk Assessment

RA – Regulatory Analysis

RG – Regulatory Guide

RIC – Regulatory Information Conference

RPI – Risk Prioritization Initiative

SRM – Staff Requirements Memorandum