



# **Briefing on the Progress of the Task Force Review of NRC Processes and Regulations Following the Events in Japan**

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**Executive Director for Operations**  
**May 12, 2011**

# **Agenda**

- **Overview**

**Martin Virgilio**

- **Task Force Activities**

**Dr. Charles Miller**

# **Actions to Date**

- **Status of event in Japan and NRC response**
- **Information Notice 2011-05, “Tohoku-Taiheiyou-Oki Earthquake Effects on Japanese Nuclear Power Plants”**

## **Actions to Date (Cont'd)**

- **Temporary Instruction (TI) 2515/183**
  - **Extensive damage mitigation guidelines (EDMGs)**
  - **Station blackout (SBO)**
  - **Seismic and flooding**
- **TI 2515/184 on severe accident management guidelines (SAMGs)**

# **Tasking Memorandum and Charter**

- **Tasking Memorandum – COMGBJ-11-0002, “NRC Actions Following the Events in Japan”**
  - **March 23, 2011**
- **Task force charter**
  - **March 30, 2011**

# **Review Strategy**

- **Near-term review**
  - **Formulate recommendations for near-term action**
  - **Identify a framework and topics for longer-term review**
  - **Provide report in July 2011**

# **Task Force Activities 30-Day Update**

**Dr. Charles L. Miller, Lead  
NRC Task Force**

# **Current Assessment**

- **To date the task force has not identified any issues that undermine our confidence in the continued safety and emergency planning of U.S. plants**
- **Task force review likely to recommend actions to enhance safety and preparedness**



# **Task Force Review Approach**

- **Systematic and methodical**
  - **Insights from past lessons learned efforts**
  - **Focused on Fukushima-related issues**
- **Defense-in-depth approach**
  - **Prevention, mitigation, emergency preparedness (EP)**

# **Task Force Decisionmaking**

- **Recommendations will be informed by:**
  - **Safety goals**
  - **Defense-in-depth philosophy**
  - **NRC Principles of Good Regulation**
  - **Existing technical requirements**
  - **Regulatory analysis guidelines**

# Prompt Actions

- **Task force requested an inspection of SAMG implementation**
- **Task force encouraged public release of guidance for developing EDMGs**

# **Scope of Review**

- **U.S. power reactors and their spent fuel pools**
- **Near-term and longer-term recommendations**

# **Areas of Focus**

- **Protection from design basis natural phenomena**
- **Consideration of beyond design basis natural phenomena**
- **Mitigation for long-term SBO**
  - **Including multiple unit events**
- **Emergency preparedness**
- **NRC programs**

# **Protection From Design Basis Natural Phenomena**

- **Evaluation of the design basis and safety margins for seismic, flooding, and other external events that could cause long-term SBO or loss of ultimate heat sink**
- **Consideration of related design basis external events**

# **Consideration of Beyond Design Basis Natural Phenomena**

- **Survivability of AC power during beyond design basis external events**
  - **Evaluation of emergency AC power and distribution**
  - **Evaluation of alternative sources of AC to power safety equipment in the event normal sources are lost**

# Mitigation

- **Mitigating the consequences of long-term SBO to:**
  - **Prevent core damage and containment failure**
  - **Prevent spent fuel damage and mitigate releases**



# **Considerations for Preventing Core Damage and Containment Failure**

- **Heat removal capability**
- **PWR reactor coolant pump seals**
- **Containment venting**
- **Hydrogen control measures**

# **Considerations for Preventing Spent Fuel Damage and Mitigating Releases**

- **Heat removal capability**
  - **Water cooling**
  - **Air cooling**
  - **Fuel inventory**
- **Hydrogen control measures**
- **Filtering, monitoring, and scrubbing releases**

# **Cross-Cutting Considerations for Mitigation**

- **Emergency operating procedures, SAMGs, and EDMGs**
  - **Integration**
  - **Training and exercises**
- **Personnel availability and safety**
- **Instrumentation**
- **Decision-making and command and control**

# **Considerations for Emergency Preparedness**

- **Evaluation of emergency plans considering:**
  - **Infrastructure damage**
  - **Multi-unit events**
  - **Long-term SBO**
- **Licensee dose projection and radiation monitoring**
- **Appropriate use of potassium iodide**

# **NRC Program Considerations**

- **Regulatory framework, including beyond design basis events**
- **Reactor licensing**
- **Operator licensing**
- **Reactor inspection**
- **Operating experience**
- **Information access/integration**

# **Information Gathering Examples**

- **Agency expertise**
- **NRC Operations Center and Japan site teams**
- **Inspection results**
- **Stakeholder input**
- **International cooperation**

# ***Next Steps***

- ***Evaluate TI 2515/183 and 184 results***
- ***Commission meetings***
  - ***June 15, 2011 status briefing***
  - ***July 19, 2011 final briefing***
- ***Near-term task force report in July 2011***

# **Acronym List**

- **AC – Alternating Current**
- **EDMG – Extensive Damage Mitigation Guideline**
- **EP – Emergency Preparedness**
- **NRC – Nuclear Regulatory Commission**
- **PWR – Pressurized Water Reactor**



## **Acronym List (Cont'd)**

- **SAMG – Severe Accident Management Guideline**
- **SBO – Station Blackout**
- **SFP – Spent Fuel Pool**
- **TI – Temporary Instruction**