U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Briefing on the Results of the Task Force Review of NRC Processes and Regulations Following the Events in Japan

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Agenda

- **Introduction**
  Martin Virgilio

- **Near-Term Task Force Results**
  Dr. Charles Miller

- **Longer-Term Review**
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Task Force

- **Leader**
  - **Dr. Charles Miller**
- **Members**
  - **Amy Cubbage**
  - **Dan Dorman**
  - **Jack Grobe**
  - **Gary Holahan**
  - **Nathan Sanfilippo**
- **Administrative Support**
  - **Cynthia Davidson**

Task Force Results

Dr. Charles L. Miller, Lead
NRC Near-Term Task Force

Current U.S. Plant Safety

- **Similar sequence of events in the U.S. is unlikely**
- **Existing mitigation measures could reduce the likelihood of core damage and radiological releases**
- **No imminent risk from continued operation and licensing activities**

Task Force Conclusions

- **A more balanced application of defense-in-depth supported by risk insights would provide:**
  - **Coherent regulatory framework**
  - **Systematic approach to low likelihood, high consequence events**
  - **Basis for redefining the level of protection regarded as adequate**

Focus Areas

- Regulatory framework
- Defense-in-depth philosophy
  - Protection from natural phenomena
  - Mitigation for long-term station blackout (SBO)
  - Emergency preparedness (EP)
- NRC programs

Recommendations

- **12 overarching recommendations**
- **Detailed recommendations support implementation**
  - **Policy statement**
  - **Rulemakings**
  - **Orders**
  - **Staff actions**
  - **Long-term evaluation**

Regulatory Framework Theme

Principles of Good Regulation promote a consistent, coherent, and reliable regulatory framework

Regulatory Framework

Recommendation 1

Establish a logical, systematic, and coherent regulatory framework for adequate protection that appropriately balances defense-in-depth and risk considerations

Protection Theme

Protection of equipment from the appropriate external hazards is a key foundation of safety

Protection

Recommendation 2

Require licensees to reevaluate and upgrade as necessary the design-basis seismic and flooding protection of structures, systems and components

Protection (Cont'd)

Recommendation 3

Evaluate potential enhancements to the capability to prevent or mitigate seismically induced fires and [internal] floods, as part of the NRC's longer-term review

Mitigation Theme

Mitigation equipment and strategies that prevent core or spent fuel damage provide additional defense-in-depth

Mitigation

Recommendation 4

Strengthen SBO mitigation capability for design-basis and beyond-design-basis external events

Mitigation (Cont'd)

Recommendation 5

Require reliable hardened vent designs in BWR facilities with Mark I and Mark II containments

Mitigation (Cont'd)

Recommendation 6

Identify insights about hydrogen control and mitigation inside containment or in other buildings, as part of the NRC's longer-term review

Mitigation (Cont'd)

Recommendation 7

Enhance spent fuel pool makeup capability and instrumentation

Mitigation (Cont'd)

Recommendation 8

Strengthen and integrate onsite emergency response capabilities

- Emergency operating procedures
- Severe accident management guidelines
- Extensive damage mitigation guidelines

Emergency Preparedness Theme

EP provides further defense-in-depth by minimizing public dose should radiological releases occur

Emergency Preparedness

Recommendation 9

Require that facility emergency plans address prolonged SBO and multiunit events

Emergency Preparedness (Cont'd)

Recommendation 10

Pursue additional EP topics related to multiunit events and prolonged SBO, as part of the NRC's longer-term review

Emergency Preparedness (Cont'd)

Recommendation 11

Pursue EP topics related to decisionmaking, radiation monitoring, and public education, as part of the NRC's longer-term review

NRC Programs

Recommendation 12

- **Strengthen regulatory oversight of licensee safety performance by focusing more attention on defense-in-depth requirements**

New Reactor Design Certification Reviews

- **AP1000 amendment and ESBWR**
  - **Proceed with design certification (DC) rulemaking**
  - **Combined license (COL) licensees confirm recommendations 4 and 7 (SBO and spent fuel pool)**
- **ABWR renewal, EPR, and APWR**
  - **Apply recommendations 4 and 7 before DC rulemaking**

New Reactor Combined License Reviews

- South Texas Project
  - Complete ABWR DC amendment rulemaking
  - Implement recommendations 4 and 7 during COL review before licensing
- All near-term COLs
  - Implement recommendations 8 and 9 (emergency procedures, EP) before operation

Operating License Reviews

- **Watts Bar 2 and Bellefonte 1 operating license applications**
  - **Implement recommendations 2 (seismic and flooding design basis), 4, 7, 8, and 9 before issuing the operating license**

Longer-Term Review Approach

- **Longer-term review will address:**
  - **Continued review of Fukushima accident**
  - **Areas for study identified by the near-term Task Force report**
  - **Applicability of Fukushima insights to other licensed facilities**
  - **Implementation of near-term actions**

Longer-Term Review Approach (Cont'd)

- **Engage stakeholders**
  - **Federal, state, and local partners**
  - **Internal**
  - **External**
- **July 28, 2011 public meeting**

Acronym List

- **BWR – Boiling Water Reactor**
- **COL – Combined License**
- **DC – Design Certification**
- **EP – Emergency Preparedness**
- **NRC – Nuclear Regulatory Commission**
- **SBO – Station Blackout**