



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

STATE OF THE TECHNICAL PROGRAMS

**EXECUTIVE DIRECTOR FOR
OPERATIONS BRIEFING TO THE
COMMISSION**

MARCH 17, 2008

AGENDA

Introduction

**Nuclear Reactor Safety and
Security**

**Nuclear Materials and Waste
Safety and Security**

Conclusion

Nuclear Reactor Safety and Security

Reactor Oversight

- **Program Considerations**
 - **Incorporating experience into the program**
 - **License renewal - Inspection**
 - **Fire protection - Inspection**
 - **Lessons-learned - followup/implementation**

Reactor Oversight

- **Potential Challenges**
 - **Early detection of performance trends**
 - **Vendor oversight**
 - **IRRS program review**

Reactor Oversight

- **Potential Policy Issues**
 - **Safety culture**
 - **Fire Protection**
 - **Revision of the Enforcement Policy**

Incident Response

- **Program Considerations**
 - **Implement National Framework/Communication Plan**
 - **Intergovernmental coordination**
 - **Outreach with stakeholders**
 - **Modernization**
 - **EP exercises**

Incident Response

- **Potential Challenges**
 - **Incident command center concept**
 - **Communication during threat response**
 - **Comprehensive Reviews**

Incident Response

- **Potential Policy Issues**
 - **Continuity plans**
 - **Emergency Planning changes**

Licensing

- **Program Considerations**
 - **License renewal**
 - **Watts Bar, Unit 2**
 - **Power uprates**
 - **Non-power reactor applications**

Licensing

- **Potential Challenges**
 - **Operator licensing for new reactors/operating reactors**
- **Potential Policy Issues**
 - **NGNP/Advance reactor priorities**

Rulemaking

- **Program Considerations**
 - **Part 50, Section 50.46, ECCS**
 - **Part 73, Access Authorization during construction**
 - **Part 50, Section 50.47, Emergency Preparedness**

Rulemaking

- **Program Considerations (cont)**
 - **Materials Security, Parts 20, 30, 32, 70, 73, 74, etc.**
 - **General Licenses, Parts 31, 32, 40**
 - **Uranium Recovery Part 40, In Situ Leach**

Rulemaking

- **Potential Challenges/Policy Issues**
 - **Rulemaking Priorities and Allocations of Resources**
 - **Expediting the Rulemaking Process**

Research

- **Program Considerations**
 - **Advanced Reactors**
 - **State of the Art Reactor
Consequence Analyses (SOARCA)**
 - **Operating reactor licenses - Life
Beyond 60**

Research

- **Potential Challenges**
 - **Maintaining NRC's Independent Analytical and Modeling Skills**
 - **Expanding SOARCA**

Research

- **Potential Policy Issues**
 - **Next Generation Nuclear Power (NGNP)**
 - **Presentation of SOARCA results**
 - **Technology Neutral Framework**

Nuclear Materials and Waste Safety and Security

Nuclear Materials Users

- **Program Considerations**
 - **Radioactive Materials Security**
 - **Agreement States**
 - **Materials Licensing and Inspection Programs**
 - **Regulatory Infrastructure**

Nuclear Materials Users

- **Potential Challenges**
 - **Maintaining alignment with stakeholders**
- **Potential Policy Issues**
 - **Additional Increased Controls for radioactive sources**
 - **ICRP recommendations**

Nuclear Materials Users

- **Potential Policy Issues (cont)**
 - **RDD definition and consequences**
 - **Expanding NSTS**
 - **Threshold Values for Radionuclides of Concern**
 - **Additional Materials Security Rulemakings**

Uranium Recovery, Decommissioning, and Low Level Waste

- **Program Considerations**
 - **Decommissioning**
 - **Waste Incidental to Reprocessing**
 - **Low Level Waste**
 - **Uranium Recovery**

UR, Decommissioning, and LLW

- **Potential Challenges**
 - **Expected Number of Uranium Recovery Applications**
 - **Restricted Use of Decommissioned Sites**
 - **Zion Decommissioning**

UR, Decommissioning, and LLW

- **Potential Policy Issues**
 - **LLW Strategic Assessment Activities and Priorities**
 - **Base Realignment and Closure**
 - **Blending of Waste**

Fuel Facilities

- **Program Considerations**
 - **Licensing and oversight of new facilities**
- **Potential Challenges**
 - **Developing and maintaining the regulatory framework**

Fuel Facilities

- **Potential Challenges (cont)**
 - **Attention to operating and new facilities**
 - **Risk Informing Licensing and Oversight Processes**
 - **Information security**
 - **Hanford Waste Treatment Plant Review**

Fuel Facilities

- **Potential Policy Issues**
 - **Safeguards**
 - **Information Security**

High-Level Waste

- **Program Considerations**
 - **Repository license application review**
 - **Transportation, aging, and disposal canisters (TAD)**

High-Level Waste

- **Potential Challenges**
 - **Statutory milestones**
 - **Applications for Transportation and Storage Casks**

High-Level Waste

- **Potential Policy Issues**
 - **Environmental standard and final rulemaking on Part 63**
 - **Waste confidence**
 - **Package Performance Study**
 - **Burn-up Credit**

Spent Fuel Storage and Transportation

- **Program Considerations**
 - **Licensing and inspection**
 - **Evolving national strategy on spent fuel**
 - **Regulatory infrastructure**

Spent Fuel Storage and Transportation

- **Potential Challenges**
 - **Demanding performance measures**
 - **Risk-informing reviews**
 - **Stakeholder communications**

Spent Fuel Storage and Transportation

- **Potential Policy Issues**
 - **Harmonization on transportation requirements**
 - **Security regulations for storage and transportation**
 - **Federal interim storage**

Acronym

- **ECCS – Emergency Core Cooling System**
- **EP – Emergency Preparedness**
- **ICRP – International Council on Radiation Protection**
- **IRRS – Integrated Regulatory Review Service**
- **LLW – Low Level Waste**
- **NGNP – Next Generation Nuclear Plant**
- **NSTS – National Source Tracking System**
- **RDD – Radioactive Dispersal Device**
- **SOARCA – State of the Art Reactor Consequence Analysis**
- **UR – Uranium Recovery**