



**Office of Nuclear
Regulatory Research
Programs, Performance,
and Plans**

**February 8, 2006
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Agenda

- **Overview**
- **Programs**
- **Performance**
 - **Examples**
- **Management Oversight and Planning**
- **Summary**

Overview

- **Support Office**
- **Technical Expertise**
- **Technically Diverse**
- **Extensive Collaborations**

Programs: NRR Support

- **New Reactors**
- **Probabilistic Risk Analysis and Standardized Plant Analysis Risk (SPAR) Model**
- **Grid Reliability**
- **Pressurized Water Reactor Sump Screens – Chemical Effects**
- **Fire Protection**
- **Licensing Support and Casework**

Programs: NRR Support

- **Technical Bases for Rulemakings**
- **Analysis of Operating Events**
- **Regulatory Guide Revision**
- **Human Reliability and Human Factors**
- **Materials Integrity**
- **Fuel Performance**

Programs: NMSS Support

- **Decommissioning**
- **Dry Cask Storage**
- **Licensing Support and Casework**
- **Package Performance Study**
- **Regulatory Guide Revision**
- **Technical Bases for Rulemakings**
- **Cask Burnup Credit**

Programs: NSIR Support

- **Security**
- **Emergency Preparedness**
- **Incident Response**

Programs: Others

- **International and Domestic Research Agreements**
- **Generic Safety Issues**
- **Abnormal Occurrence Report**
- **Industry Consensus Standards**
- **Risk Communications**
- **Safety Culture**

Programs: Others

- **Committee to Review Generic Requirements (CRGR)**
- **Radiation Exposure Information and Reporting System**
- **Support to Regions**
- **Advanced Analyses**

Advanced Analysis

- **State-of-the-art reactor consequence analysis**
- **Faster than real time analysis tool for incident response decision making**

Knowledge Management

- **Technical Advisory Groups (TAGs)**
- **Computer Codes**
 - **Development and Maintenance**
 - **Verification and Validation**
 - **Training and Distribution**
- **Regulatory Guide Development and Revisions**

Knowledge Management

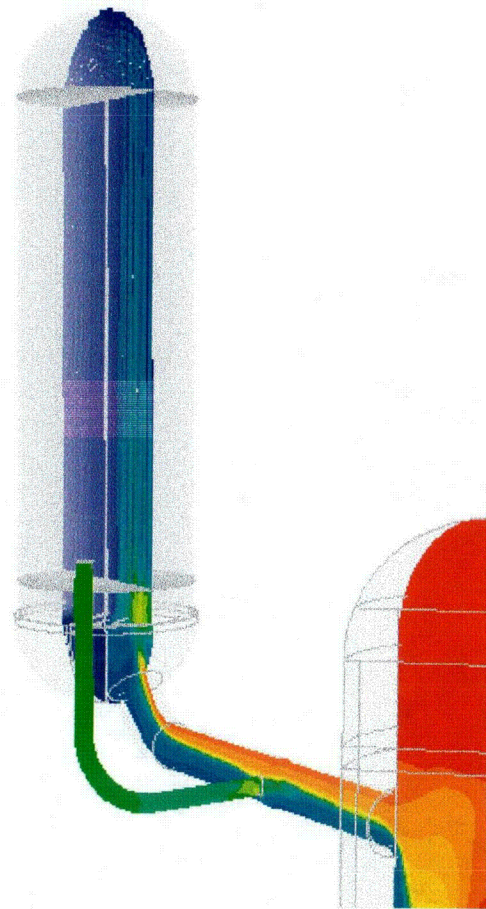
- **Agency Integration**
 - **Internal (RES Monthly Seminars, Steering Committees, Revised Web Page)**
 - **External (Public Workshops, Standards Development Organizations, Cooperative Programs)**

Examples of Computer Code Application

- **Cask Analysis**
- **Tube Integrity**
- **Fuel Pool Predictions**
- **Power Uprate Reviews**
- **Boron Dilution**
- **AP1000 Support**
- **Reactor Pressure Vessel Integrity**

Code Application

Computational Fluid Dynamics Predictions of Steam Generator Tube Rupture



Performance

- **Realignment and Reorganization**
- **Improved Communications**
- **Revised Office Procedures**
- **Staffing and Training**
- **Central Document Control**
- **Improved Management Oversight and Planning**

Improved Management Oversight & Planning

- **Focus on Application of Regulatory Products**
- **Planning, Budget, Program Management**
- **Operating Plan – Management Information Systems**
- **Developed Quality Metric**

Improved Management Oversight & Planning

- **Contract Management**
 - **High-Level Review of Statements of Work (SOWs)**
 - **Explicit Focus on Regulatory Need/Impact**
 - **Quality and Timeliness of Contractor Deliverables/Reports**

Improved Management Oversight & Planning

- **Contract Management**
 - **Contractor Availability**
 - **Intensive review of NUREG/CR reports**
- **Increased In-House Research**

Challenges & Responses

- **Realism**
- **Expanded Information Sources**
- **New Technology**
- **Agency Integration**
- **Human Capital**

Summary

- **Focusing Support to Agency Mission**
- **Enhancing Agency Integration**
- **Implementing Plans to Strengthen Human Capital and Knowledge Management**
- **Continuing Significant Progress in Improving Management**