

## SCHEDULING NOTE

**Title:** STRATEGIC PROGRAMMATIC OVERVIEW OF THE  
DECOMMISSIONING AND LOW-LEVEL WASTE AND SPENT  
FUEL STORAGE AND TRANSPORTATION BUSINESS LINES  
(Public Meeting)

**Purpose:** The purpose of the briefing is to provide the Commission with a discussion of strategic considerations associated with the Decommissioning and Low-Level Waste business line and Spent Fuel Storage and Transportation business line.

**Scheduled:** January 18, 2018  
9:00 a.m.

**Duration:** Approx. 3 hours

**Location:** Commissioners' Conference Room, 1<sup>st</sup> fl OWFN

### **Decommissioning and Low Level Waste Business Line**

#### **Participants:**

##### **NRC Staff<sup>1</sup>**

**45 mins.\***

**Victor McCree**, Executive Director for Operations

**Marc Dapas**, Director, Office of Nuclear Material Safety and Safeguards (NMSS)

##### Topic:

- Decommissioning and Low-Level Waste Business Line Safety and Security – Licensing and Oversight Successes and Challenges

**John Tappert**, Director, Division of Decommissioning, Uranium Recovery, and Waste Programs, NMSS

##### Topic:

- Current Uranium Recovery and Low-Level Waste Program Environment

**Bruce Watson**, Chief, Reactor Decommissioning Branch, NMSS

##### Topic:

- Current Decommissioning Licensing Environment

**Jack Giessner**, Director, Division of Nuclear Materials Safety, Region III

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<sup>1</sup> Other business line partner office directors and regional administrators will be located in the well as appropriate

Topic:

- Decommissioning Inspection Program accomplishments and challenges

**Commission Q & A**

**30 mins.**

**Break**

**5 mins.**

**Spent Fuel Storage and Transportation Business Line**

**Participants:**

**NRC Staff<sup>1</sup>**

**30 mins.\***

**Victor McCree**, Executive Director for Operations

**Marc Dapas**, Director, Office of Nuclear Material Safety and Safeguards (NMSS)

Topic:

- Spent Fuel Storage and Transportation Business Line – Licensing and Oversight Successes and Challenges

**Michael Layton**, Director, Division of Spent Fuel Management, NMSS

Topic:

- Current Spent Fuel Storage Environment

**Yaira Diaz-Sanabria**, Chief, Containment, Structural and Thermal Branch

Topic:

- Current Technical Challenges in Licensing Activities for Spent Fuel Management

**Joseph Nick**, Deputy Director, Division of Nuclear Materials Safety, Region I

Topic:

- Independent Spent Fuel Storage Installation Inspection Program Accomplishments and Challenges

**Commission Q & A**

**30 mins.**

**Discussion – Wrap-Up**

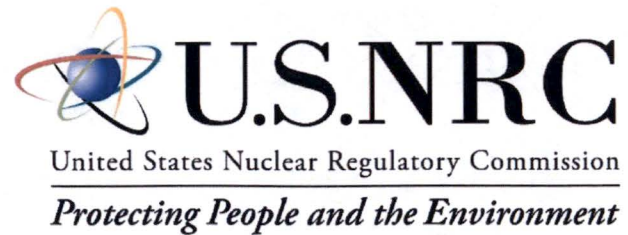
**5 mins.**

\*For presentation only and does not include time for Commission Q & A



# **Overview of the Decommissioning and Low-Level Waste Business Line**

**January 18, 2018**



# **Executive Director for Operations Victor McCree**

# **NRC Panel will Address the Following Topics:**

- Licensing and Oversight Successes and Challenges
- Current Uranium Recovery and Low-Level Waste Environment
- Current Decommissioning Licensing Environment
- Decommissioning Inspection Program



**Office of Nuclear Material Safety  
and Safeguards  
Marc Dapas, Director**

# Ensuring Safety Over a Broad Range of Activities

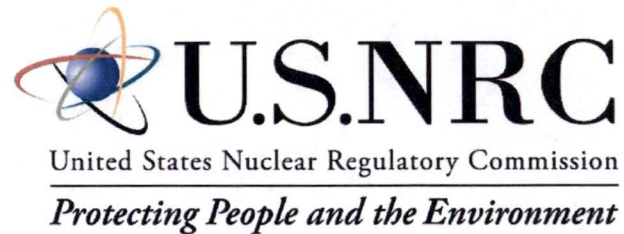
- Preparing for increased number of reactors in decommissioning
- Planning for Wyoming becoming an Agreement State
- Enhancing the nation's low-level waste program
- Continuing international engagement
- Working effectively with DOE regarding WIR activities
- Implementing Commission direction on 10 CFR Part 61 rulemaking

# **Realizing Success Through Internal and External Interaction**

- Development of recommendations to address complex policy matters
- Support of significant public and Congressional meetings
- Enhancement of licensing process
- Progress in licensing of new and expanded in-situ uranium recovery facilities

# Addressing Challenging and Complex Issues

- Developing recommendations for the Commission regarding GTCC waste
- Ensuring equitable and transparent fees for all fee classes – Uranium Recovery
- Ensuring adequate resources for future licensing



**Division of Decommissioning,  
Uranium Recovery, and Waste  
Programs  
John Tappert, Director**

# Supporting Several Priorities

- Refining the national low-level waste framework
- Continuing efforts to monitor certain DOE disposal actions
- Preparing for Wyoming becoming an Agreement State

# Enhancing Low-Level Waste Requirements and Guidance

- Revise 10 CFR Part 61
- Develop a regulatory basis for GTCC
- Align forms and guidance with revised 10 CFR Part 61 requirements
- Evaluate waste classification tables

# **Achieving Results and Planning for the Future within the Low-Level Waste Program**

- Issued the National Report for the Joint Convention
- Completed monitoring milestones under the NDAA
- Issued a draft guidance document regarding the 10 CFR 20.2002 process
- Plan to conduct a scoping study on regulatory oversight of very low-level waste
- Will implement Commission direction on rulemaking plan to evaluate changes to 10 CFR 30.35

# Ongoing Activities Within the Uranium Recovery Program

- Licensing and oversight for 11 facilities
- Making progress on five major licensing actions and issuance of new licenses
- Forecasting future work in an uncertain market

# **Uranium Recovery Program Continues to Enhance Effectiveness and Efficiency**

- Independent assessment of uranium recovery licensing practices
- More efficient completion of licensing and oversight functions through a focus on risk significant activities
- Proactively managing the impact of Wyoming's transition to an Agreement State

# Engaging a Broad Range of Stakeholders

- Extensively coordinating with EPA on two major rules
  - Basic regulatory framework for groundwater protection at in-situ recovery sites
  - Control of radon emissions under NESHAPs
- Conducting Workshops
- Knowledge transfer and international engagement

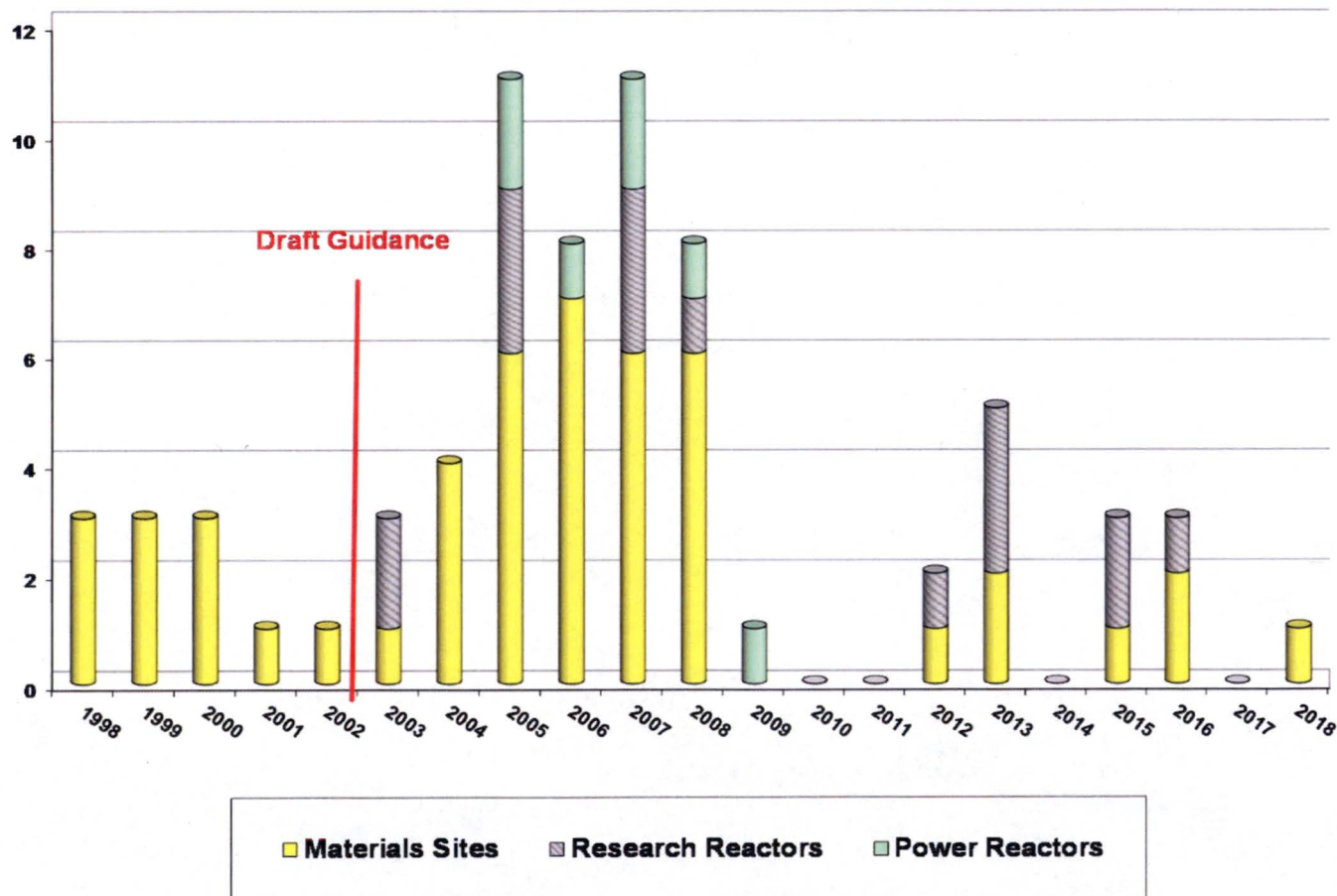


**Division of Decommissioning,  
Uranium Recovery, and Waste  
Programs  
Reactor Decommissioning Branch  
Bruce Watson, Chief**

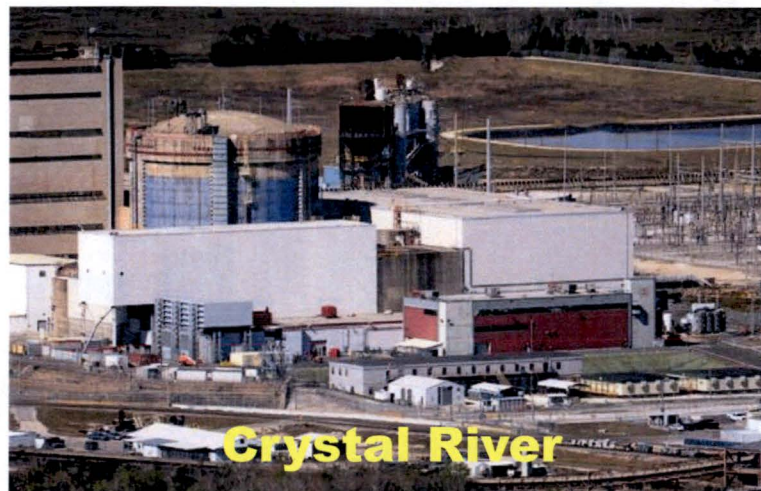
# Supporting a Number of Priorities

- Performing licensing actions and maintaining oversight of power reactor decommissioning sites
- Conducting licensing and oversight activities for complex materials sites undergoing decommissioning
- Providing oversight at sites with radium contamination (military and non-military)

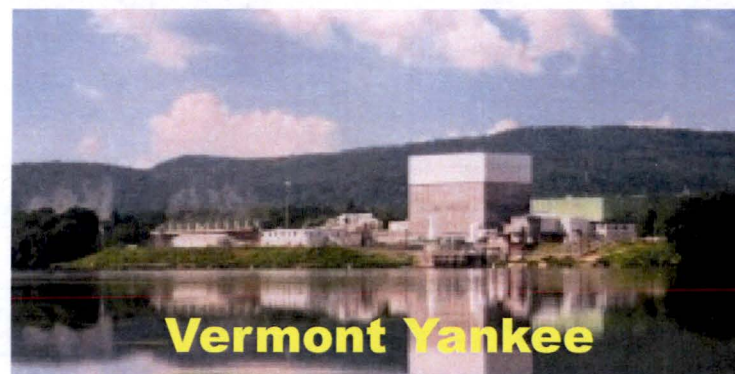
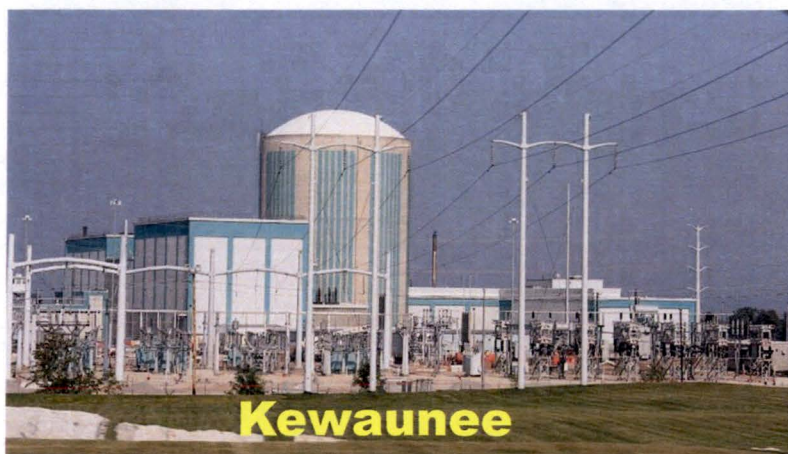
# Safe Decommissioning Leads to License Terminations



# Ensuring Safe Reactor Decommissioning



- Decommissioning Rulemaking
- Power Reactor Inventory
- License Transfers
- GE Vallecitos License Extension



# Sharing Experience with International Partners

- Taiwan
- Republic of Korea
- France
- International Atomic Energy Agency



# Continuing Progress Toward Decommissioning Legacy Sites

- Secured funds during Westinghouse Bankruptcy
- Issued Order to FMRI/Fansteel
- Cooperated with the Wyoming Department of Environmental Quality on American Nuclear Corporation



# Effectively Coordinating with Federal and State Partners

- Coordination with Federal Agencies and the Navajo Nation in implementing the five year plan
- Coordination with DOE, EPA, and New York on West Valley
- Coordination with EPA and New Mexico on Homestake



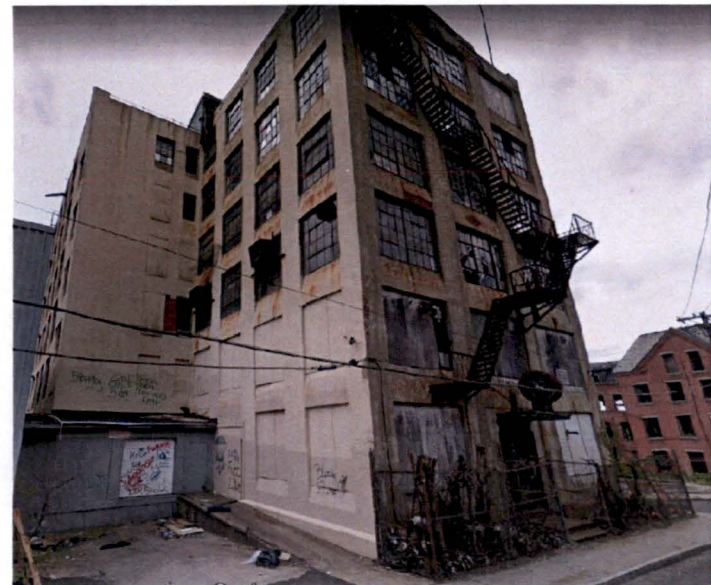
# Supporting Stakeholder Engagement

- Public Meetings
- State and Local Government Meetings
- Congressional Briefings



# Making Substantial Progress in Radium Program Implementation

- Risk Informed Approach
- 33 initial sites assessed
- 14 sites had residual Radium activity above background
- 4 of the 14 sites exceeded access control levels



# Continuing to Address Radium Program Implementation Challenges

- Working with EPA to secure funding for site clean up
- Coordinating with States to obtain cooperation from site owners that are reluctant to allow access for surveys
- Continuing to effectively communicate with stakeholders



**Region III**  
**Division of Nuclear Materials**  
**Safety**  
**Jack Giessner, Division Director**

# Ensuring Safety and Security During Power Reactor Decommissioning

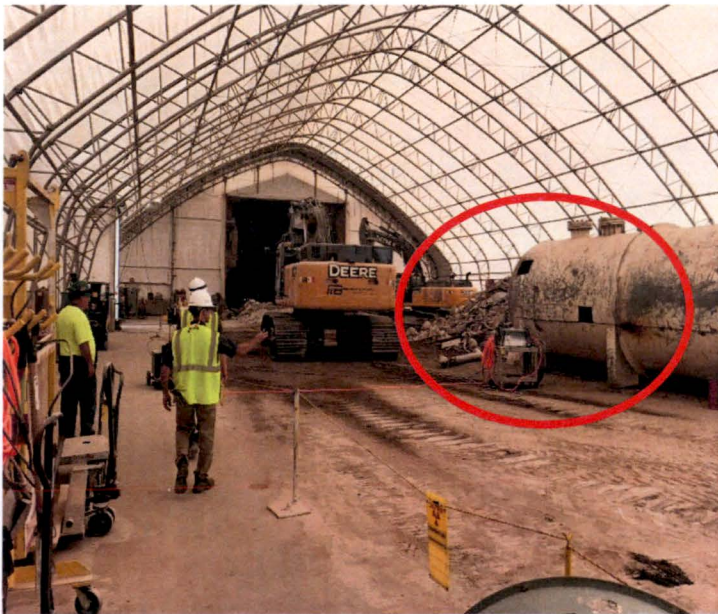


# Addressing All Phases of Decommissioning

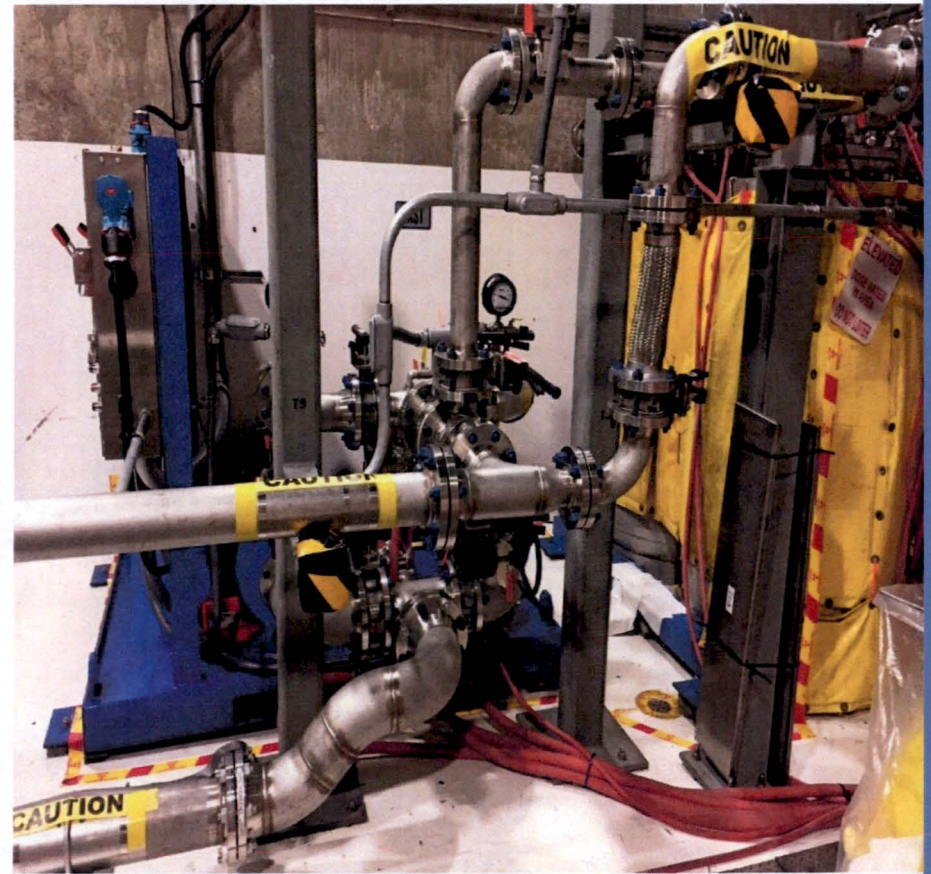


# Applying Operating Experience

- Sharing operating experience between agency partners
- Emphasizing the importance of safety culture



# Assuring Safe Licensee Performance through Oversight



# Providing Independent Assessment During All Phases of Material Decommissioning

2003



2015



Now



2012



# NRC Oversight Assures Safe Performance by Licensees



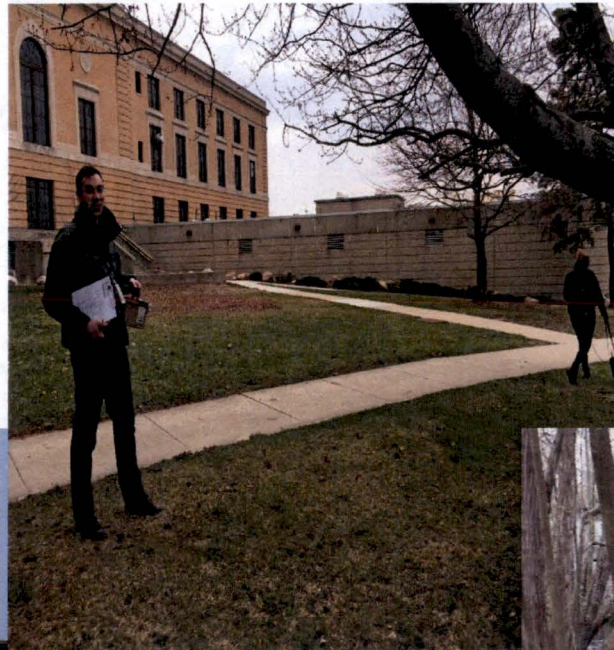
# Effectively Performing Non-Military Radium Inspections

- Setting quantitative thresholds based on risk significance
- Capturing Lessons-Learned



# Non-Military Radium Inspections

## Great Team Effort

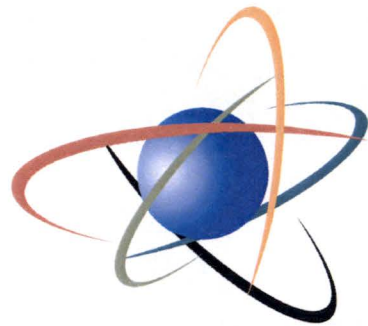


# **Strategic Workforce Planning: Addressing Future Opportunities in an Agile Manner**

- Training and qualification for future inspectors
  - Leverage completed Competency Modeling effort
  - Operating and decommissioning reactor inspectors – create efficient transition
- Broader cross-training to the Nuclear Materials Business Line jobs



# **Executive Director for Operations Victor McCree**



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*Protecting People and the Environment*

# **Overview of the Spent Fuel Storage and Transportation Business Line**

January 18, 2018



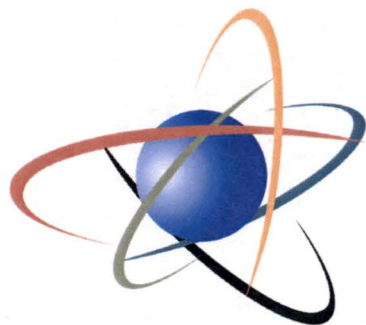
# **Opening Remarks**

Victor McCree

Executive Director for Operations

## **NRC Panel will Address the Following Topics:**

- Licensing and oversight successes, challenges, and opportunities
- Spent fuel storage and transportation environment
- Technical challenges in licensing activities for spent fuel management
- Independent Spent Fuel Storage Installation Inspection Program Accomplishments and Challenges



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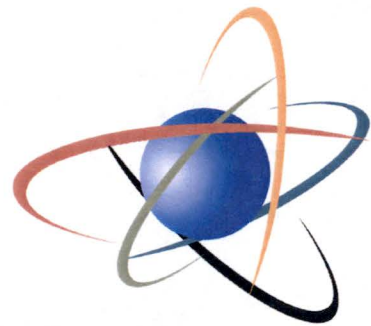
# **Office of Nuclear Material Safety and Safeguards**

Marc Dapas

Director

# Capably Addressing Current and Forecasted Workload

- Spent Fuel Storage Licensing
- Transportation Certification
- Consolidated Interim Storage
- Disposal and Reprocessing
- Risk-informing Processes
- ISFSI Oversight



# U.S.NRC

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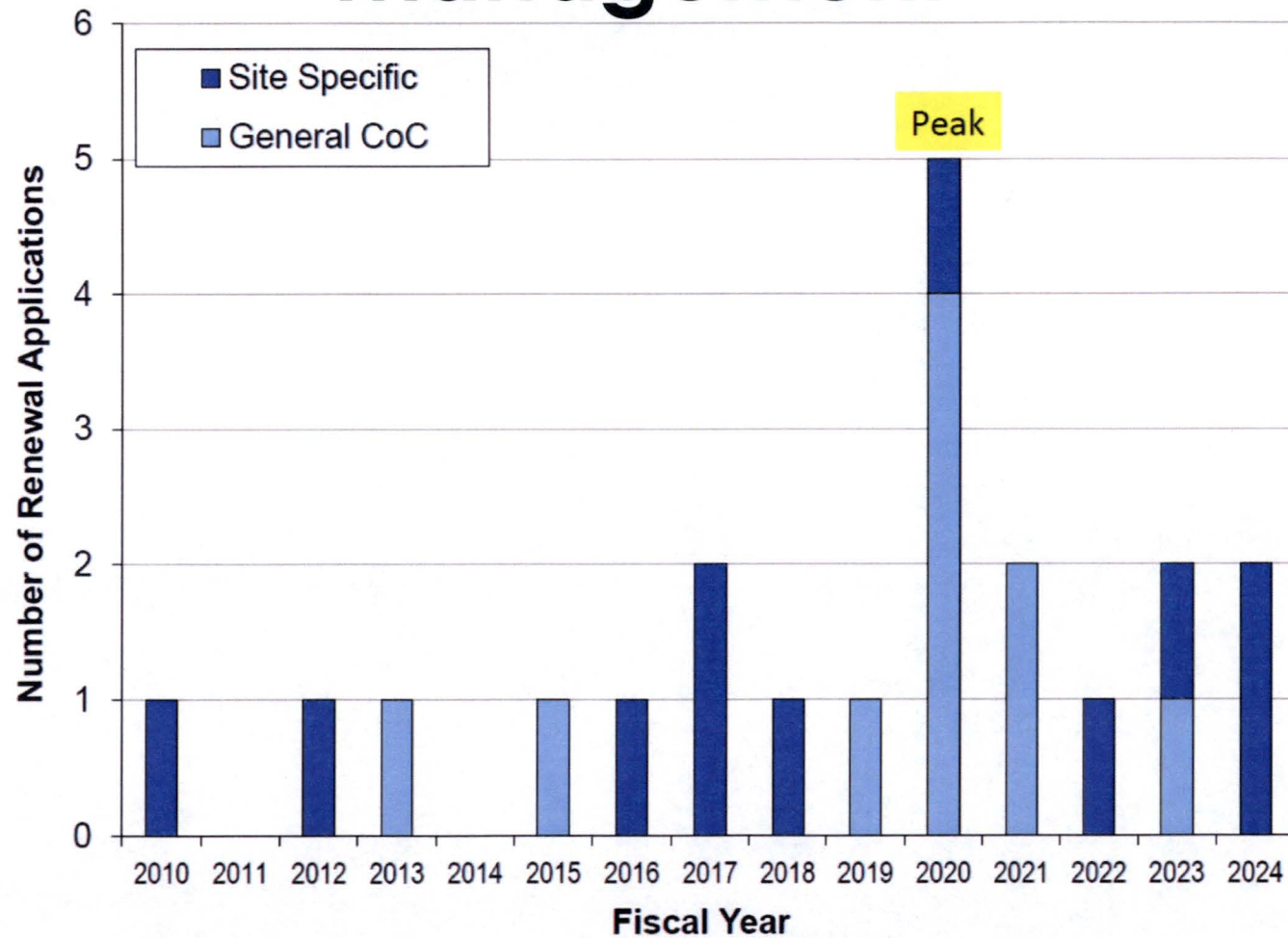
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## **Division of Spent Fuel Management**

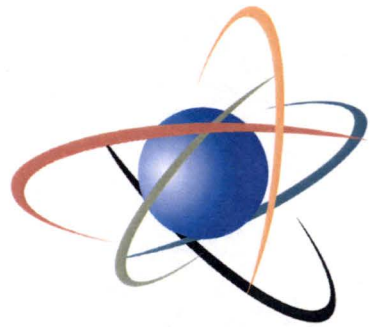
Michael Layton, Director

# Continued Effective Workload Management



# **Increasing Agility to Accommodate Potential Emergent Work**

- Enhancing and modifying internal processes
  - Internal tracking systems
  - Developing, clarifying, and consolidating guidance



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*Protecting People and the Environment*

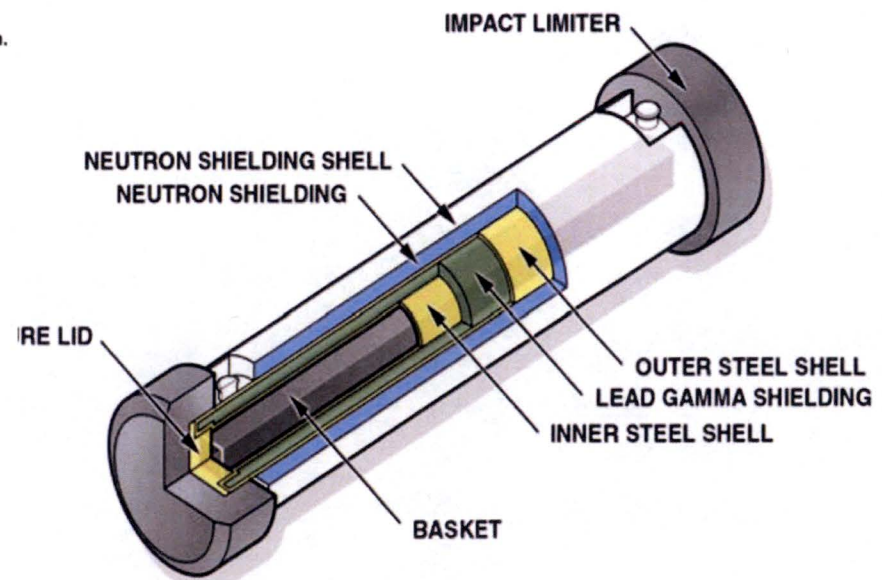
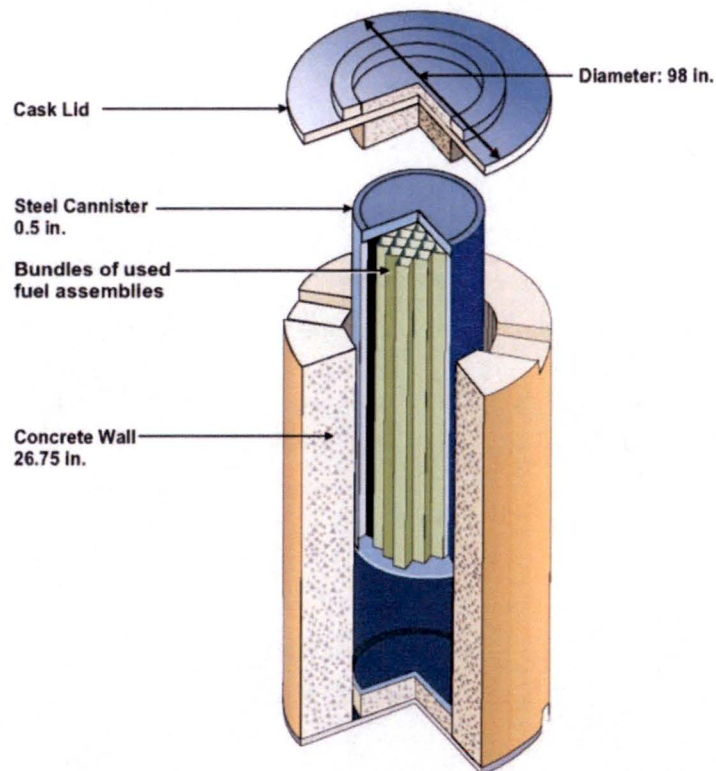
**Division of Spent Fuel  
Management  
Containment, Structural, and  
Thermal Branch**

Yaira K. Diaz-Sanabria, Chief

# **The Regulatory Framework is Robust**

- Comprehensive technical review processes have been developed
- Appropriate treatment of cross-cutting issues is ensuring consistency in technical reviews
- Licensing activities are proceeding effectively and efficiently

# Demands on Storage and Transportation Result in Increasing Number of Design Changes



# **New Licensing Actions Present Challenging Technical Issues**

- Accommodating higher heat loads and different fuel types
  - Re-evaluating the technical basis for peak cladding temperature
  - Design margin is reduced
  - Uncertainties and conservatisms are increasingly important

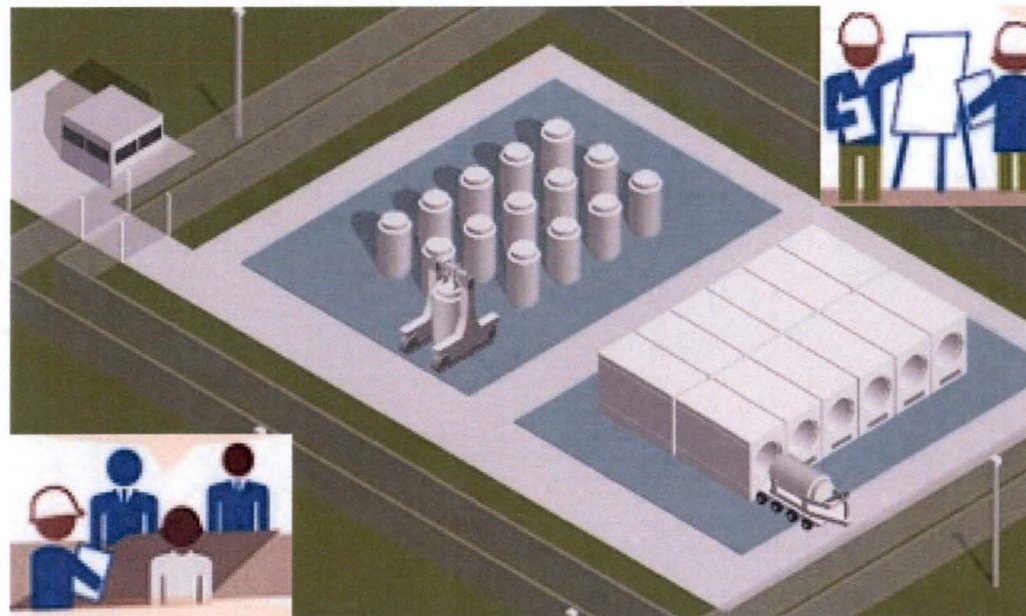
# **Employing Improvements to Enhance Agility in Reviews**

- Guidance
  - NUREG-2152 (Best Practices Guidelines)
- Use of the Graded Approach for confirmatory analyses
- Thermal Research Initiatives
  - EPRI/DOE thermal modeling initiative

## **Other Ongoing Areas of Improvement**

- Consolidation of SRPs provides for technical consistency
- Expectations for Change Process (10 CFR 72.48)
- Management Oversight Enhanced
- Leveraging Technical Assistance to the Regions

# Independent Spent Fuel Storage Installation Inspection Program Accomplishments and Challenges



# Dry Cask Storage Systems



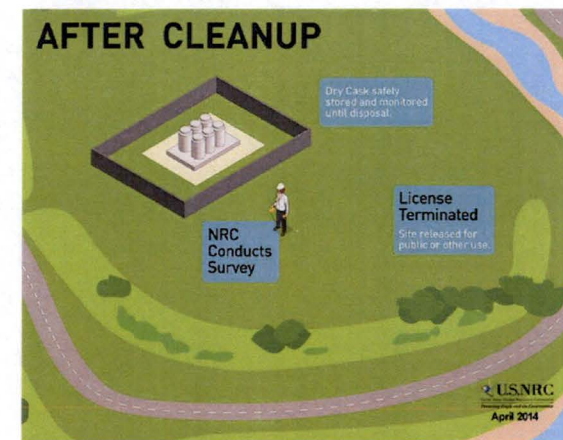
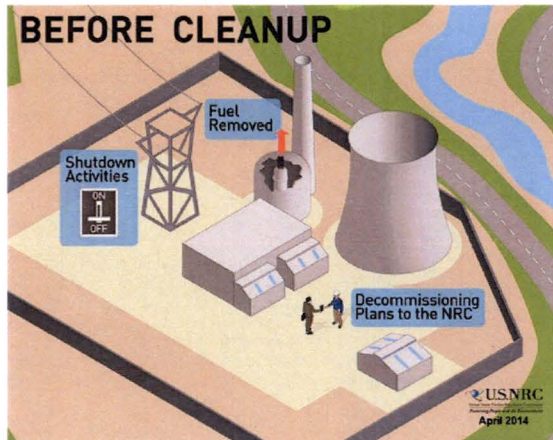
# Oversight – Safety and Security Inspections



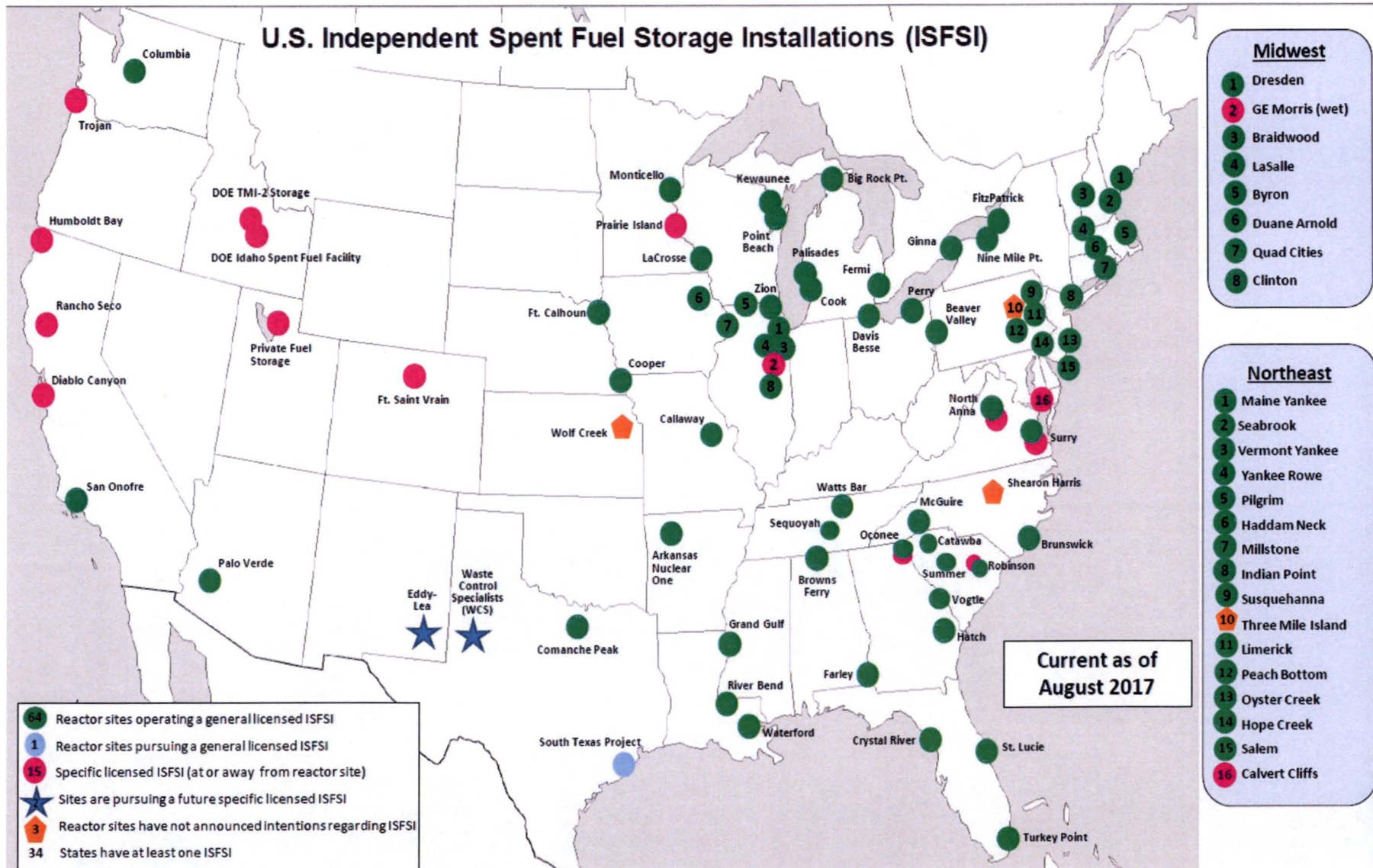
# Oversight – Resolution of Technical Issues at the Storage Sites and Interactions with the Public



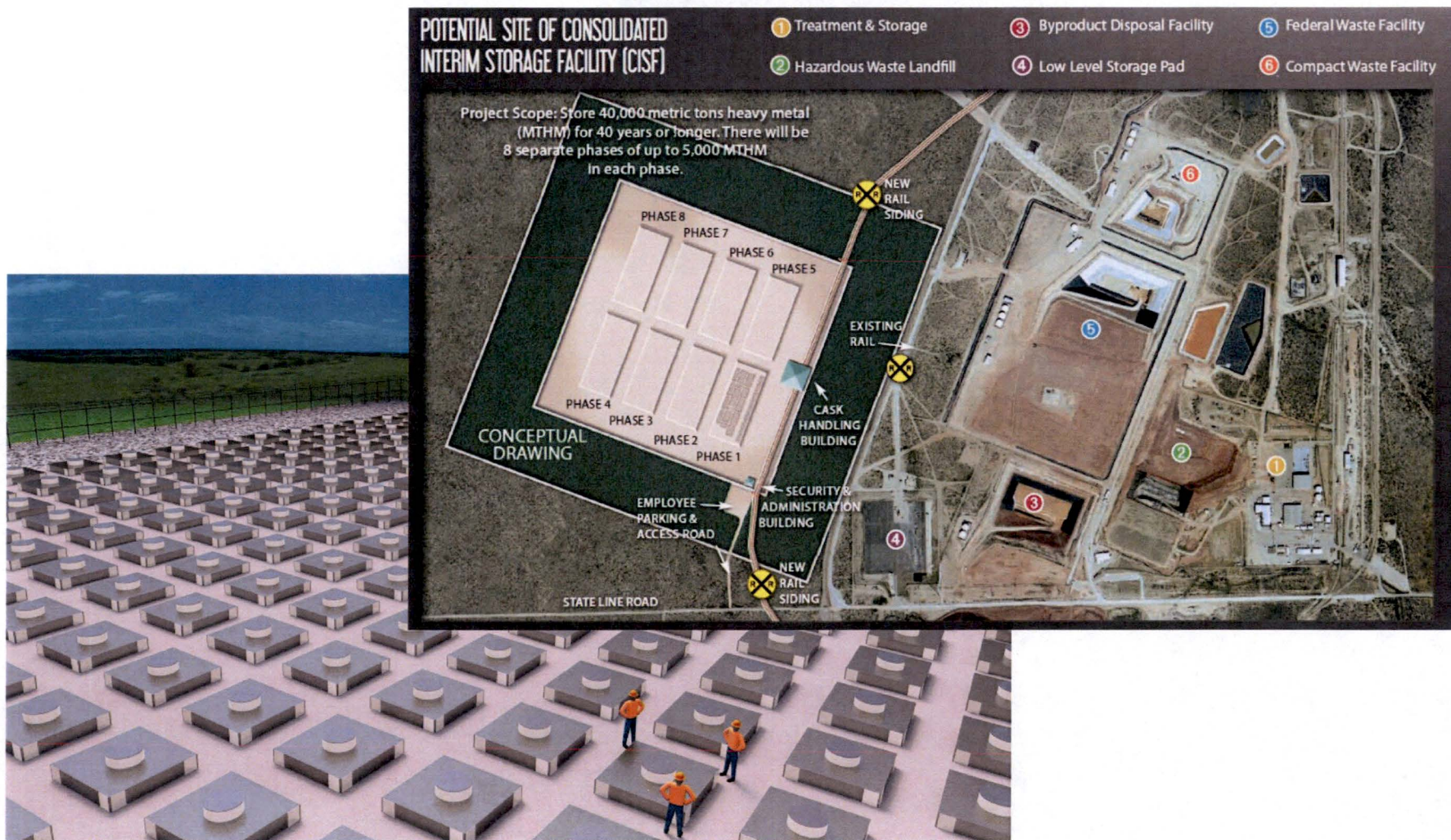
# Spent Fuel in Decommissioning



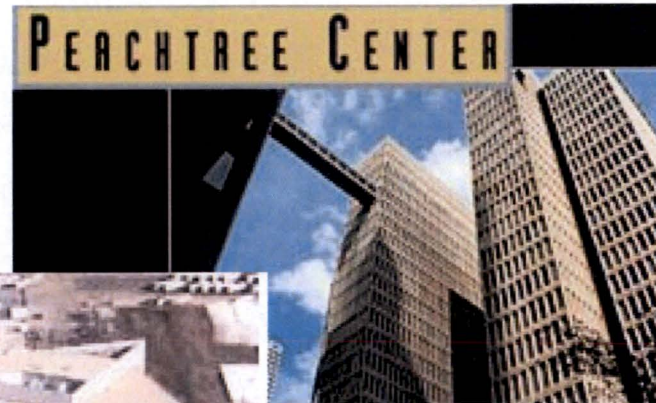
# Locations of ISFSIs



# Consolidated Interim Storage Facilities



# Regional Challenges





# **Executive Director for Operations Victor McCree**

## **Acronyms**

- Certificate of Compliance (CoC)
- Code of Federal Regulations (CFR)
- Electric Power Research Institute (EPRI)
- General Electric (GE)
- Greater-Than Class C (GTCC)
- Independent Spent Fuel Storage Installation (ISFSI)
- National Defense Authorization Act (NDAA)
- National Emissions Standards for Hazardous Air Pollutants (NESHAPs)
- Nuclear Energy Institute (NEI)
- Nuclear Regulatory Commission (NRC)

## **Acronyms**

- Regulatory Issue Resolution Protocol (RIRP)
- Uranium Mill Tailings Radiation Control Act (UMTRCA)
- U.S. Department of Energy (DOE)
- U.S. Environmental Protection Agency (EPA)
- Waste Incidental to Reprocessing (WIR)