



U.S. Department of Energy

OFFICE OF CIVILIAN RADIOACTIVE
WASTE MANAGEMENT

OCRWM Program Update

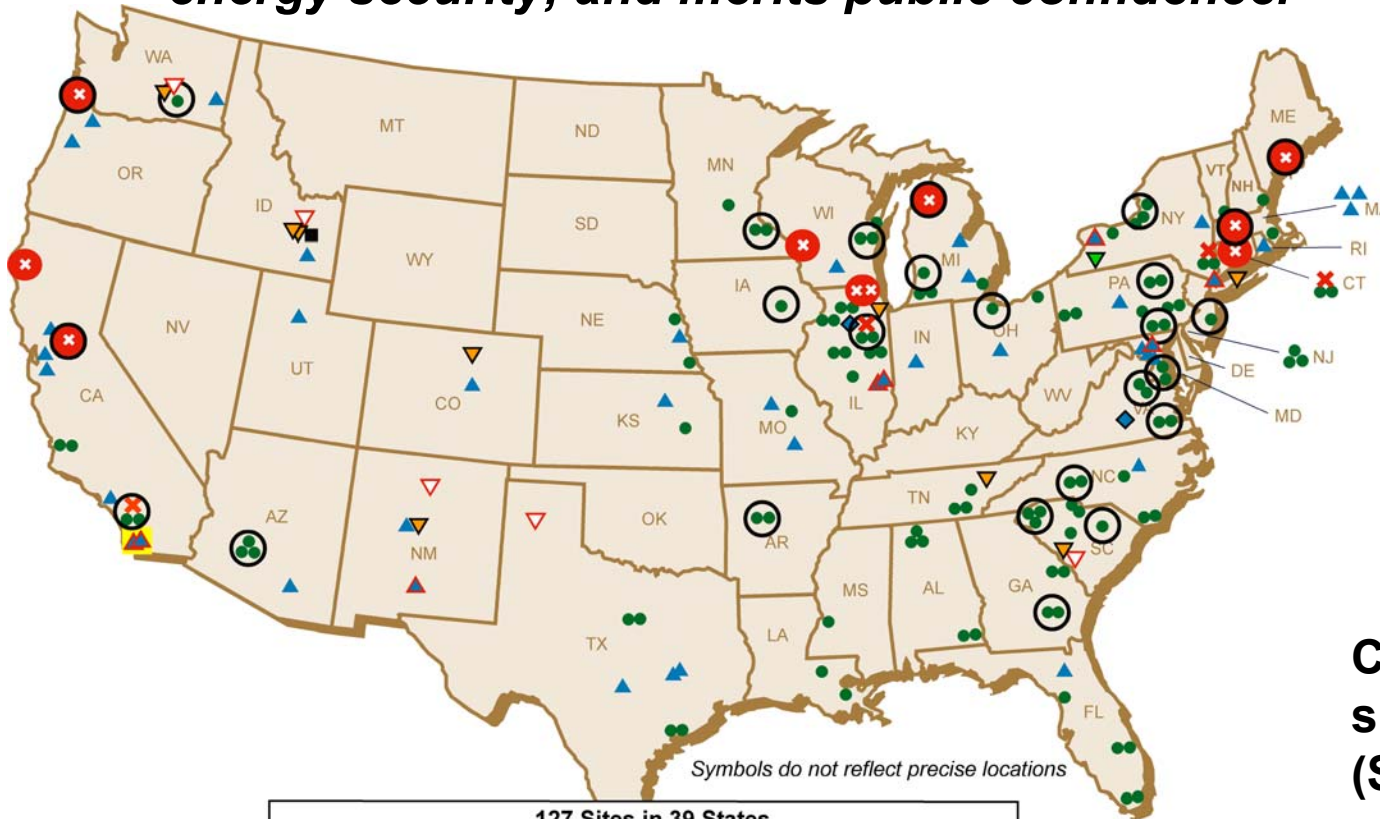
Presentation to:
U.S. Nuclear Regulatory Commission
2004 Regulatory Information Conference
Session T13 – Spent Fuel/Transportation/Disposal

Presented by:
Dr. Margaret Chu, Director
Office of Civilian Radioactive Waste Management
Washington, DC

March 11, 2004

Program Mission

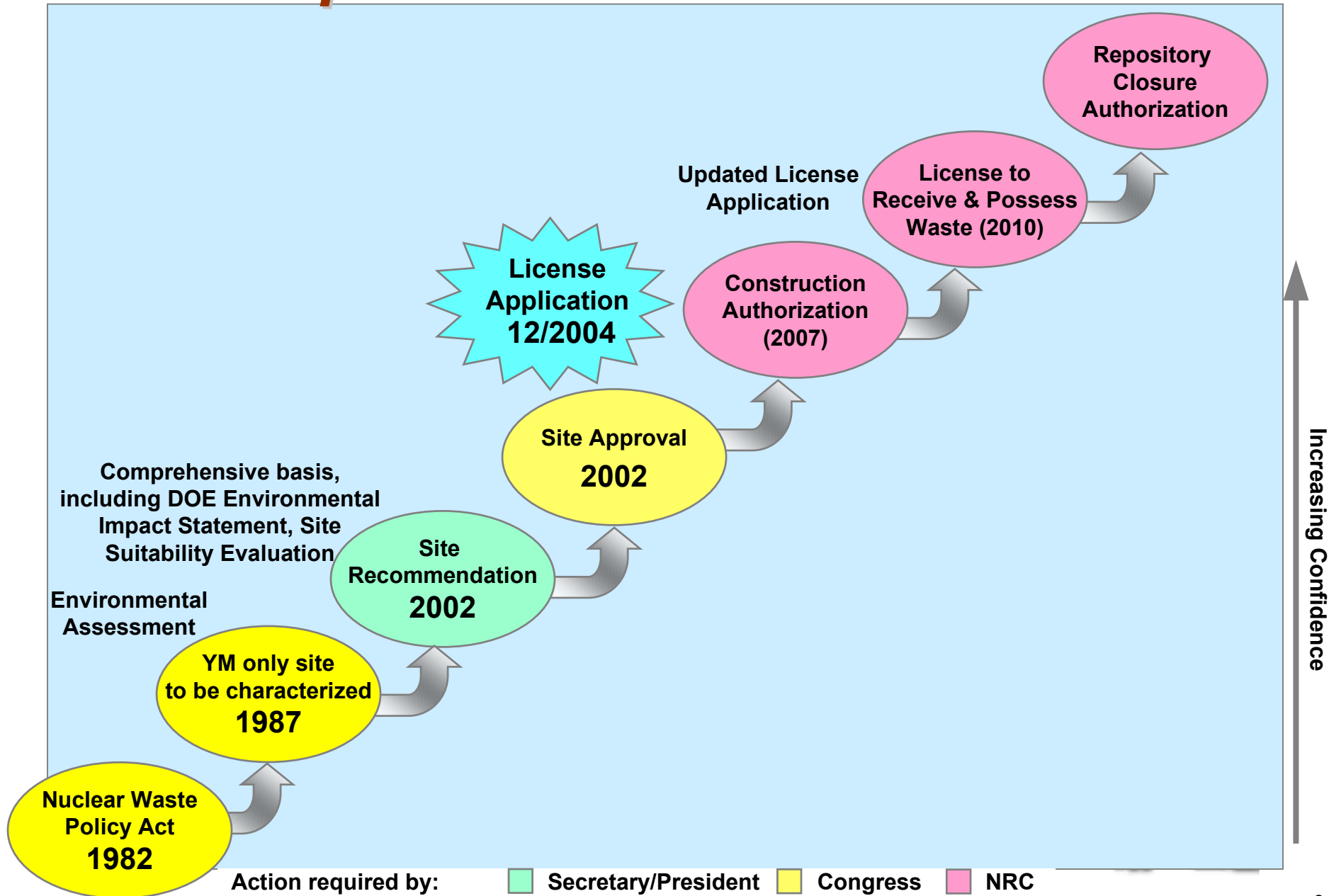
Our Mission is to manage and dispose of high-level radioactive waste and spent nuclear fuel in a manner that protects health, safety, and the environment; enhances national security and energy security; and merits public confidence.



127 Sites in 39 States	
Commercial Reactors including:	Research Reactors including:
● - operating reactors	▲ - operating reactors
✘ - shutdown reactors at operating reactor sites	▲ - shutdown reactors with SNF on site
✘ - shutdown reactors at shutdown reactor sites where SNF could be removed after repository opening	▼ DOE-Owned SNF and HLW
◆ Commercial SNF Pool Storage (Away-From-Reactor)	▼ Commercial HLW
○ Commercial Dry Storage Sites	▽ Surplus Plutonium
■ Highly Enriched Uranium at Shutdown Site	■ Naval Reactor Fuel

Current locations of spent nuclear fuel (SNF) and high-level radioactive waste (HLW) destined for geologic disposal:
[127 sites in 39 states](#)

Step-Wise Decision Process



License Application Contents

- **General Information**
- **Safety Analysis Report**
 - Repository Safety Prior to Closure
 - Site Description
 - Design of Surface and Subsurface Facilities and Systems
 - Waste Package Design
 - Preclosure Safety Analysis
 - Repository Safety after Permanent Closure
 - Discussion of Barriers
 - Scenario Analysis and Event Probability
 - Model Abstraction
 - Compliance with Postclosure Standards
 - Research and Development Program to Resolve Safety Questions
 - Performance Confirmation Program
 - Administrative and Programmatic requirements
 - Quality Assurance Program Description
 - Training Program and Organizational Description
 - Emergency Planning
 - Conduct of Operations



Progress Toward License Application

- **We are completing work on the following:**
 - Responses to Key Technical Issue (KTI) agreements with the Nuclear Regulatory Commission (NRC)
 - Currently, DOE has submitted to NRC full or partial information for 214 out of 293 Key Technical Issue agreements
 - All KTI agreements will be addressed prior to License Application (LA) submittal
 - Preclosure safety assessment
 - Total System Performance Assessment for the LA
 - Design
- **We are on track for submittal of the LA in December 2004**

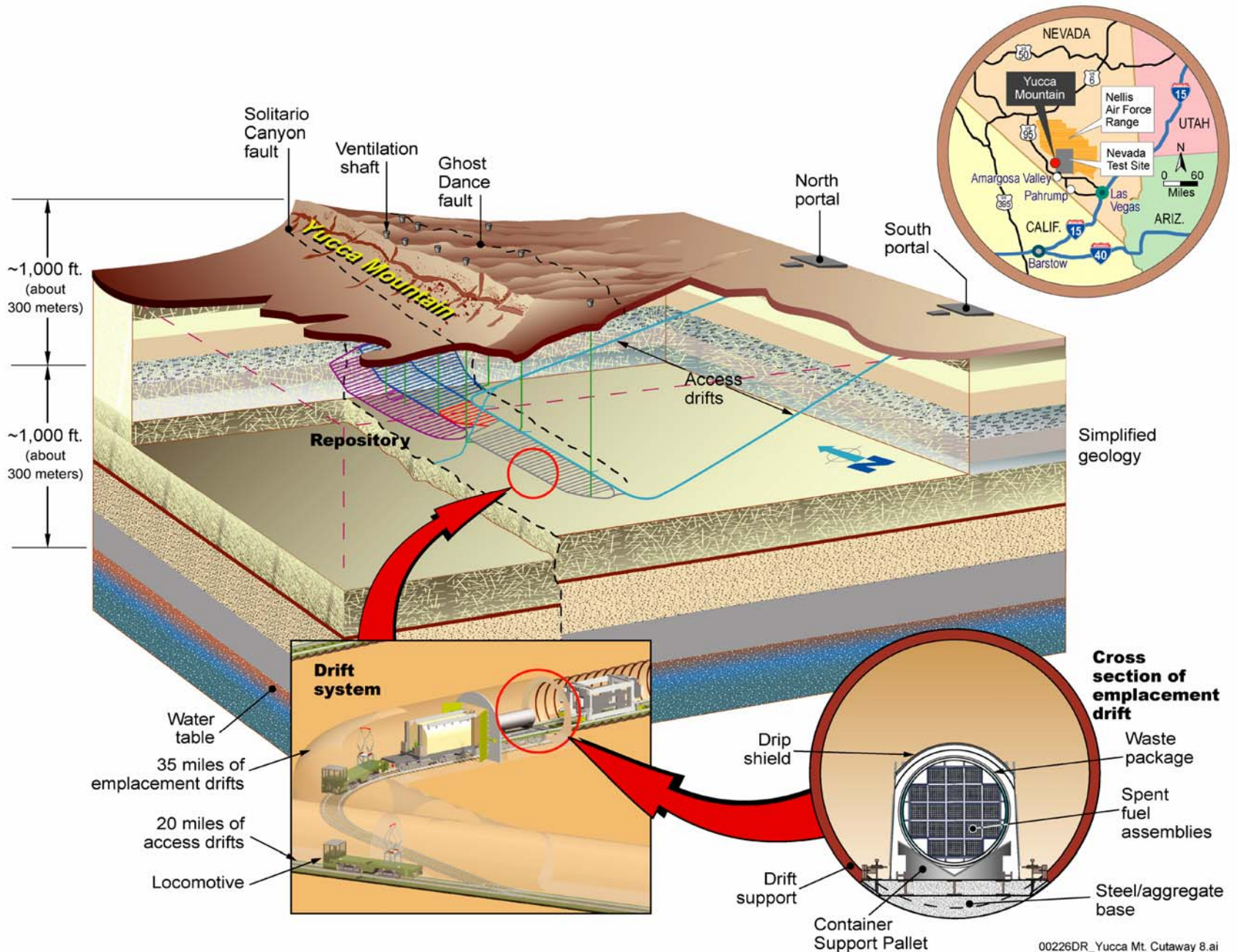


Pre-Closure Analysis and Post-Closure TSPA

- **Pre-closure safety analysis will address:**
 - The site's geology, hydrology, mineralogy, and surface features
 - Structures, systems, and components important to safety
 - Design features for preventing and minimizing potential natural and human-induced safety hazards
 - Analysis of safety hazards (based on likelihood of occurrence) and their potential consequences
- **Post-closure total system performance assessment (TSPA) will address:**
 - How natural and engineered barriers will work together to contain and isolate waste
 - Features, events, and processes that could affect the repository's ability to isolate waste
 - Results of how the repository would likely perform in the future



Repository Reference Design Concept



Commitment to Quality

- **Beginning in 2002, OCRWM's Management Improvement Initiative was a springboard for change**
- **We have established management structures and culture that we believe are in line with NRC's expectations**
 - **Clear roles and responsibilities**
 - **Single corrective action program**
 - **Safety-conscious work environment**
 - **Management tools and metrics to monitor progress and identify issues**
- **We will submit a license application that meets NRC's regulatory requirements and our own high standards of quality**



Licensing Process

- **To support NRC's review, we will process relevant records and documents (millions of pages) into an electronic Licensing Support Network**
- **After determining whether the application is suitable for docketing, NRC will conduct extensive technical reviews and hold hearings**
- **During the process, DOE will:**
 - Respond to NRC's requests for additional information in a timely manner
 - Participate in licensing proceedings and public hearings



Transportation Overview

- **After many years of deferral due to budget shortfalls, we are accelerating our planning to have a transportation system ready by 2010**
- **We will build on the experience and proven safety record in the U.S. and Europe**
- **We will conduct an open and collaborative planning process**
- **Recent activities:**
 - Issued the *Strategic Plan for the Safe Transportation of Spent Nuclear Fuel and High-Level Radioactive Waste to Yucca Mountain* in November 2003
 - Identified a rail corridor as DOE's preference for construction of a rail line in Nevada to transport spent nuclear fuel and high-level radioactive waste to the repository



Summary



- **DOE is committed to the safe disposal of U.S. high-level radioactive waste and spent nuclear fuel**
- **Submittal of the license application to the NRC is planned for 2004**
- **DOE is proceeding toward waste acceptance in 2010**

