



U.S. Department of Energy  
Office of Civilian Radioactive Waste Management



# Status of the DOE/OCRWM Program

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# Program Update

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# Principles

- Yucca Mountain is the solution approved by the President & Congress
- Yucca Mountain is still needed under any fuel cycle scenario
- Proceeding on base case to deal with current and planned spent nuclear fuel and high-level waste inventory
- Not in a position to discuss license application schedule today; need to evaluate clean/canister design and fully factor in final EPA Radiation Protection Standard
- FY 2007 budget supports Program on four broad and important fronts
- Release of Technical Impacts Report
- Significant focus on improving *organizational quality*



# Where We Are Going

- Strong, defensible license application based on simplified design, licensing, and operations using a clean-canistered approach
- Scientific and technical work that is traceable, transparent, and in compliance with quality assurance requirements
- Sandia National Laboratories to coordinate and manage science work
- Use of independent, university-based reviews of work to ensure quality products
- Culture that is ready to assume responsibilities inherent in nuclear operations



# Program FY07 Objectives

- Develop a license application for submission to the NRC based on a safer and simpler approach to handling spent nuclear fuel and operating the repository known as the *clean-canistered* approach
- Develop a nuclear safety culture of the highest standards that demonstrates we have earned the trust required to conduct nuclear operations
- Develop the transportation infrastructure through necessary long-lead procurement actions, and continued rail line development
- Improve Yucca Mountain site infrastructure to ensure worker, regulator, and visitor safety



# FY07 Budget Request Summary (millions)

	FY 2006 Approp	FY 2007 Request
Yucca Mountain	\$ 305.9	\$ 355.4
Transportation	19.9	67.7
Prog Mgmt & Integration/Prog Direction	119.7	121.4
Integrated Spent Fuel Recycling Facilities	49.5	0.0
<b>TOTAL PROGRAM</b>	<b>495.0</b>	<b>544.5</b>
Nuclear Waste Fund	99.0	156.4
Integrated Spent Fuel Recycling Facilities	49.5	0.0
Defense Nuclear Waste Disposal	346.5	388.1



# Canister Approach - Program Redirection

- Canister for transportation, aging, and disposal (TAD) minimizes handling of assemblies and limits need for multiple complex surface facilities
- Canister provides simplification in repository design, licensing, construction, and operation
- Spent nuclear fuel will be delivered to the repository primarily in canisters for spent fuel aging and emplacement under ground



# FY07 Yucca Mountain Key Activities

- Continue design of clean-canistered based repository facilities
- Work with industry to complete the preliminary design for the TAD standard canister
- Conduct additional pre-closure and post-closure safety analysis work to support the design basis
- Update license application as clean-canistered modifications mature to reflect additional analytical and design work
- Continue upgrades to communication, emergency response, and workplace infrastructure



# FY07 Transportation Key Activities

- Issue Final Nevada Rail Alignment EIS and ROD
- Develop impact mitigation plans along preferred alignment
- Continue the procurement process for truck and rail casks and associated specialized equipment and design; develop prototype of the rail car for security escorts
- Establish pilot emergency preparedness grant programs as part of implementation of Section 180(c) of Nuclear Waste Policy Act



# FY07 Program Management & Integration Activities

- Utilize Sandia National Laboratories to manage and integrate scientific studies for the Program
- Develop a nuclear safety culture, including improving design configuration control, effective issue resolution processes, and encouraging employees to identify issues
- Continue to implement project management improvements, including clear requirements definition and maintenance, and project control through earned value management system



# Global Nuclear Energy Partnership and Yucca Mountain

- Yucca Mountain is still needed under any fuel cycle scenario
- We are proceeding with our base case to deal with current and planned inventory of spent nuclear fuel and high-level waste
- If the technology is proven and developed, the Global Nuclear Energy Partnership (GNEP) could provide improvements to spent fuel disposal at a repository by:
  - significantly reducing the volume of waste
  - enhancing thermal management by reducing waste form heat load
  - reducing the amount of long-lived radionuclides requiring disposal



# Summary

- Entering an important period for the nuclear industry and for the disposition of nuclear waste in the United States
- The Department is committed to the development of Yucca Mountain as a geologic repository
- GNEP has the potential to improve Yucca Mountain long-term performance

