



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



Yucca Mountain Project Update

Presented to:
Waste Management Symposium 2008

February 25, 2008
Phoenix, AZ





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


www.ocrwm.doe.gov

OCRWM Program Update

Presented to:
Waste Management Symposium 2008

Presented by:
Dr. J. Russell Dyer
Director, Office of the Chief Scientist
Office of Civilian Radioactive Waste Management
U.S. Department of Energy

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Agenda

- ***OCRWM Program Update*** – Dr. J. Russell Dyer, Director, Office of the Chief Scientist, Office of Civilian Radioactive Waste Management, U.S. Department of Energy
- ***Bechtel SAIC Company, LLC – Design and License Application Update*** – Jason Bohne, Manager, Communications, Bechtel SAIC Company, LLC
- ***National and Nevada Transportation Update*** – Gary Lanthrum, Director, Office of Logistics Management, Office of Civilian Radioactive Waste Management, U.S. Department of Energy
- ***Public Information Activities*** – Allen Benson, Director, Office of External Affairs, Office of Civilian Radioactive Waste Management, U.S. Department of Energy



License Application Status

- **License application is progressing**
 - **Collection of data is complete**
 - **Bechtel SAIC Company, LLC (BSC) contractual deadline to deliver draft license application is approaching**
 - **Reviews of completed license application sections are ongoing**
 - **Cautiously optimistic for license application submittal to the Nuclear Regulatory Commission this year**



Program Funding

- **Funding is adequate for license application submittal and defense, but...**
 - **License application submittal could be delayed**
 - **Pre-construction activities, long-lead procurements affected**
 - **Long-term impacts**
 - ◆ **Increased government liability for not taking spent fuel**
 - ◆ **Increased overall program costs**
 - ◆ **Initial operating capability delayed**



Status of Program Key Milestones

- **Design for license application complete – November 2007**
 - **Actual: Completed December 2007**
- **Licensing Support Network Certification – December 2007**
 - **Actual: October 19, 2007**
- **Supplemental Environmental Impact Statement – May 2008**
 - **Actual: Draft issued October 2007/Hearings completed**
- **License application Submittal – June 2008**
 - **Impact of \$108 million FY 2008 appropriations reduction currently being evaluated**



Status of Program Key Milestones (cont.)

- **Start Nevada Rail Construction – October 2009**
 - Delayed – Inadequate funding to proceed with design
- **Yucca Mountain Construction Authorization – September 2011**
 - Best achievable date
- **Operating License Application Submittal – March 2013**
 - Predicated on funding and construction schedule
- **Rail Line Operational – June 2014**
 - 2016 is achievable only if adequate funding is provided
- **Begin Receipt – March 2017 (Best Achievable Date)**
 - Firm date cannot be set until funding issue resolved



OCRWM Releases

- **Independent Assessments (on website)**
 - **Quality Assurance Management Assessment**
 - **Quality Assurance Programs**
 - **Engineering Processes**
- **Total System Life Cycle Cost**
 - **Being revised to include current and constant dollars**
- **Final Supplemental Environmental Impact Statements**
- **License Application**
- **Fee Adequacy Determination**
- **Second Repository Report**
- **Interim Storage Report**



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Bechtel SAIC Company, LLC – Design and License Application Update

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Presented by:
Jason Bohne
Internal and External Communications Manager
Bechtel SAIC Company, LLC

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Bechtel SAIC Company's Role

- **BSC is:**
 - **The repository design authority**
 - **The author of a majority of the license application**
 - **Responsible for integration of the license application**
 - **DOE's support in licensing defense**
 - **DOE's support in day-to-day operations**

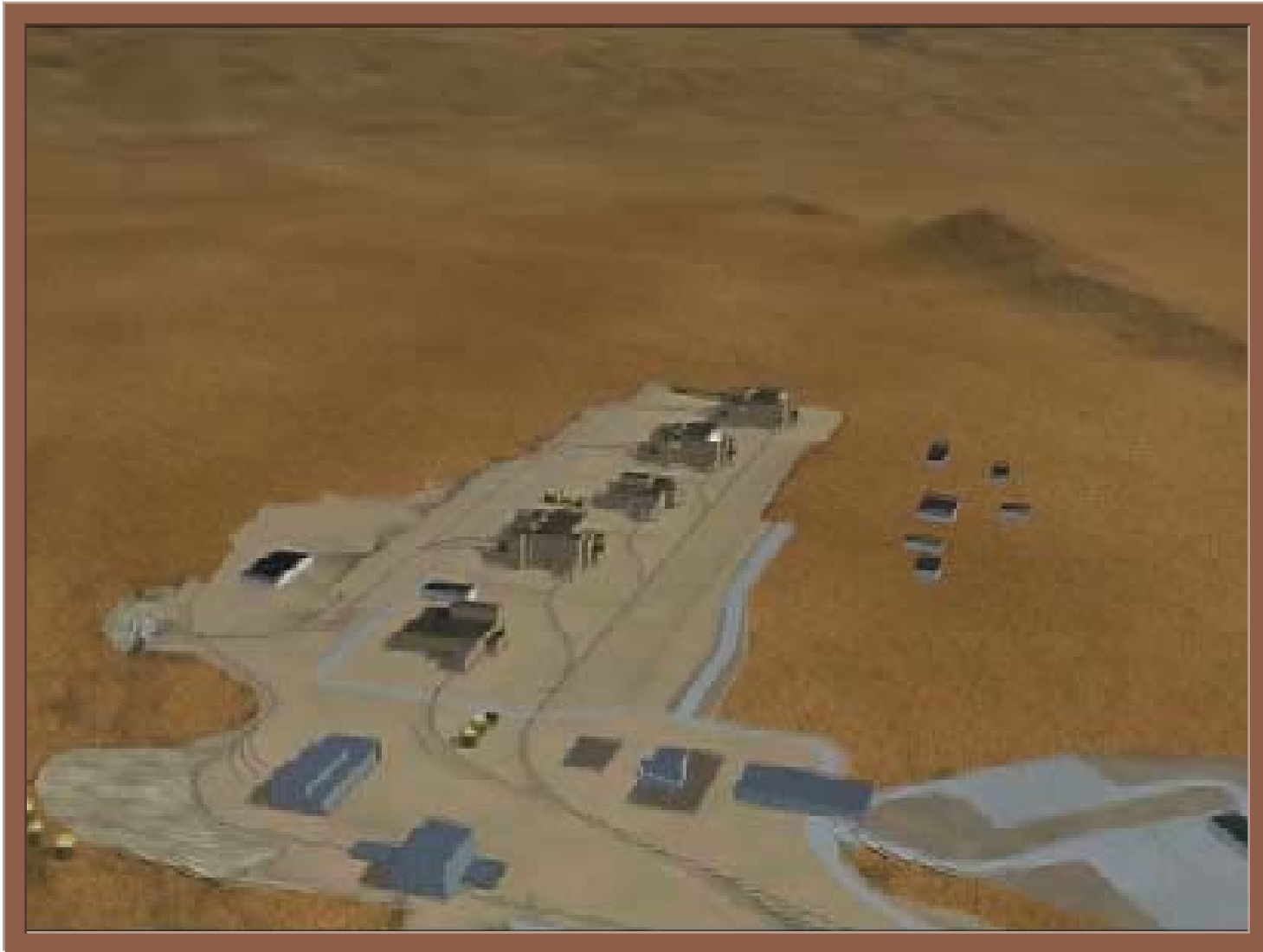


Achieving Excellence

- **As the management and operating contractor, BSC is building a nuclear culture through continuous improvement:**
 - **Quality culture**
 - **Self-Assessments**
 - **Corrective Action Program**
 - **Independent reviews**
 - **Requirements traceability**
 - **Safety improvements**



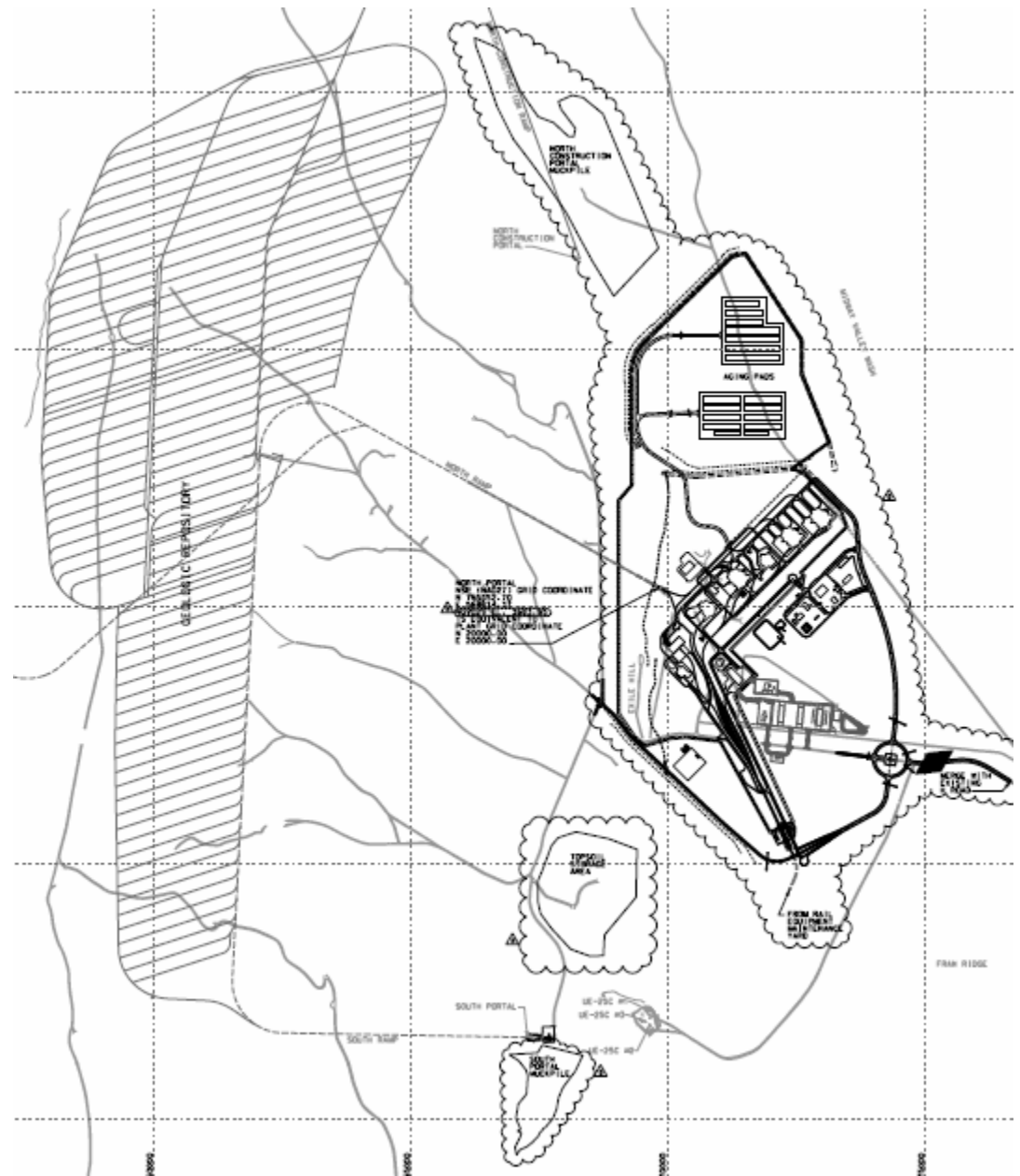
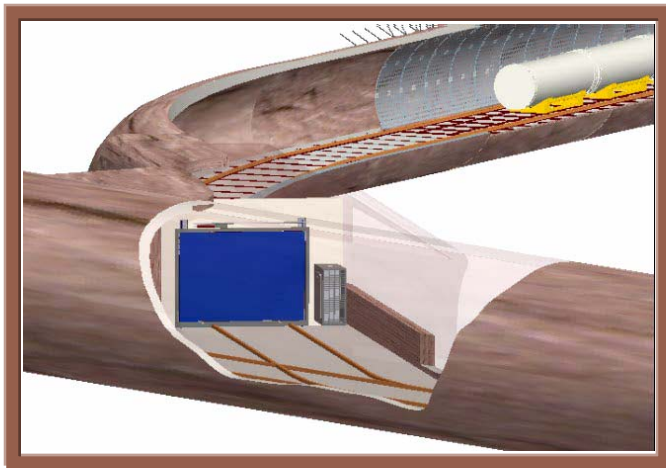
Repository Design is Established



3D Repository Model



Repository Surface and Subsurface Overview



License Application

**BSC is supporting
DOE's goal of
completing the
license application
in 2008**



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Office of Logistics Management Update

Presented to:
Waste Management Symposium 2008

Presented by:
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Director, Office of Logistics Management
Office of Civilian Radioactive Waste Management
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Transportation Topics

- **Describe OCRWM's current approach to transportation system development**
- **Report on the status of system development**
- **Discuss remaining activities to bring the system to an operational state and how they will be accomplished**
- **Present opportunities and timing for interested organizations and stakeholders to be involved in transportation system development**
- **Discuss perceptions of spent nuclear fuel (SNF) transportation risk relative to other hazmat shipments**

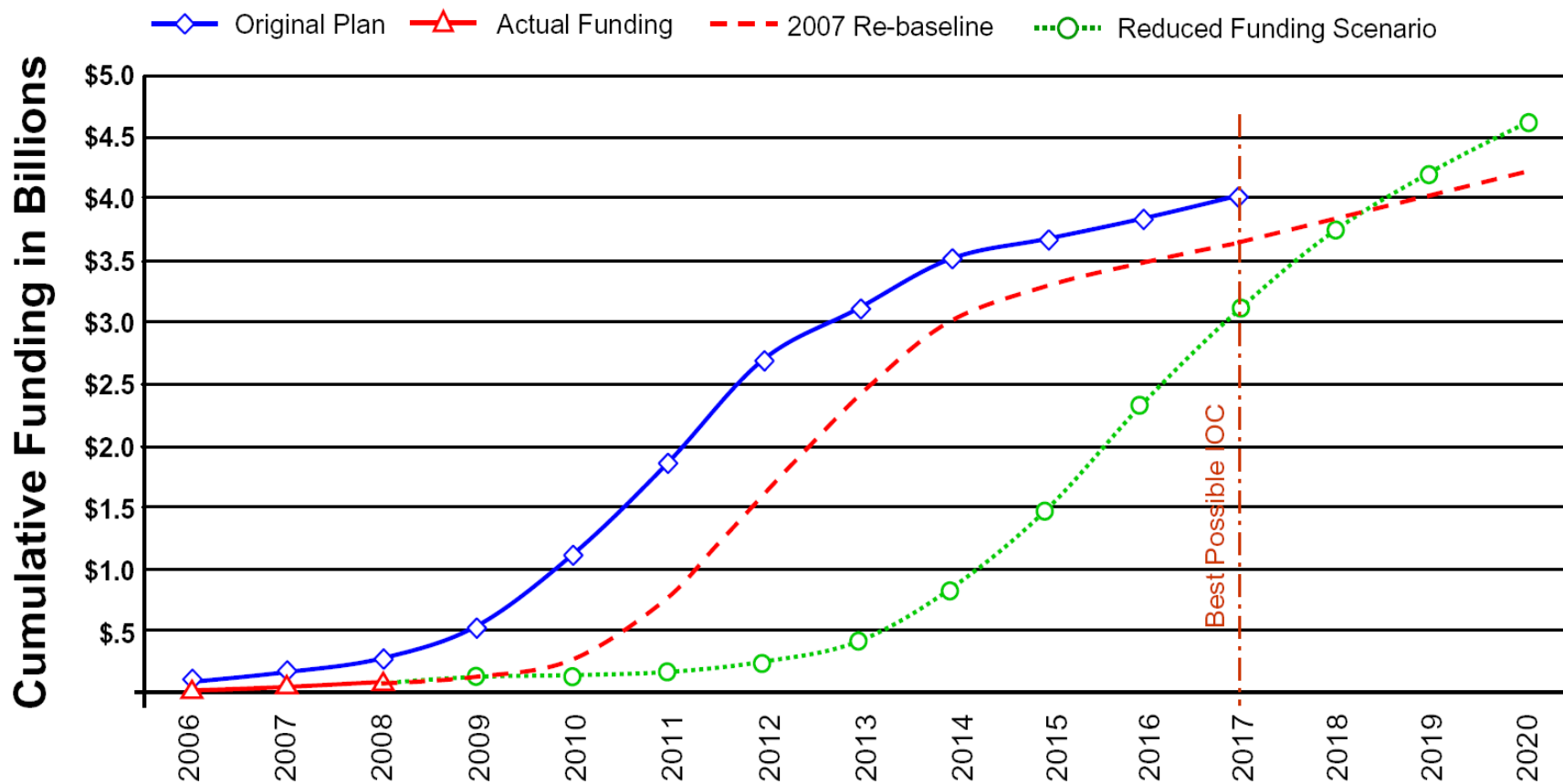


Current Transportation Development Approach

- **Office of Logistics Management (OLM) planning is for most of the shipments to be in canistered form. Most commercial shipments will be in transportation, aging and disposal (TAD) canisters, and most DOE shipments will also be in canisters**
- **TADs and dual-purpose canisters will be shipped by rail**
 - **Some individual fuel assemblies shipments will be made by truck**
- **Maintenance of the TAD overpacks and other rail transport casks will take place near the repository**
- **Truck cask maintenance will be procured as a service from the private sector**
- **Shipment rates to the repository will be phased**
 - **In the initial year of operations, 400 metric tons of heavy metal (MTHM) will be shipped, building up to 3,000 MTHM per year over five years**



Transportation Funding & Schedule

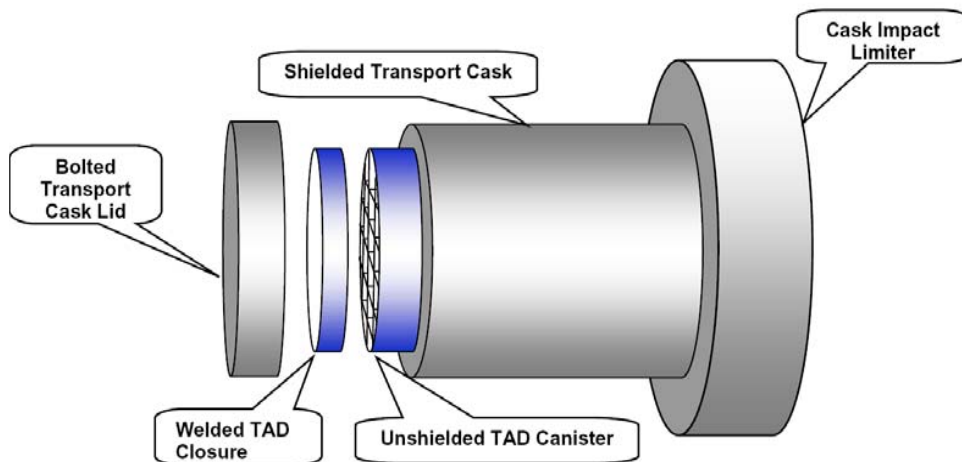


\$M Requested	\$85.4	\$79.3	\$104.3	\$273.8	\$574.4	\$742.5	\$819.5	\$42244	\$407.4	\$158.6	\$175.1	\$185.4			
\$M Actual	\$43.0	\$32.0	\$15.9												
\$M Re-Baselined				\$50.0	\$120.0	\$742.5	\$819.5	\$822.4	\$630.5	\$275.1	\$175.1	\$185.4	\$179.5	\$182.1	\$178.4
\$M Reduced Scenario				\$20.0	\$20.0	\$20.0	\$89.0	\$171.0	\$409.0	\$651.0	\$848.0	\$756.0	\$640.0	\$478.0	\$397.0



Cask Systems

- **Most commercial SNF shipments will be made in TAD canisters with a TAD transportation over-pack certified by the Nuclear Regulatory Commission**
 - **Proposals for TAD designs have been received, and design procurements are pending – hardware procurements will be in 2013**
- **Procurement of transportation cask designs to ship Department of Energy SNF and high-level radioactive waste (HLW) is scheduled in FY 2010. Procurement of hardware is scheduled to begin in FY 2013**
- **Procurements of commercial SNF truck cask hardware is scheduled to begin in FY 2013**



Rolling Stock Development Status

- **OCRWM is partnering with Naval Nuclear Propulsion Program (NNPP) on the development of the security escort rail car that both organizations will use**
 - **Design procurement efforts have started, based on NNPP's schedule requirements**
- **The schedule for procuring cask and buffer rail car designs is 2011 with fabrication of initial production units beginning in 2013**
- **Consideration is being given to transitioning procurement of the full rail car fleet to the logistics service provider after operations begin**



Support Facility Development

- **The Cask Maintenance Facility (CMF) will be designed to maintain casks that have shipped SNF or HLW in canisters**
 - Current plans are to use commercial facilities to maintain the small number of casks that ship bare fuel
 - Design of the CMF is scheduled to begin in 2010
- **The Operations Facility will be used to dispatch empty casks, track loaded casks in the national transportation system and handle pre-notification activities**
 - Design of the Operations Facility is scheduled to begin in 2010



Status of Nevada Rail Transportation Project

- **October 2007 – Issued Draft Nevada Rail Corridor Supplemental Environmental Impact Statement (SEIS) and Draft Rail Alignment EIS for public comment**
 - **Public comment period closed on January 10, 2008**
 - **DOE held eight public hearings**
 - **Hearings were held in Nevada, California, and Washington, D.C.**
 - **There were over 500 attendees**
 - **Over 1000 comment documents were received from the public and stakeholders**



Status of Nevada Rail Transportation Project (cont.)

- **June 2008 - Issue Final Nevada Rail Corridor SEIS and Rail Alignment EIS**
 - Comments provided on the drafts will be addressed in the Final Nevada Rail Corridor SEIS and Rail Alignment EIS
- **Preliminary design and detailed characterization are scheduled to begin in 2009**
 - Rail completion has slipped two years - until 2016 based on current budget profiles
- **OCRWM plans to publish a record of decision selecting the Nevada Rail Alignment no earlier than 30 days after publication of final EIS**



Section 180(c) Policy

- **Revised proposed policy was issued in the July 23, 2007 *Federal Register***
 - Comment period closed on January 23, 2008
 - OLM received over 50 comment documents from states, state regional groups, tribal governments, affected units of government, and citizens
- **DOE will analyze the comments and factor them into the development of a pilot program**
- **DOE will issue another revised proposed policy that incorporates lessons learned from the pilot program and considers the comments received on the July 23, 2007 revised proposed policy *Federal Register* Notice (FRN)**
- **In 2008, DOE plans to publish a supplement to the *FRN* addressing a process to allocate available funds to tribes**



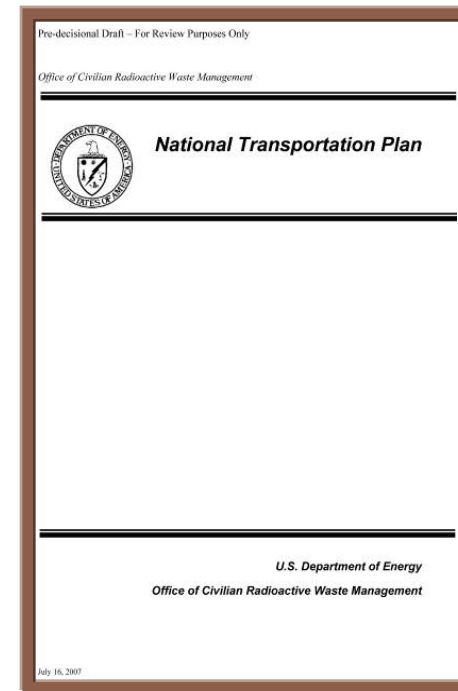
Operations Planning

- **Current operations planning efforts include:**
 - **Preparing the Transportation Systems Operations Plan**
 - **Assessing utility near-site/short-line railroad infrastructure in concert with the Federal Railroad Administration**
 - **Performing regulatory analysis and requirements development**



Development of the National Transportation Plan (NTP)

- **Developing the NTP is one of four strategic Program objectives**
- **Elements of the plan include**
 - Requirements
 - Infrastructure development
 - Stakeholder involvement
 - Operations planning
- **Stakeholder input has been incorporated**
 - Impacts of FY 2008 funding and future profiles are being incorporated
 - NTP will be published for public comment when integrated planning baseline decisions are finalized



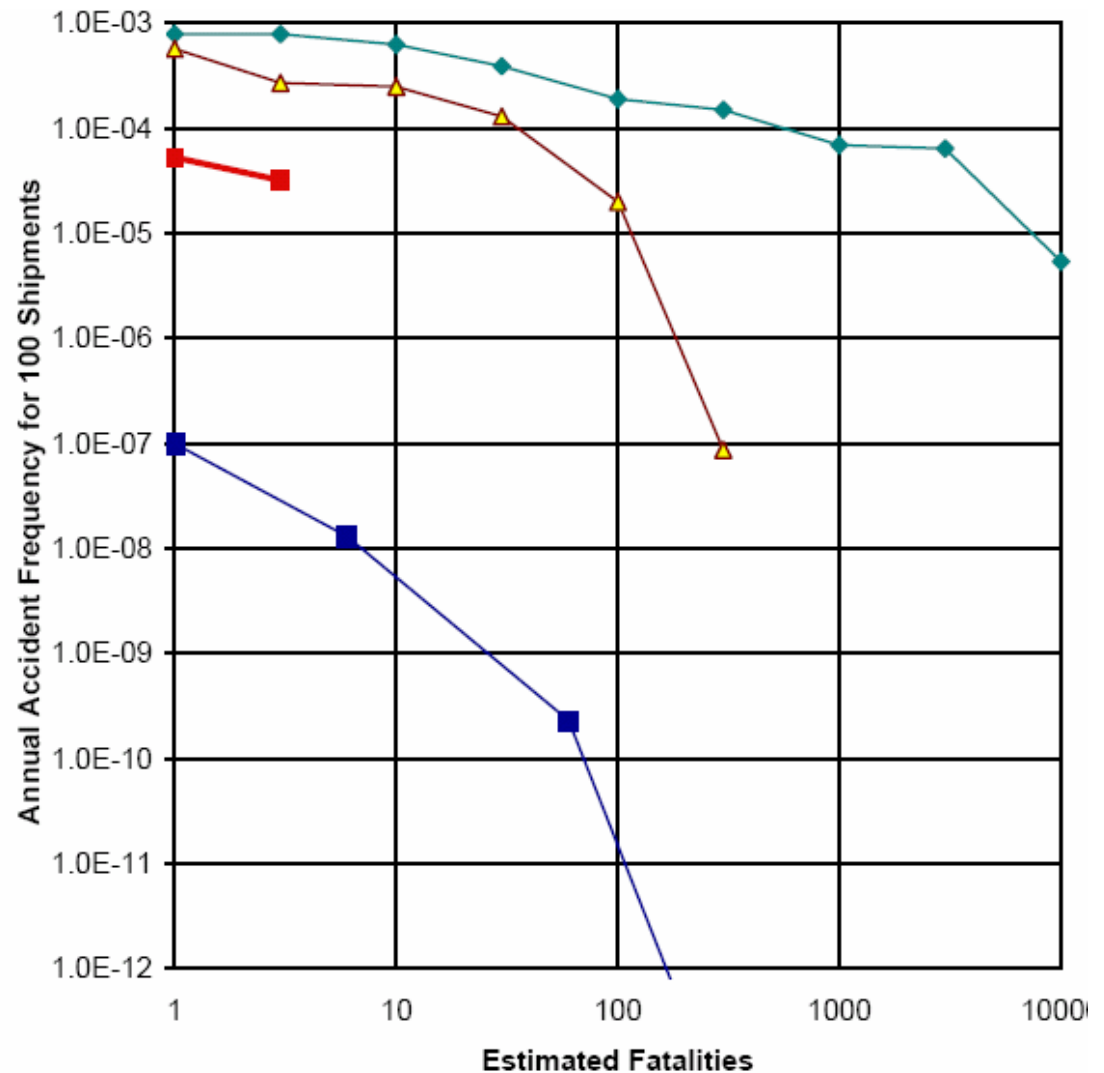
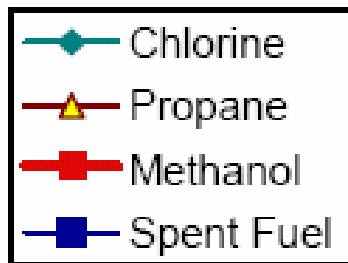
Perceptions of Transportation Risk

- **The National Academies' Committee on Transportation of Radioactive Waste found**
 - **No fundamental technical barriers to the safe transport of SNF in the U.S.**
 - **U.S. regulations are adequate to ensure package containment effectiveness over a wide range of transport conditions**
 - **The accident risk associated with SNF is more than three orders of magnitude less than for some other common hazardous materials**
- **So what causes perceptions that SNF transportation has a comparatively higher risk?**



Comparative Risk of Hazardous Materials Shipments

- Over 40 years of SNF shipments have been made without a release of contents that has been harmful to the public or the environment

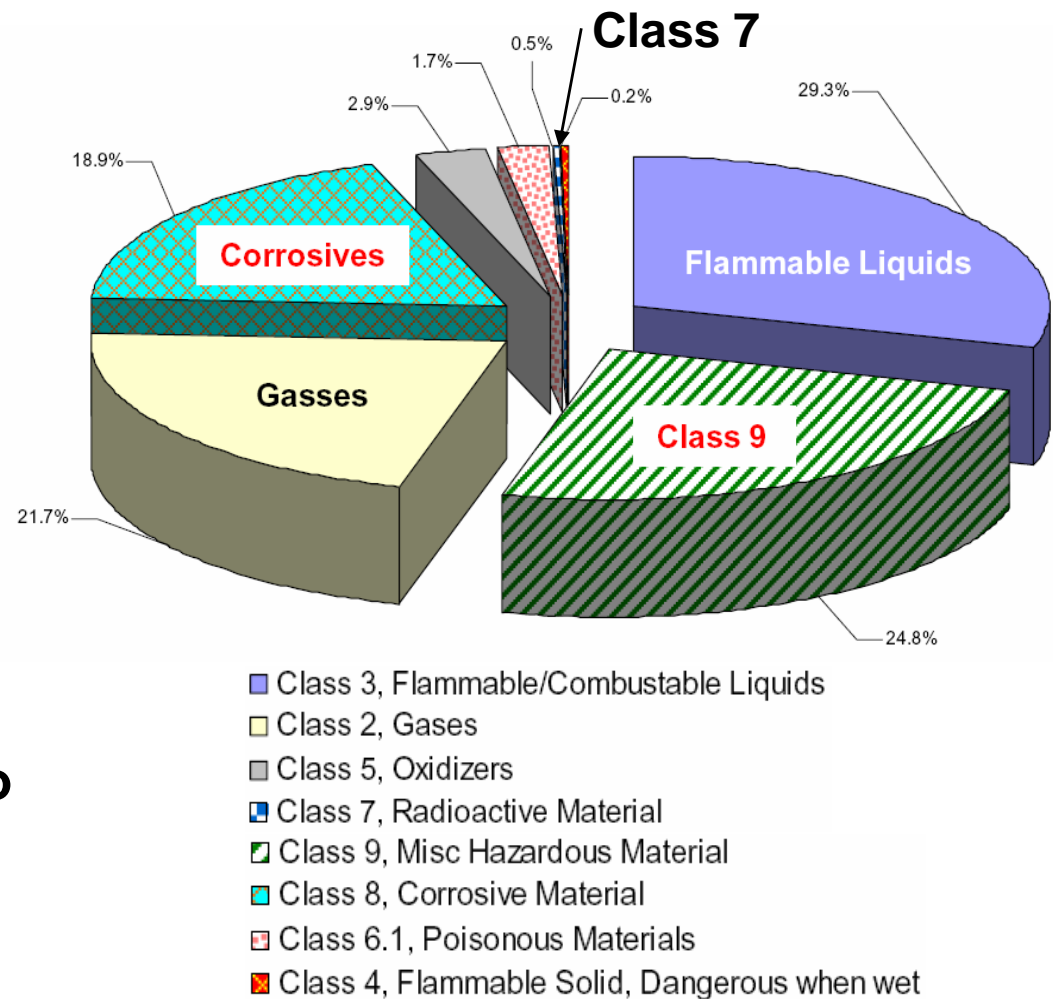


Source: National Academies' *Going the Distance*



Hazmat Transport by Commodity

- **Most transportation risk comes from potential accidents**
 - Number of accidents is related to the number of shipments
- **125 billion ton miles of hazardous material was shipped in the U.S. in 2005**
 - Less than 0.7% was SNF class 7 (radioactive material)
- **Shipment data contributed to the comparative risk assessment provided by the National Academies**



Benefits of Transporting SNF to a Repository

- **SNF currently at 121 sites around the country will be consolidated into one location**
- **Many of the existing sites are close to major population centers**
- **The Yucca Mountain repository is in one of the most remote sections of the continental U.S.**
- **The Nevada Test and Training Range and the Nevada Test Site provide a significant perimeter boundary of physical protection**



Summary

- **The activities required to develop the OCRWM transportation system are well defined**
- **The technology and expertise to conduct SNF shipments already exists**
- **The risks associated with transporting SNF are small, compared to other hazardous material shipments**
- **Government and industry have a proven safety record in transporting SNF in the U.S. for more than 40 years**



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Public Outreach and Intergovernmental Relations

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Public Outreach

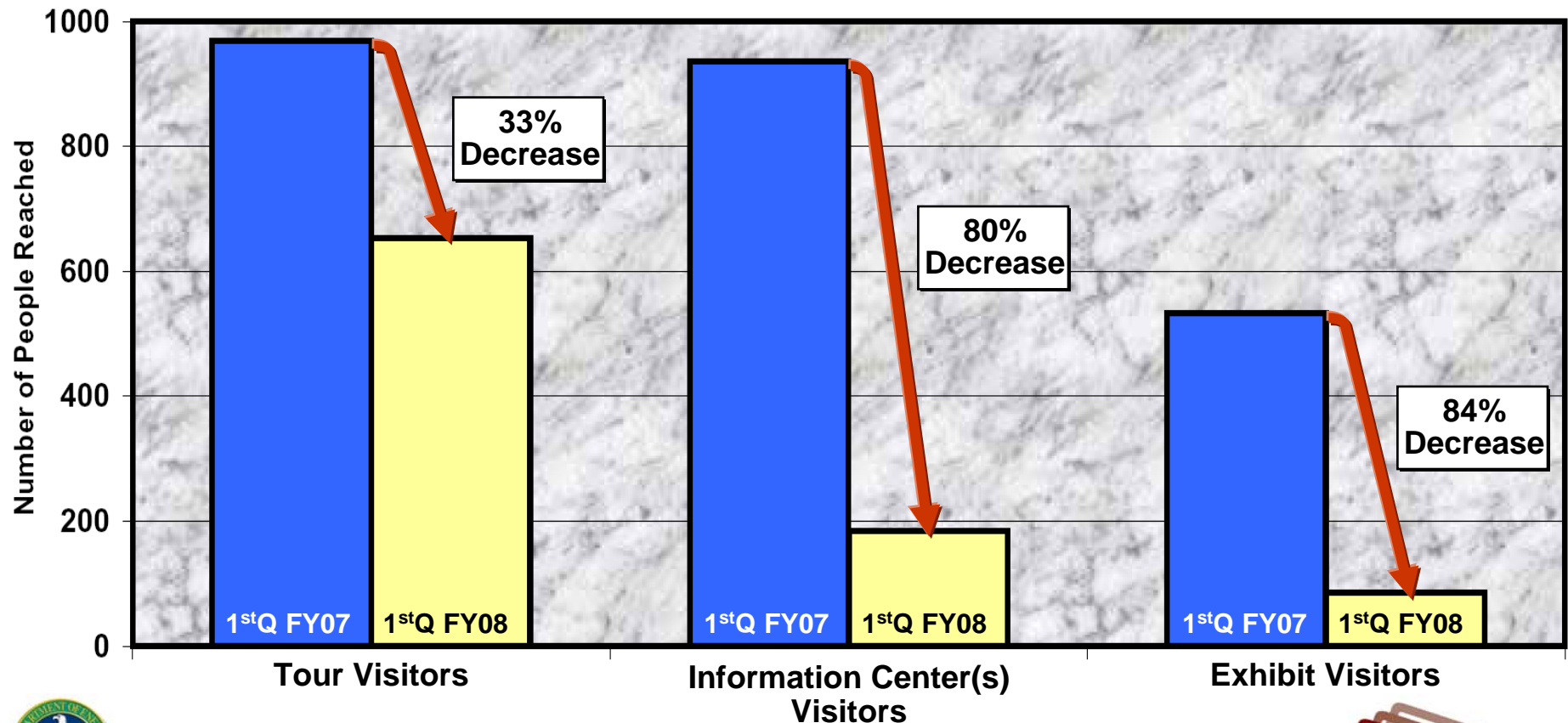


- **Summary of public outreach activities in FY 2007**
 - 148 tours were conducted for 2,857 visitors
 - 18 educational events reached 799 students, teachers, and parents
 - 22 exhibits provided information for 3,011 people
 - 89 e-mails and letters were received and answered
 - 1,730 people visited the public information center
 - 23 presentations informed 1,382 people
 - 449 toll-free information line calls were received and processed
 - 786,794 user sessions occurred on the OCRWM Internet website



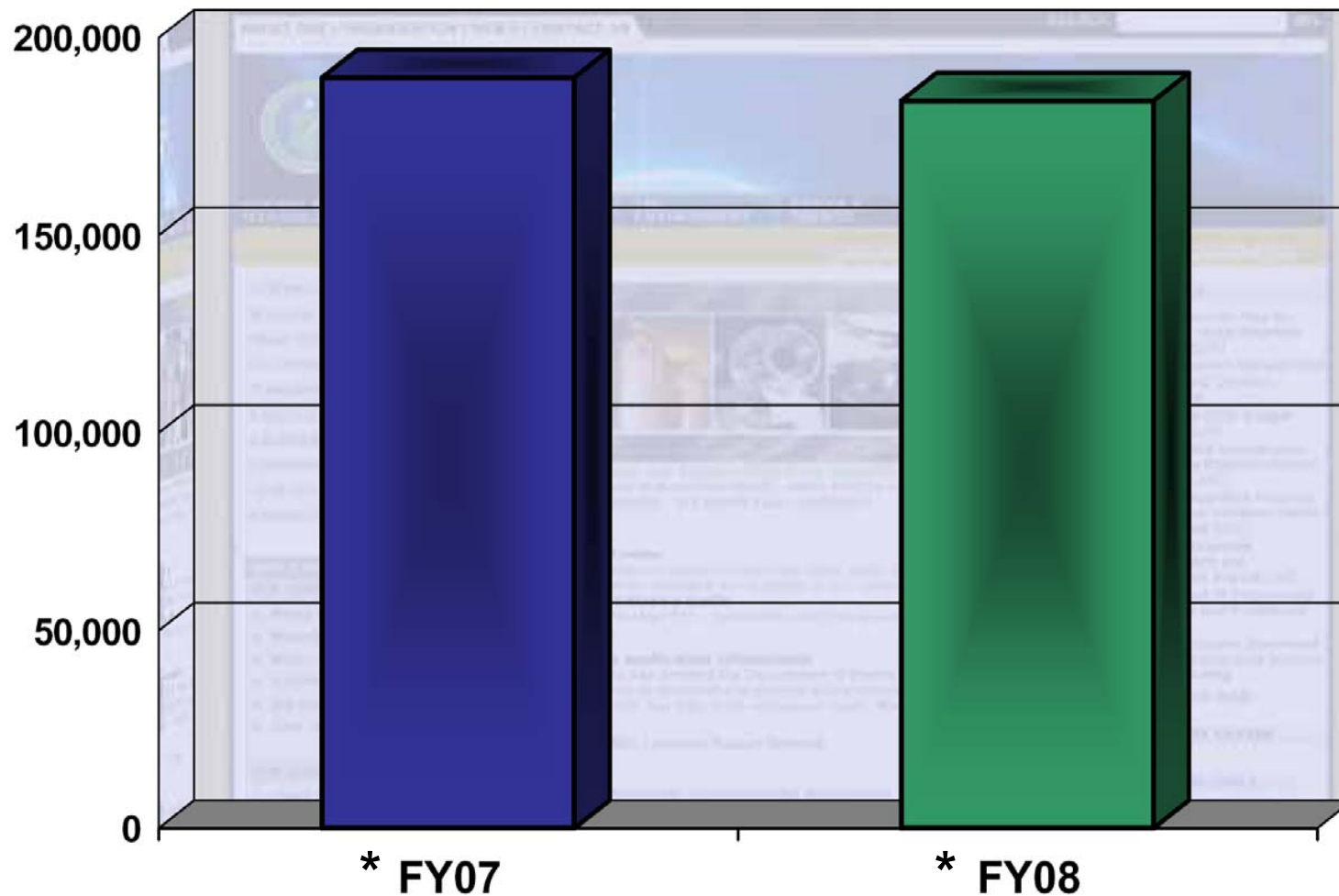
Effects of Budget Cuts on Public Outreach

- Decrease in opportunities for public outreach
- Two information center closures, leaving one in Pahrump, NV



Web Usage Remains Consistent

Visits to www.ocrwm.doe.gov



*** First quarters of FY 2007 and 2008**



Outreach

- **Hearings**
 - **Eight hearings for public comments in Nevada, California, and Washington, D.C. for Environmental Impact Statement documents with over 500 attendees**
- **Affected Units of Government interactions**



Funding to Affected Units of Government and Nevada University System

As of 02/21/2008

	Year Initiated	Total to Date (Actual)
Affected Units of Local Government* - Oversight	1989	\$108,801,275
State of Nevada - Oversight	1983	\$92,662,109
Payments Equal to Taxes	1983	\$129,874,737
Nevada System of Higher Education	1984	\$113,654,839
Clark County, NV, Transportation Grant	2004	\$2,000,000
Inyo County, CA, Death Valley Regional Ground Water Monitoring Program	2002	\$2,839,750
Nye County, NV, Science & Verification Program	1996	\$31,416,868
Nye County, NV, Transportation Cooperative Agreement	2004	\$430,000
Total Funding to the Affected Units of Government and the Nevada System of Higher Education since 1983	All Years	\$481,679,578

*The Affected Units of Government are the State of Nevada and the ten counties designated "affected" by the Nuclear Waste Policy Act or the Secretary of Energy.



Increased Media Coverage

Nevada Coverage

Symbolically, A Door Closes For Nuclear Dump at Yucca

Las Vegas Sun, Jan 11, 2008

More Jobs In Jeopardy At Yucca Repository Site

Pahrump Valley Times, Jan. 16, 2008

Criticism Falls On DOE Plan For Rail Line

Las Vegas Review-Journal, Jan. 24, 2008

National Coverage

As Nuclear Waste Languishes, Expense to U.S. Rises

New York Times, Feb 17, 2008

Senators want to speed up nuclear waste repository

The Greenville News, Jan. 24, 2008

GOP senators push Yucca storage of nuke waste

USA Today, Jan. 24, 2008

Candidates pander on Nevada's nuclear waste site

USA Today, Jan. 1, 2008



Information Products

- **Some of the public information products available, or soon to be available, regarding the license application:**
 - License application executive summary
 - Online media/citizen's guide to OCRWM program
 - “The Path Forward: Yucca Mountain” brochure
 - Spent fuel pellet card
 - Really Simple Syndication, or RSS, feeds on website
 - Transportation Frequently Asked Questions
 - “Safely building a railroad to Yucca Mountain” DVD
 - Yucca Mountain notepads
 - Repository and surface animations
 - ◆ All electronic products will be posted to www.ocrwm.doe.gov as they become available

**Stop by our Exhibit (Booth 936-938)
to see what we have!**



Multiple Public Outreach Channels

- **Public information is distributed through a variety of channels:**
 - Website (media guide, posting of key documents)
 - Brochures
 - Presentations and exhibit materials
 - Multimedia formats (CDs, DVDs)



Conclusion

As OCRWM moves to submit a license application, we continue our commitment to keep stakeholders and the public informed and involved



Questions?

