

# Update on Activities of State of Nevada Agency for Nuclear Projects

Presentation to  
Nevada Legislative Committee on  
High-Level Radioactive Waste  
Las Vegas, Nevada  
March 16, 2012

Bob Halstead  
Office of the Governor  
Nevada Agency for Nuclear Projects

**EXHIBIT D - HLRW**  
Document consists of 23 pages.  
Entire document provided.  
Meeting Date 03-16-12

# Overview

- BRC Final Report
- Status of Yucca Mountain Repository Project
- Yucca Mountain Licensing and Litigation
- Business Case Against Yucca Mountain
- NRC Transportation Security Regulations
- Nevada Review of the DOE Draft Site-Wide EIS for the Nevada National Security Site (NNSS) and Off-Site Locations in NV (DOE/EIS-0426D)

# BRC Final Report

## Nevada Comments on Recommendations

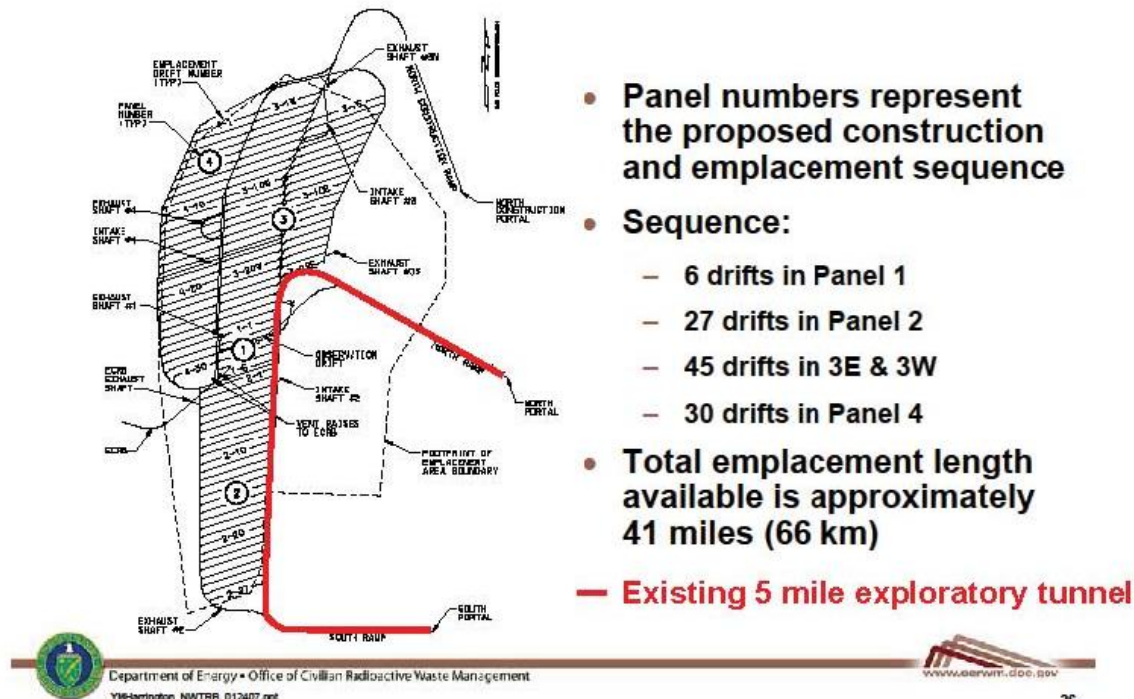
- Report reflects broad consensus view that the nation's nuclear waste disposal system is broken
- Use Consent-based siting process for facilities
- Replace DOE with federal-chartered corporation
- Adopt NAS 2006 transportation safety and security recommendations
- Require NRC regulation of shipments
- Follow WIPP model for facility siting, state regulation, & transportation planning

# Yucca Mountain Status

- DOE – Project terminated, moved to withdraw license application, no FY 2013 funding request
- NRC – Licensing proceeding suspended
- Congress – Zero appropriation for FY 2012
- US Court of Appeals could require NRC to resume licensing proceeding and meet new deadlines
- State of Nevada – Continues to oppose development of geologic repository, interim storage and/or reprocessing at Yucca Mountain

# What Exists Today at Yucca Mountain

## Proposed Yucca Mountain Subsurface Layout



Except for the 5 mile exploratory tunnel constructed to gain access to the mountain's interior for characterization, none of the required subsurface infrastructure exists.

# Yucca Mountain Safety Issues Remain

- Spent nuclear fuel is dangerous
- The site is unsuitable
- The repository design is flawed
- Transportation impacts are unacceptable

# Spent Nuclear Fuel is Dangerous

**Fresh fuel  
is not dangerous**



**Spent fuel  
is lethal for decades**

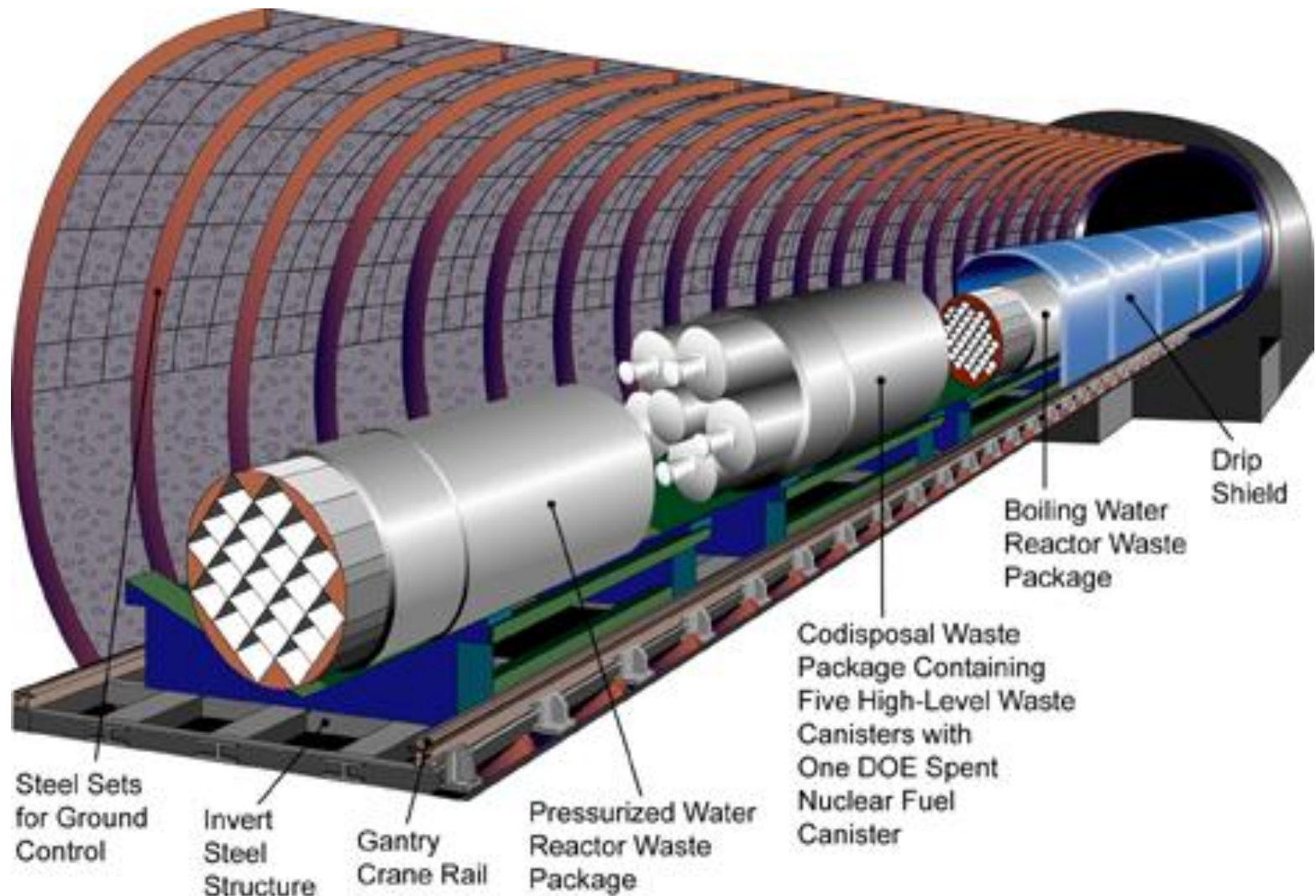
Fuel Cooling Time (years)	Unshielded Lethal Exposure Time
1	15 seconds
5	75 seconds
10	3 minutes
50	7 minutes
100	28 minutes

**Storage Risks: Lessons of Fukushima Daiichi  
Transportation Accident/Sabotage Cleanup Costs:  
\$10 Billion or more in urban area (DOE, State of Nevada)**

# Unsuitable Site



# Flawed Disposal Concept



Drawing Not to Scale  
00022DC-SRCR-V1S30-02e.ai

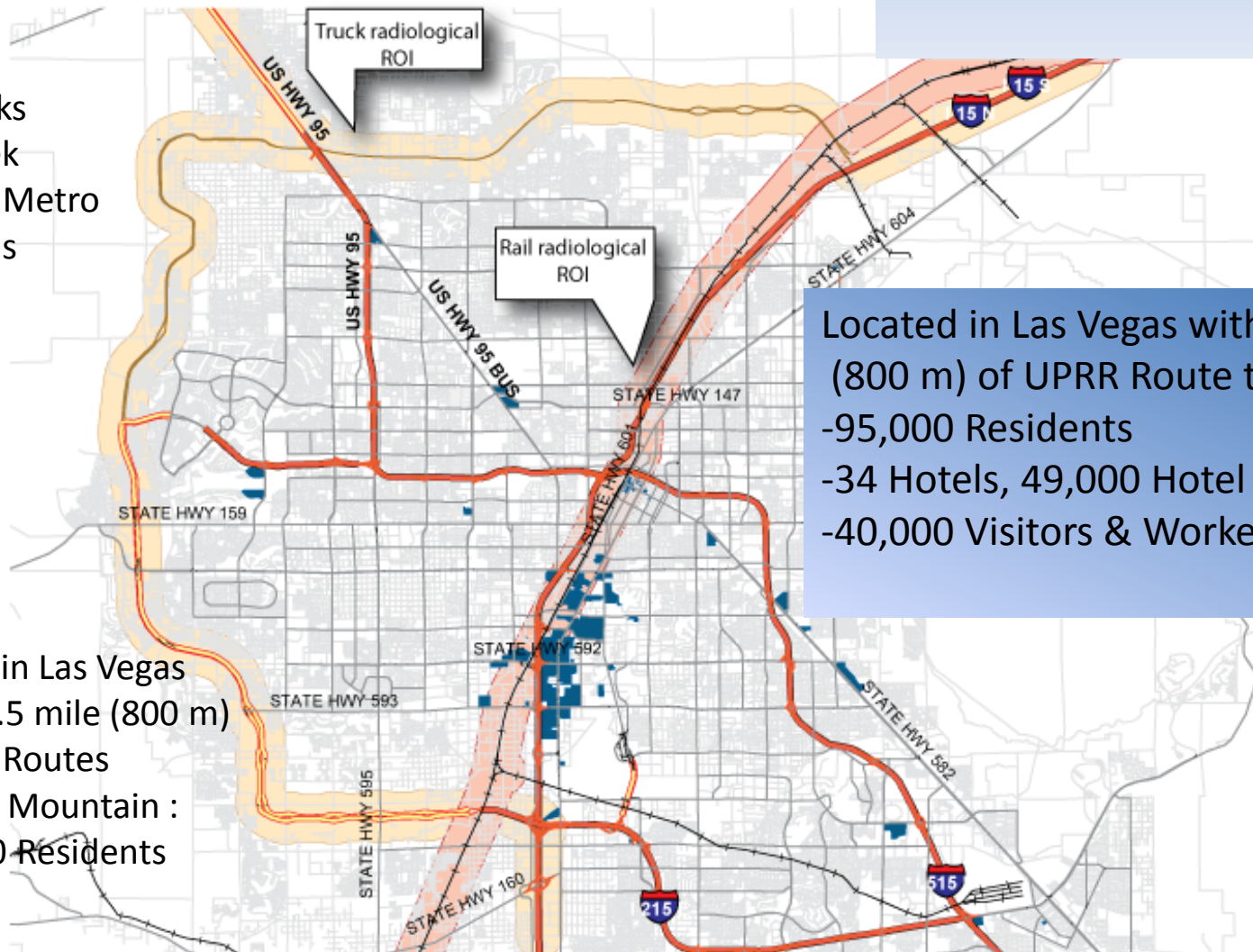
# Unacceptable Transportation Impacts

Rail Casks through Las Vegas  
to Yucca Mountain via Caliente  
Minimum – 8% Maximum – 79%  
4 - 110 trainloads per year

1-2 Trucks  
per Week  
through Metro  
Las Vegas

Located in Las Vegas  
within 0.5 mile (800 m)  
of Truck Routes  
to Yucca Mountain :  
-113,000 Residents

Located in Las Vegas within 0.5 mile  
(800 m) of UPRR Route to Caliente :  
-95,000 Residents  
-34 Hotels, 49,000 Hotel Rooms  
-40,000 Visitors & Workers



# NRC Licensing Proceeding

- DOE Submits Application – June 3, 2008
- CABs 01,02,03 Memo & Order Admitting Parties and Contentions – May 11, 2009
- ASLB/CAB 04 Established – June 11, 2009
- Case Management Order #3 – Feb. 1, 2010
- DOE Motion to Withdraw – March 3, 2010
- ASLB Order Denying Withdrawal and Admitting Interveners – June 29, 2010
- NRC Memo & Order (Commissioners split 2-2 on Motion to Withdraw) – Sept. 9, 2011
- Proceeding Suspended – Sept. 30, 2011

# Licensing Litigation Status

- US Court of Appeals could require NRC to resume licensing proceeding and meet new deadlines
- Petition for Writ of Mandamus (Agency Action Unreasonably Withheld) – Filed December 5, 2011
- Petitioners include Aiken County, SC; 3 individuals; the States of SC & WA; NARUC; & Nye County, NV
- Seeks Court order directing NRC resume consideration of the license application within 30 days, and approve or disapprove the application within 14 months
- Briefs filed Feb. 2012; Oral Argument May 2, 2012
- Decision expected June-September 2012

# Implications of Licensing Restart

- Congress has appropriated NRC and DOE no new funds for licensing activities
- NRC & DOE have very limited carry-over funds if licensing should resume
- If licensing resumes, Nevada believes the proceeding will require 4-5 years.
- Nevada plans to pursue all 219 admitted contentions (challenges to the application)

# Key Nevada Licensing Contentions

- ☐ Appropriate representation of future climate in area;
- ☐ Selection of models to characterize water flow;
- ☐ Chemical composition of the water that would contact the drip shields (if installed) & waste packages;
- ☐ Corrosion resistance & failure mechanisms of drip shields and waste packages;
- ☐ Sorption of radionuclides to minerals in the rock;
- ☐ Behaviour of radionuclides in the biosphere;
- ☐ Vulnerability of surface facilities to military aircraft crashes;
- ☐ Vulnerability of site to future volcanic events; &
- ☐ NEPA transportation issues

# Business Case Against Yucca Mountain

- What currently exists at Yucca Mountain is an exploratory tunnel, not a repository
- Obtaining a license to construct a repository at Yucca Mountain would be difficult, time-consuming, costly, and cannot be assumed to succeed
- Constructing and operating a repository at Yucca Mountain could cost \$90-100 Billion (2007\$)
- Terminating Yucca Mountain and developing another site could save \$17-28 Billion (2007\$)

# Preliminary Estimate of Savings

Potential Cost Savings from Terminating Yucca Mountain for Another Site (Billions of 2007\$)

- Reduce/eliminate railroad construction \$2-3 B
- Eliminate titanium drip shields \$8-10 B
- Reduce national transportation costs \$3-6 B
- Use larger, cooler TAD canisters \$4-9 B

# NRC Regulations to Protect SNF Shipments from Sabotage & Terrorism

- NRC adopted new regulations (10 CFR 73.37) in 2011 that enhance physical protection through route approvals, armed guards requirements, coordination with state & local governments, and other measures
- NRC regulations adopt major provisions of 1999 State of Nevada Attorney General petition for rulemaking
- NRC regulations complement Transportation Security Administration and U.S. DOT regulations for security & safety of hazmat shipments by rail adopted in 2009
- DOE shipments remain exempt from NRC regulations

# NRC Transport Regulations Reflect the Current Threat Environment

- SNF Shipping casks are vulnerable to attack
- Successful attack in urban area could inflict economic injury costing tens of billions of dollars
- Threat is recognized by DOE, NRC, DHS, DOT, National Academy of Sciences (2006), and BRC on America's Nuclear Future (2012)
- Risk management measures include extended SNF storage in dry casks, hardened on-site storage (HOSS) and shipping older fuel first (OFF) to off-site storage and disposal facilities

# DOE Draft Site-Wide EIS for NNSS



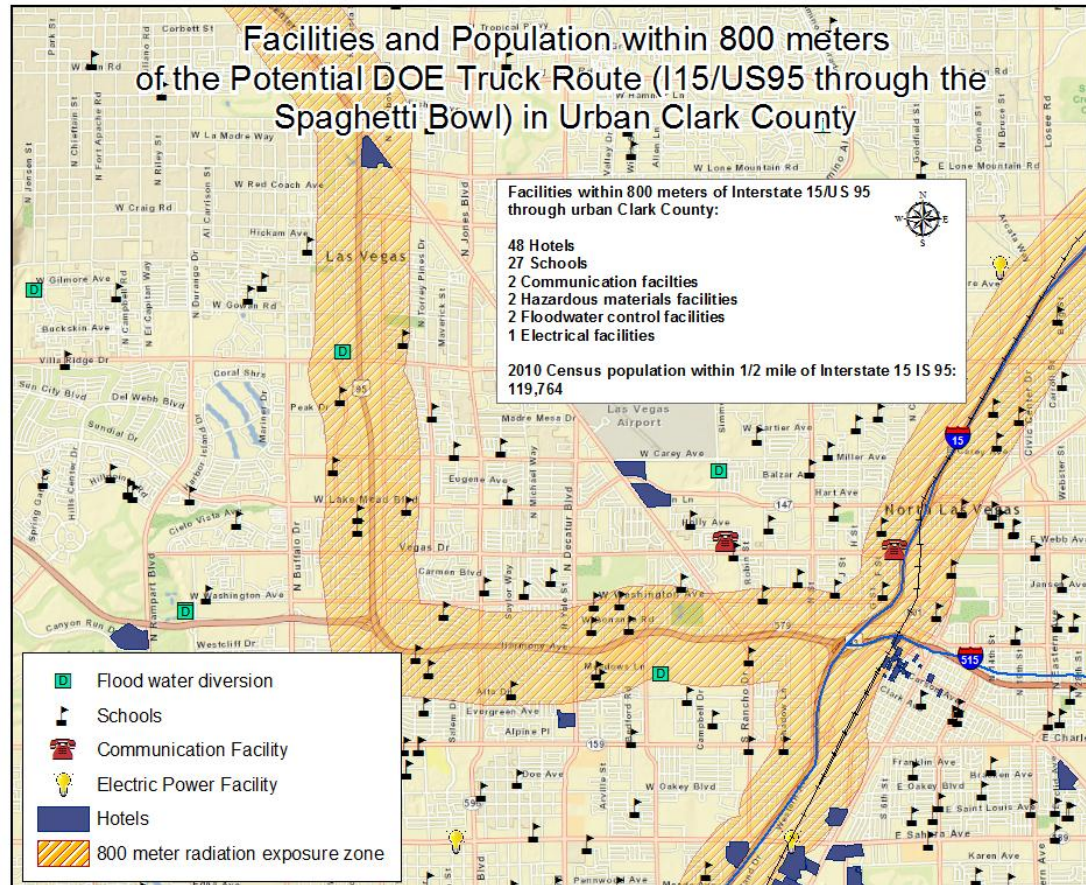
# Review Process for DOE/EIS-0426D

- EIS must evaluate past, present, future & cumulative impacts of DOE activities at NNSS and off-site
- Draft EIS issued July 2011 (more than 1,400 pages)
- Comment period extended to Dec. 2, 2011; public meetings
- Comments submitted by individuals, organizations, cities, and counties, including Clark County and City of Las Vegas
- State of Nevada agencies (NDEP, NDWR, NDOT, NHP, & NDEM) comments coordinated by Attorney General's Office and Agency for Nuclear Projects, Office of the Governor
- State agencies meeting with DOE planned in 2012
- Final EIS and Record of Decision expected in 2012

# Major Issues

- LLW and MLLW disposal
- Land use & groundwater impacts
- Economic development
- Socioeconomic impacts
- Transportation impacts
- Potential waste shipments through Las Vegas conflict with existing agreement between past Nevada Governors and DOE Secretaries

# “Unconstrained” Route through Las Vegas: Spaghetti Bowl



Prepared by: Black Mountain Research 11/28/2011

# Clark County: Local Conditions

- “In general, over 550,000 Clark County residents are located within the 1 kilometer radius of each of these highways combined. This does not take into account the thousands of transient workers and up to 250,000 visitors who stay on the world famous Las Vegas Strip and downtown Las Vegas each day. The unevaluated and unidentified impact on this region in the SWEIS document is a major deficiency under NEPA, and further highlights the failure of the SWEIS to analyze major impacts to specific local conditions, including population density, land use conflicts, and existing conditions and maintenance of transportation and utility corridors.”