Getting Beyond Yucca Mountain
(And Implementing the Blue Ribbon Commission Final Report) - 12305

Robert J. Halstead* and James M. Williams**
*State of Nevada Agency for Nuclear Projects, Carson City, Nevada 89706, USA
**Western Interstate Energy Board, Denver, Colorado 80202, USA
Overview

Getting Beyond Yucca Mountain (Halstead)
BRC Final Report
Status Quo – February 2012
Yucca Mountain Licensing Proceeding
Potential Cost Savings
Implementing the BRC Final Report (Williams)
Some Commendations
Regional Equity
Role of Prospective Host States
Role of Governors in a Federal Corporation
BRC Final Report
Nevada Comments

- Consent-based siting
- 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 Quo

- 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
No More Tours...

Getting Beyond Yucca Mtn
What Currently Exists...

Proposed Yucca Mountain Subsurface Layout

- Panel numbers represent the proposed construction and emplacement sequence
- Sequence:
  - 6 drifts in Panel 1
  - 27 drifts in Panel 2
  - 45 drifts in 3E & 3W
  - 30 drifts in Panel 4
- Total emplacement length available is approximately 41 miles (66 km)
- Existing 5 mile exploratory tunnel

Getting Beyond Yucca Mtn
NRC Licensing Proceeding - 1

• DOE Files 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

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NRC Licensing Proceeding - 2

• Petition for Writ of Mandamus (Agency Action Unreasonably Withheld) USCA Case #11-1271 – Filed December 5, 2011
• Petitioners include Aiken County, SC; 3 individuals; the States of South Carolina and Washington; NARUC; & Nye County, NV
• Seeks Court order directing that NRC resume consideration of the Yucca Mountain license application within 30 days, and approve or disapprove the application within 14 months
• Decision expected June-September 2012
If licensing resumes, Nevada believes the proceeding will require 4-5 years. Nevada plans to pursue all 219 admitted contentions, including:

- 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;
NRC Licensing Proceeding - 4

Nevada plans to pursue all 219 admitted contentions, including:
- Sorption of radionuclides to minerals in the rock;
- Behaviour of radionuclides in the biosphere;
- Vulnerabilities of surface facilities to military aircraft crashes;
- Vulnerability of the site to future volcanic events; and
- NEPA transportation issues
Getting Beyond Yucca Mtn

Potential Repository Savings

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

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

OCRWM Expenditures, FY 1983-2009

- Yucca Mountain Project $6.63 Billion
- Total (including YMP) $10.48 Billion
# Projected Repository Costs


- Repository: $64.73 Billion
- Transportation: $20.25 Billion
- Balance of Program: $11.20 Billion
- Total CRWM Program: $96.18 Billion

Yucca Mountain Conclusions

• 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

• Terminating Yucca Mountain is a better business decision than proceeding with Yucca Mountain
Getting Beyond Yucca Mtn
SOME COMMENDATIONS:
Commend the BRC process, recommendations, presentation.

Sound directions for program reformulation, for getting “back on track”

Agree with consent-based approach: “Any attempt to force a top-down, federally-mandated solution—far from being more efficient—will take longer, cost more, and have lower odds of ultimate success.” (pg. ix)

Can agree that it should be given 20 years, provided pursued seriously.

SOME IMPLEMENTATION ITEMS NOT SPECIFICALLY ADDRESSED:

1. Regional Equity in Consolidated Storage & Disposal Facilities
2. Role of Prospective Host States in Siting
3. State Role in FedCorp Stakeholder Participation/Oversight
1. REGIONAL EQUITY:

BRC: A central recommendation, the US should undertake an integrated nuclear waste management program…..leading to one or more geologic repositories.
East-West Distribution: Commercial SNF
East-West Distribution: High-Level Defense Waste

- **HANFORD**: ~9,700 Canisters (Projected)
- **IDAHO**: ~3,590-5,090 Canisters (Projected)
- **WEST VALLEY**: 275 Canisters (2010)
- **SAVANNAH RIVER**: ~2,900 Canisters (2010)

TOTAL: ~3,175 Canisters (2010)
~19,865-21,365 Canisters (Total Projected)

68% 32%

100th Meridian
Painstakingly negotiated by Congress; reflected in legislation:

a) A first repository to be sought in the West, a second in the East;

b) Each repository to be selected from several candidates……..”select the most suitable”;

c) Capacity limits on the first repository until the second is in operation;

d) The first consolidated storage facility was presumed to be in the East.

e) Consolidated storage linked to the development of permanent disposal;

f) Consolidated storage and permanent disposal……….not in same state;

g) Secretary authorized (Section 135) to provide short-term/near-site storage capacity for limited amounts (up to 1,900 MTU) of spent fuel.
a. New organization formulates/considers *alternative configurations*.

b. An independent commission formed for national review.

c. Based on commission recommendations, new organization forms integrated strategy.

d. Congress reviews and approves, on an up or down votes.

e. If major departure required, re-visit.
Three approaches: *(not mutually inconsistent)*

- Eliminate the Atomic Energy Act intrusion on environmental laws: federal & state (e.g. groundwater)……Goeff Fettus (NRDC)

- A custom, negotiated state regulatory framework (e.g. WIPP Land Withdrawal Act)……Earl Potter (NM Lawyer)

- A federally-recognized state Certificate of Need for consolidated storage or disposal facilities……(but see the VTY license extension)
a) Basic Initial Siting Criteria; Generic Site Standards

b) Encourage Expressions of Interest

c) Phased Legally-Enforceable Agreements: “The host state (and other affected govs) enter into legally binding agreements with the facility operator.”

d) Host state assessment: Broader than NRC safety case (fiscal; social, transportation, etc.); Reviewed at Circuit Court level.

e) NAS One Step at a Time: Make Haste Slowly (A Challenge for FedCorp.)
Stakeholder Advisory Committees to the FedCorp Board (An authorized use of the NWF: BRC, pg. 67)

• National Stakeholder Groups (NEI, NARUC ……include SRGs (??))

• States directly impacted by particular facilities or operations…….prospective host states for consolidated storage or disposal facilities.
A Unique Federal Program:
Needs to consider, say, 8 sites in 4 states for consolidated storage &/or disposal facilities that 48 states don’t want.

In Our Federal System of Government:
Renewed attention to equity plus more (not less) legitimate state government power are likely to yield greater and steadier progress.

Paradoxical Conclusion Re Those on Receiving End:
More Equity, More Power => More Progress