



EPRI Assessment of the Blue Ribbon Commission Technical Recommendations

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**WM 2012 Session 83: Assessing the BRC Report and
Recommendations – What Did They Say and What Did They Mean?**

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EPRI Presentations to the BRC

- “EPRI Activities Related to Advanced Nuclear Power and Fuel Cycles”, Fuel Cycle Subcommittee Meeting, 12 July 2010
- “Extended Storage – Research Perspective”, Storage and Transportation Subcommittee Meeting, 19 August 2010
- “Used Nuclear Fuel – Inventory Projections”, Storage and Transportation Subcommittee Meeting, 19 August 2010
- “Challenges and Strategic Choices for a Sustainable Nuclear Fuel Cycle”, Fuel Cycle Subcommittee Meeting, 12 October 2010

Other EPRI Activity

- Participated on two panel discussions
 - Dry storage
 - Advanced fuel cycles
- Provided comments on all draft reports
 - Disposal subcommittee comments: 1 July 2011
 - Storage and Transportation subcommittee comments: 1 July 2011
 - Reactor and Fuel Cycle Technology subcommittee comments: 15 July 2011
 - Full commission draft report comments: 18 October 2011

EPRI Thoughts on Some of the BRC “Eight Key Elements”

- A new, consent-based approach to siting
 - Final recommendations say a bit more on how to define “consent”: “willingness of the host states, tribes and communities to enter into legally binding agreements with the facility operator”
- Prompt efforts to develop a new geologic disposal facility
 - Finish the Yucca Mountain licensing process
 - No problem looking for other sites, but only one may be needed
 - Whatever is done, it should begin promptly

EPRI Thoughts on Some of the BRC “Eight Key Elements” (continued)

- Prompt efforts to develop one or more consolidated storage facilities
 - Economic advantages to consolidate
 - Integration of consolidated storage and disposal plans will be efficient
 - Starting right away minimizes continued stop-gap measures the utilities must do now
- Early preparation for large-scale transportation
 - Early preparation will be inefficient without storage and disposal sites identified

BRC Recommendations on Siting Criteria

- Implementing organization should develop siting criteria
 - Keep criteria to a minimum. Emphasize disposal *system* (not just geology).
- EPA and NRC should develop a “generic” disposal standard
 - Part 63 is a good starting point
 - Fully risk-based
 - Excludes (most) sub-system performance standards
 - Some aspects may still need to be site-specific
 - Compliance point
 - Assumed future human behavior
 - How to handle climate change (e.g., changes to net infiltration or groundwater flow)
 - Time period of compliance should be <1 million years
 - EPRI agrees

Consolidated Storage Method: not Just “Dry”

- BRC feels consolidated wet storage would enable more rapid removal of used fuel from pools, if needed
 - This is a new “recommendation” from the BRC
 - Unclear to EPRI if consolidated wet storage would speed removal of fuel from other locations
- BRC implies used fuel storage can lead to a “disaster”: move fuel to a location “where the risks of broad-based population exposures in the event of a disaster are lower”?
 - Fukushima population exposure did NOT arise from fuel in *storage*
- “the Commission sees no unmanageable safety or security risks associated with current methods of storage (dry or wet) at existing U.S reactor sites”

Establish Used Fuel Handling Capabilities at the Consolidated Storage Facilities

- Used fuel handling capabilities needed as part of “waste confidence”
- Provides for R&D opportunity at the consolidated storage facility (recent Spanish example)

BRC Recommendations for Storage R&D

- “Specifically we urge continued work by the NRC, DOE, industry organizations such as EPRI, and others to **explore fuel degradation mechanisms, identify unanticipated problems with extended fuel storage** (i.e., unexpected corrosion rates), better understand the behavior of dry storage systems and their contents over time, **investigate the feasibility of enhancing instrumentation in existing dry and wet storage systems**, and **promote the standardization of cask designs**.
 - EPRI agrees work should continue on degradation mechanisms
 - Industry is looking into enhancing instrumentation
 - Now is not the time to “standardize”

Advanced Fuel Cycles

- BRC decides not to decide about whether to proceed with reprocessing in the nearer-term
 - EPRI agrees. No need to rush into reprocessing.
- Keep options open by focused R&D
 - EPRI agrees, and is developing its own cycle modeling and decision analysis capabilities



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