

BRC Disposal Subcommittee meeting Nov 4, 2010

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The disposal subcommittee asked me to focus on three questions: 1) what were the drivers behind the scope of scientific work and the associated cost and time required for evaluation of the WIPP and Yucca Mountain sites, 2) how can a future site evaluation process be designed to allow the many necessary and sometimes conflicting goals for site evaluation to be met in a credible way within a reasonable time and at a reasonable cost, and 3) what are my views on DOE management for the Yucca Mountain program.

I believe the main driver was relentless societal demand for a virtual “zero risk”, “zero uncertainty” near utopian repository instigated by those who do not want a solution for radioactive waste, those that oppose whatever particular site is being considered, and well meaning bureaucrats and academics who either intentionally or unintentionally foster unrealistic, overly expensive, and time consuming demands. For Yucca Mountain this started with the “dead right” blue sky unrealistic National Academy report that basically required a million year standard. The EPA, under political pressure, piled on with traditional ultra low risk dose requirements and additional inappropriate resource protection requirements, e.g. drinking water protection. All of these initial overly protective standards are in turn implemented by an ultra conservative stringent and demanding NRC regulatory implementation process that in itself has cost over one half a billion dollars. Additional “jawboned” requirements from the Nuclear Waste Technical Review Board added further burdens in the name of helpful perfection. Taken all together, the NAS/EPA/NRC/NWTRB gauntlet is so demanding that it makes it extremely difficult for any real site to succeed.

This is not to say that the task is impossible for a high performing site. Despite these overly protective near perfection requirements, it appears that after 7 billion dollars and nearly 30 years of analysis, the proposed repository at the Yucca Mountain site can achieve all these “super safe” requirements. In my view, the obvious least cost and least time solution is to continue and improve with a Yucca Mountain monitored reversible storage repository.

If Yucca Mountain is not to be used, costs and time for another site evaluation could be reduced if the near perfection requirements can be reduced and the implementing organization is empowered to more effectively meet the challenges. Unfortunately, given the anti-nuclear waste rhetoric and fears over so many years, it will be politically challenging to reduce existing requirements. In my view, previous nuclear safety requirements are like an irreversible ratchet, in that they never loosen. The Yucca Mountain site evaluation cost and schedule experience may well be the “good old days” when compared to any new real repository site or sites evaluation. However, an existing site, like WIPP, is a possibility, but reversibility, natural resource potential, and erosion out to a million years will be challenging evaluation issues there that should not be underestimated. Remember the grass is always looks greener when viewed from across the street, but not as green when you get there.

Managing a politically sensitive complex technical-over regulated program like this within a large catch-all civil service organization is not easy for many reasons. A direct executive branch agency, like DOE, is about the worst place to do it with constantly changing political bosses who have dominating political electioneering responsibilities. Actions going as far back as the 1986 termination of the second repository program, FY 1996 Congressional budgetary redirection, Nevada primaries of 2004 and 2008, and the current Nevada senate election situation provide ample proof. In addition there was very limited authority granted to OCRWM to meet the many challenges in a timely effective manner. Budget competition and many other DOE internal rules make it very difficult to implement a complex program like this. A focused government chartered private-public entity would be a much better management structure for effectively evaluating a new repository site or sites and establishing an integrated storage facility (in conjunction with advanced nuclear R&D initiatives), or finishing with the statutorily designated, but much enhanced Yucca Mountain facility.