

2010 Energy Storage Summit

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DISCLAIMER

The views and opinions expressed here are my own and do not represent the DC Public Service Commission or any of its Commissioners. The District of Columbia is a restructured jurisdiction and my comments and observations reflect that fact.

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During the PJM Symposium of Long-Term Capacity Issues each group was asked to come up with a pithy verbal “take-away.” Our group came up with the observation that:

“STORAGE CHANGES EVERYTHING”

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- Use of storage as a basic design element in an electric grid at least 40+ years old
- After 1965 Blackout New England governors met to plan for a robust electrical grid not dependent on oil or coal
- Solution:
 - 1,100 MW Nuclear units, e.g. Seabrook 2, Millstone 2
 - Pumped storage, e.g. Bear Swamp
- Plan not fully implemented, but from a 1960's perspective plan was visionary

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- Distribution Effects of Storage
 - Primarily short-term effects on reliability and power quality
 - Can substitute for new construction or other system upgrades while providing superior solutions to Distribution problems
 - Cost recovered as part of Distribution Plant

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- Bulk Power Effects of Storage
 - Potential problem of how storage asset is categorized for cost recovery:
 - Transmission
 - Generation
 - Easier to site for an urban jurisdiction like the District of Columbia than either transmission or generation
 - Locally sited storage can mitigate both high energy costs and high capacity costs
 - Large potential for distributed storage (PHVs)
 - Can have beneficial effects on wholesale markets

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- Importance of Wholesale Markets to Restructured Jurisdictions
 - Restructured jurisdictions substitute the efficiency of a competitive market for traditional cost-plus regulation
 - Success of restructuring depends of how competitive Wholesale Markets actually are

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- As a commodity electricity has three attributes:
 - Energy
 - Power
 - Temporal
- The temporal aspect makes electricity unique and is the source of much potential market power
- Storage can mitigate (or eliminate) the temporal attribute of electricity
- Storage has ability to act as either an energy or a power supplier
- This would make Wholesale Markets much more competitive and less subject to market power

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- From a regulator's perspective storage can help in many ways:
 - Provide improved reliability and power quality in the Distribution system
 - Provide locally sited assets that can supply power and energy
 - But most important can make Wholesale electric markets live up to their potential to be efficient and competitive