



DEMAND RESPONSE AND LMP

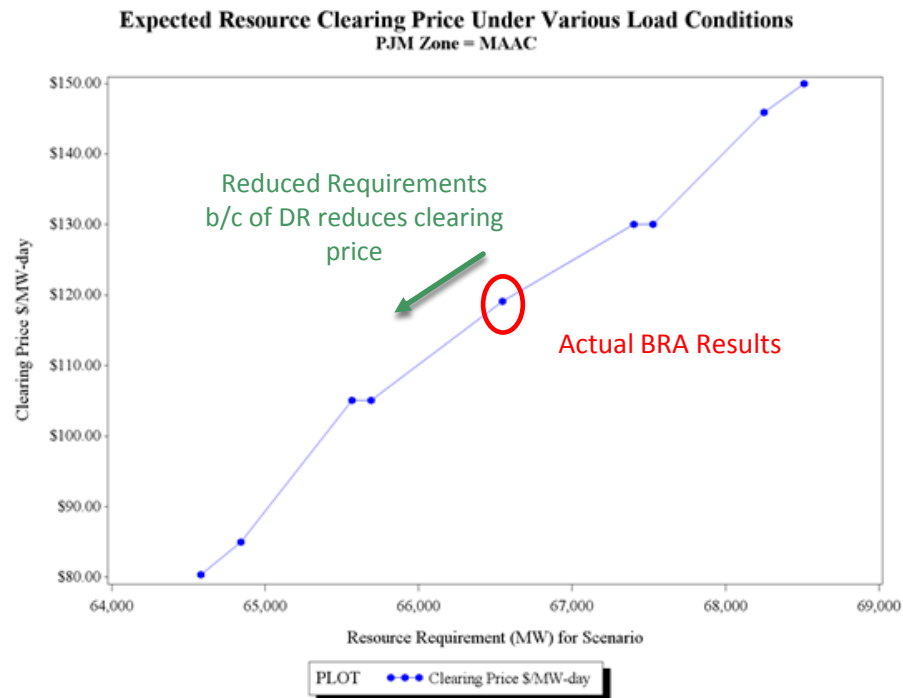
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CAPACITY PRICE SUPPRESSION ANALYSIS IN ACT 129 DR STUDY

- Study conducted by Pennsylvania Act 129 Statewide Evaluation Team in coordination with PJM
- PJM simulated BRA Zonal Clearing Prices under differing load assumptions for 2016/2017 delivery year



WHAT ABOUT LMP?

- A similar argument can be made that deployed DR resources can reduce LMP during hours of control
- Benefits are accrued to both DR participants and non-participants
 - Participants reduce load during high LMP via DR
 - Non-participants and participants receive the price suppression benefits (for net purchases at lower LMP)
- CAVEAT: Must consider “snapback” or recovery of some portion of the load under control
 - Recovery of energy, if concentrated, can have the opposite effect
 - The benefit of avoided LMPs for a DR resource is the net benefit (LMP savings during control – LMP costs during recovery)



PRICE SUPPRESSION CONSIDERATIONS

- Mostly a short-term benefit: the long-run market will adjust and prices will reflect DR and EE resources
- Effects can vary considerably depending on locational constraints within load zones
- Clearing prices and LMP will vary from year-to-year making long-term estimated benefits difficult to calculate



DR DEPLOYMENT STRATEGY

- Most electric utilities should continue to deploy DR primarily as a means to reduce peak loads rather than high LMP
 - Nearly always “more bang for the buck” in reducing peak demands
- A secondary strategy of targeted DR dispatch for energy price savings is typical
 - Customer fatigue must be considered
 - Year-to-year strategies may vary depending on prices, weather, etc.
- From a market perspective, it is likely that DR as an emergency resource is more beneficial than DR use for management of LMP
 - Price suppression effects should be incorporated into the long-term market prices as the market adjusts to the expected load reductions due to demand side management programs
 - DR energy price benefits are netted against recovery of energy once control period has ended

