

Determining Whether DR Programs are Cost Effective

**Mid-Atlantic Distributed Resources Initiative
Working Group Meeting
June 17, 2014**

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*Mr. Hurley's presentation does not necessarily reflect the official position
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Overview of Presentation

- Direct Load Control Analysis
- Smart Grid Analysis
- Smart Grid Metrics

Maryland Utility Context for Demand Response/Smart Grid

- All large utilities are restructured T&D only companies
- Organized capacity and energy markets operated by PJM
- Aggressive statewide energy, peak demand and GHG reduction targets
- Most electric and gas utilities have revenue decoupling (including BGE and Pepco)
- BGE received maximum \$200 million DOE Smart Grid investment grant
- Pepco MD received \$100 million DOE Smart Grid investment grant

Direct Load Control Programs

- History of DLC in Maryland
- 2007-2008 Filings
 - BGE, Pepco, Delmarva and SMECO
- Cost Effectiveness Review
 - Costs – Capital, O&M and Customer Incentives
 - Benefits – Capacity and Energy Revenue, Capacity and Energy Price Mitigation and Avoided T&D
 - All Cases yielded highly cost effective programs
- Results to Date
 - Over 590,000 active devices; 685 MW of capacity reduction
 - Costs - \$421 million
 - Benefits – over \$600 million in capacity revenue and capacity price mitigation

Smart Grid – Dynamic Pricing

- BGE, Pepco, and DPL, proposals for full Smart Grid (SG) deployment estimated strong cost effectiveness
- Roughly half the benefit from operational savings and half from peak load reductions
- Md PSC made cost recovery contingent on successful deployment and cost effectiveness
- Dynamic pricing for most customers using peak time credit approach to reward usage reductions during critical peaks
- Metrics monitor deployment, customer engagement, costs and benefits
- Metrics developed in work group

Metrics Categories

- 55 total metrics approved by Commission
- Many metrics have more than one reporting element
- Categories and number of metrics:
 - 5 Deployment progress metrics
 - 2 SG system cost metrics
 - 4 Metering related capital savings metrics
 - 7 Operational savings metrics
 - 13 Peak load reduction benefits metrics
 - 7 Meter/billing accuracy and reliability metrics
 - 17 Customer engagement/education metrics

13 Peak Load Reduction Metrics

- 3 Monetization metrics – Capacity Revenue, Capacity Mitigation – Utility, Capacity Mitigation – other MD Utilities
- 7 Engagement metrics including Accounts sent Dynamic Pricing Alert, Eligible customers, Number of Events and Average rebates paid
- 3 Dynamic Pricing Events – Energy Revenue, Avoided Transmission and Avoided Distribution

Project to Date Results

- BGE
 - 70 percent of installation complete
 - Costs - \$389 million
 - Benefits - \$476 million
- Pepco
 - 99.9 percent installation complete
 - Costs - \$182 million
 - Benefits - \$338 million

Resources

- All documents on Maryland PSC website:
 - www.psc.state.md.us
 - Enter following numbers in Maillog Search for metrics documents:
 - 131260 and 143602
 - For quarterly reports enter numbers 9207 (Pepco and DPL) or 9208 (BGE) in Case Search. Reports will be dated Feb., May, August and November 15