

# Shutdown Costs for Demand Response Resources

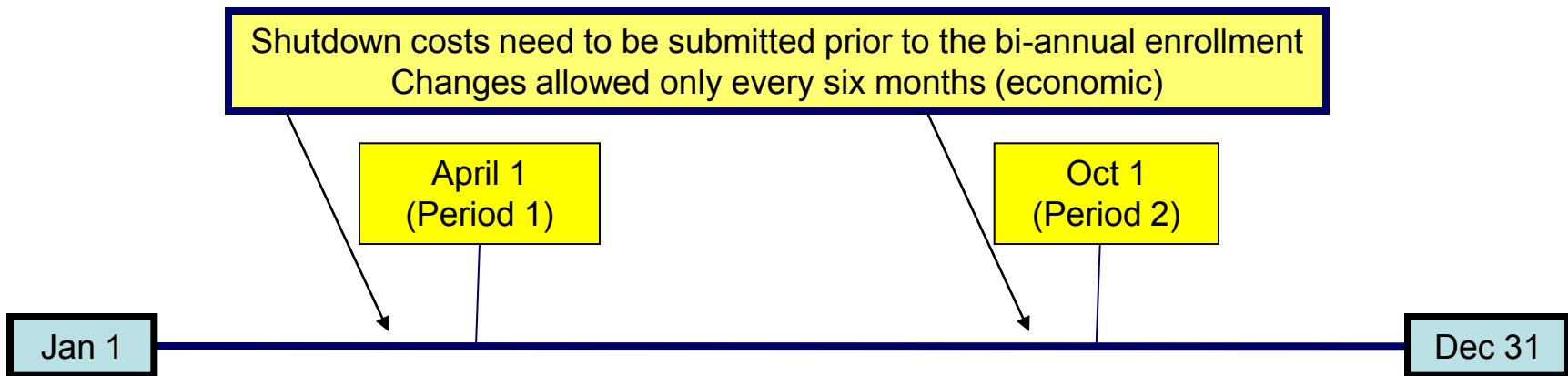
Cost Development Subcommittee  
August 13, 2012

Susan Covino, Sr. Consultant  
Emerging Markets

***Any costs associated with reducing load, including direct labor and equipment costs, opportunity costs, and costs associated with the minimum number of contiguous hours for which the load reduction must be committed.***

Definition is current not included in the Manuals

- Shutdown Costs and Minimum Down Times are optional, and will default to zero (0) if not submitted.
- Shutdown Cost will be expressed in dollars (\$), and represents the fixed cost associated with committing a load response resource.
- For emergency participation, Shutdown Costs are determined prior to deliver year and are not updated
- For economic participation, Shutdown Costs will be changeable only every six (6) months (same as priced-based Start-up Costs for generators) in eMKT



***Effective Dispatch Rate used to determine when to dispatch DR resource in energy market through Security Constrained Economic Dispatch (SCED) tool***

***Equation:***

$$\left( \frac{\text{Shutdown Costs}}{\text{Min Down Time (hours)}} * \frac{1}{\text{Load Reduction (MW)}} \right) + \text{Offer Price (\$/MWh)} = \text{Effective Dispatch Price}$$

***\*\*Definition to follow***

Market	Shutdown Costs in Market Clearing & Dispatch	Shutdown Costs in Settlements
Energy	Yes (effective dispatch price)	Yes
Day-ahead Scheduling Reserve	Yes	No
Synchronized Reserve	No	Yes, unless already dispatched for energy then will receive shutdown cost from energy dispatch as indicated above
Regulation	No	No