

Thoughts on DER Forecasting and Market Integration

Erik Ela

UVIG Forecasting Workshop

June 21, 2017



Energy Storage and DER Participation

Notice of Proposed Rulemaking (NOPR) Summary

- DER aggregation must be able to participate in energy, ancillary service, and capacity markets when able to do so
 - Allow participation model, either stand alone or as part of others
- Limit ability of DER to earn compensation for same service as part of different program (e.g., net metering)
- ISOs must establish locational requirements for aggregation as broadly as possible
- DER aggregators must provide ISOs and distribution utilities with sufficient information to ensure reliability
- Must provide distribution factors: how much of the aggregation comes from each pricing node
- Provide for coordination among the ISO, DER aggregator, and distribution utility with respect to registration of aggregations and ongoing operational considerations
- ISO should not restrict the business model that a DER aggregator may take (e.g., not just third party, also include utilities, cooperative, microgrids, etc.)

Energy Storage and DER Participation

NOPR Comments

- Need to clarify jurisdictional challenges between wholesale and retail
- General support for coordination of DER aggregation and distribution utility
- Rapid expansion of DER may require substantial advanced metering infrastructure and communications
- Commenter: Recommend FERC not require heterogeneous aggregations of different DER technologies
- Challenges with locational diversity of aggregations on transmission congestion and potential reliability concerns
 - CAISO uses the Sub-Load Aggregation Point

Topics to Ponder

- In distribution level markets, are penalties to DER or DER Aggregators for poor forecast performance strict or relaxed?
- Extended ISO responsibility to DER participation, or “distributed” market participation with other market operators
 - Market operator vs. distribution system (reliability) operator
 - Duality gap and computational issues
- Who has the responsibility for reliable forecasting of market participant output at different timeframes?
 - ISO, DSO, Aggregator, Individual PV owner
- Netting of forecast errors
- Forecast geographic granularity: Individual DER, Aggregation, Transmission-bus
- Forecast temporal granularity: Metering requirements may differ
- Utility load forecasts – need to avoid double counting

