Subzonal Dispatch: A Transmission Support Service

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From a Demand Response participant’s perspective, Emergency dispatch of DR in regions more granular than an LDA places the participant at a competitive disadvantage relative to other loads and DR participants.

Subzonal Dispatch treatment of Demand Response that does not recognize the incentives for DR participation can discourage DR registration in affected regions.
Overview

- DR and Generation Incentives differ
- DR and Generation are impacted differently by constraints
- Sub-Zonal emergency dispatch of DR provides uncompensated Transmission Support from DR
- What are the options?
Demand Response

- DR generally will not curtail for high prices
  - $1000/MWh offer cap is less than incremental cost
  - Industry studies indicated incremental costs upwards to $20k/MWh
- Participation based on cost offsets
- Penalty avoidance is primary performance driver

Generation sees high prices as an opportunity

- Participation is primary business
- LMP Clearing price revenue is primary performance driver
Demand Response

- A performing DR resource loses money with each event
  - Exception – customers with Incremental costs less than $1000/MWh
  - Caution – A single customer’s incremental costs can vary significantly from day to day.

Generation

- A performing generator enhances profits with each Emergency event.
DR participants within subzone experience lower quality service than DR participants outside the Subzone.
- All DR providers receive the same LDA standby price, BUT
- Only DR participants within Subzone experience the losses created by emergency dispatch.
Subzonal dispatch is Transmission Support

- Standby compensation for DR is modeled as if all generation within an LDA is deliverable within the LDA
- Therefore, Subzonal Dispatch occurs when transmission is not as robust as transmission planning processes anticipated.
- DR participants offer DR within an LDA but is dispatched within a more valuable Subzone. (Bait and switch?)
- Subzonal Dispatch of DR can be characterized as supporting Transmission.
Comparability with other Loads

- DR, unlike generation, pays for transmission service.
- DR that is subject to Subzonal Dispatch in effect experiences reduced transmission service compared to non dispatched loads.
- DR that is dispatched by Subzones provides a Transmission Support Service that is uncompensated.
What about Generation Comparability?

- Potential DR losses when dispatched are limited by event limits.
- DR pays for transmission service
- DR is harmed by Subzone dispatch

- Generation Losses do not occur because incremental costs are exceeded by market prices.
- Generation does not pay for transmission
- Generation benefits from Subzone dispatch
Options

- Incentive compensation for response to subzone events
- Voluntary Response
- Other
Supporters

- ClearChoice
- EnergyConnect
- EnerNOC
- Viridity
Questions?