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Hourly Strike Price

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Hourly day ahead reserve strike price needed

The strike price for day ahead reserves is intended to estimate the marginal price of energy to serve 100% of forecasted next day load plus required operating reserves.

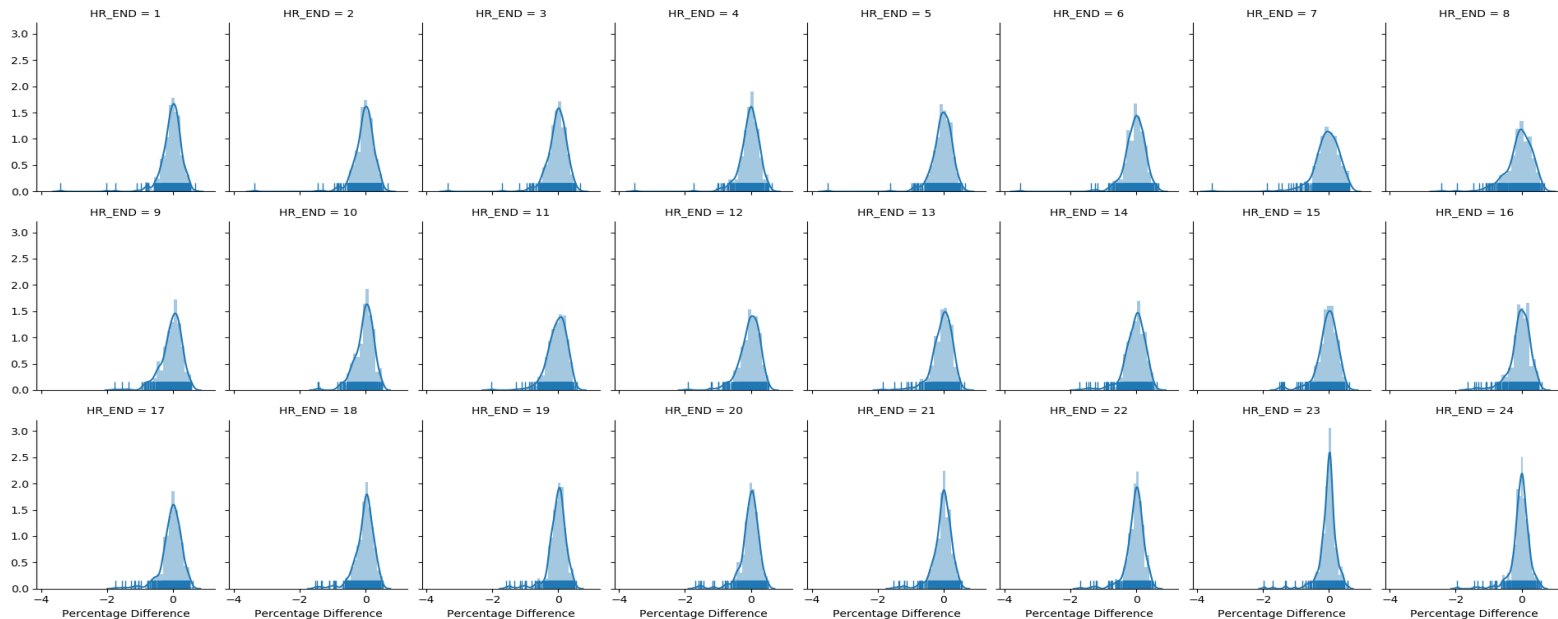
- *Estimating the strike price too low* would require consumers to buy a deeply in the money hedge, possibly creating inefficiency in the day ahead solution and higher than needed day ahead reserve costs.
- *If the strike price were set too high*, there may be little connection between the resources actually providing energy and acting as reserves in real-time.
- **Strike price needs to vary by hour just as marginal energy prices do.**

Two day ahead LMP may provide reasonable outlook

- Limited activity in next day(s) trades in the over-the-counter (OTC) market and there is no hourly product traded.
- A more liquid OTC market may result from ESI implementation – possibly including a new hourly OTC product.
- For now, the day ahead results for two day prior DA LMP may be the best source of insight.
 - A review of 2019 Day Ahead LMP data reveals a reasonable relationship between next day energy prices and Day Ahead LMP results for the electric day two days prior (available sufficiently in advance to support ESI reserve bidding).

DA LMP at T-2 may provide a reasonable index

The year-to-date distribution of price differences by HE for day T and T-2 are log normal, centered around zero and left skewed. Left most outlier points generally reflect higher priced winter 2019 hours.



Possible approach to set hourly strike price

Use of the hourly Day Ahead LMPs for the electric day two days prior. This would provide sufficient notice for market participant formation of reserve bids for the prompt day.

Since under ESI, part of the day ahead energy price will be reflected in the Forecasted Energy Reserve Payment (FERP), the determination of the hourly day ahead reserve strike prices would be based on the DA LMP plus the FERP rate for day T-2 in that hour.

It is possible that the implementation of ESI could drive greater demand for an hourly OTC product. After some period of ESI operation, OTC trading data could be reviewed as a possible future index for setting an hourly day ahead reserves strike price.



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