

MARKET SURVEILLANCE COMMITTEE

Discussion of Import Bid Index Calculation

Dr. James Bushnell

Member, California ISO Market Surveillance Committee

Market Surveillance Committee Meeting

General Session

July 30, 2020

ISO Public

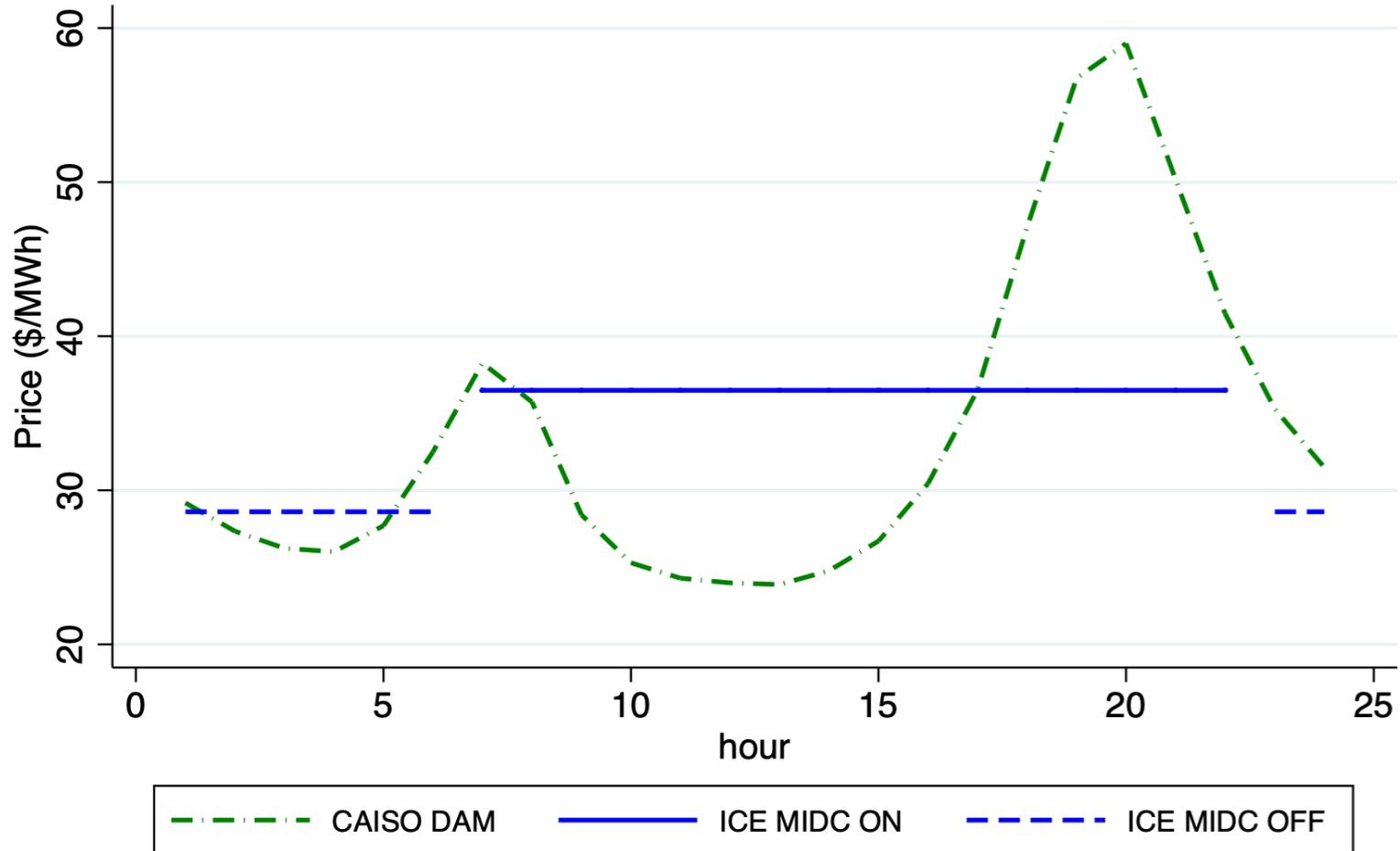


California ISO | WESTERN ENERGY IMBALANCE MARKET

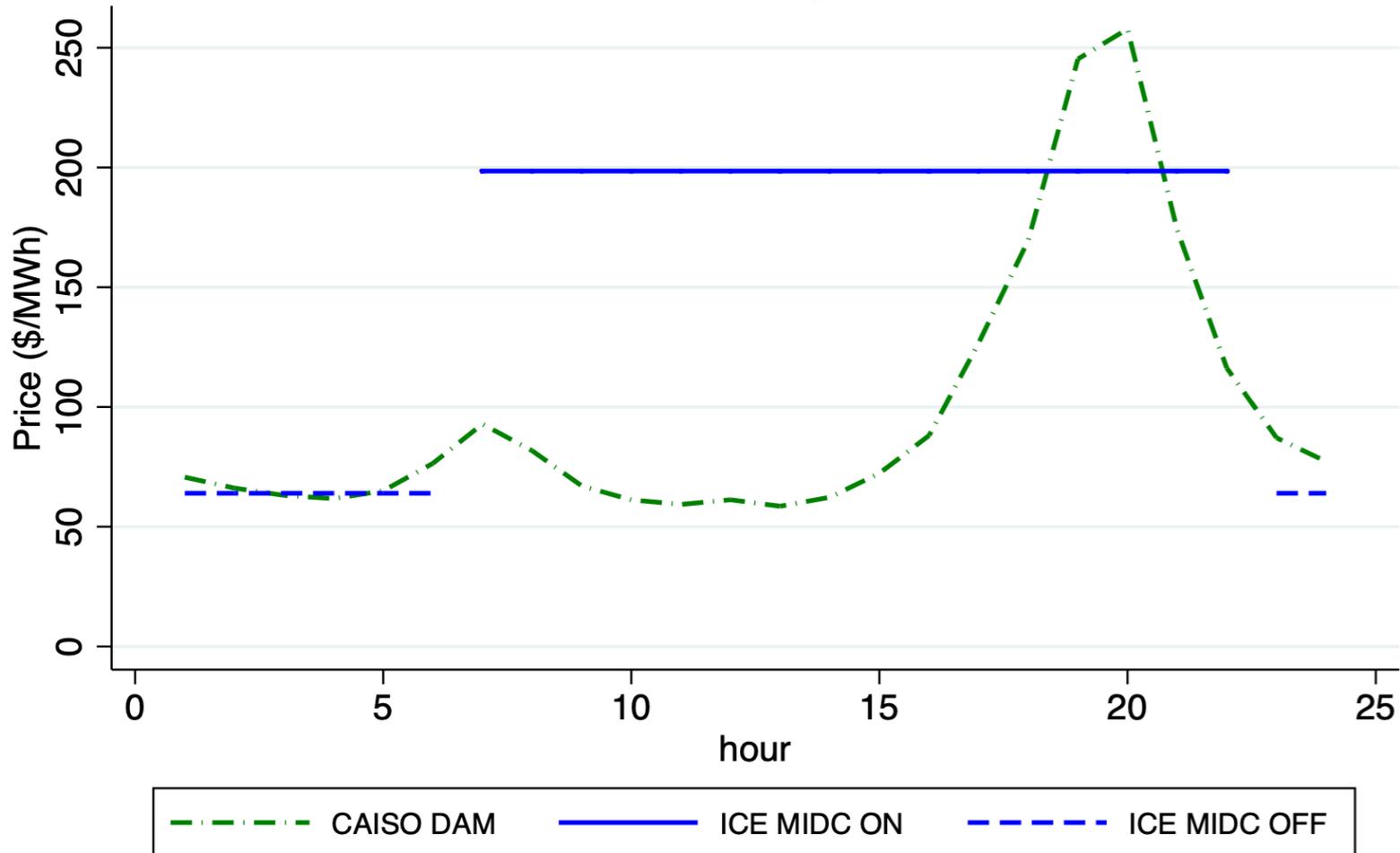
Topics

- Proxy costs for import bids
 - *Relevant for SMPM and 831 initiatives*
- How to assess the reasonableness of bids from unspecified imports?
 - Gas price indices/Peaker proxy costs
 - Liquid enough? Enough temporal/locational accuracy?
 - Implications if scarcity is in play in parts of west?
 - Use of regional bilateral trading hub prices
 - In principle, could help with some of the above problems
 - but measured only in daily multi-hour blocks

Average Price by Hour MIDC and NP15 Trading Hub 2018-2019

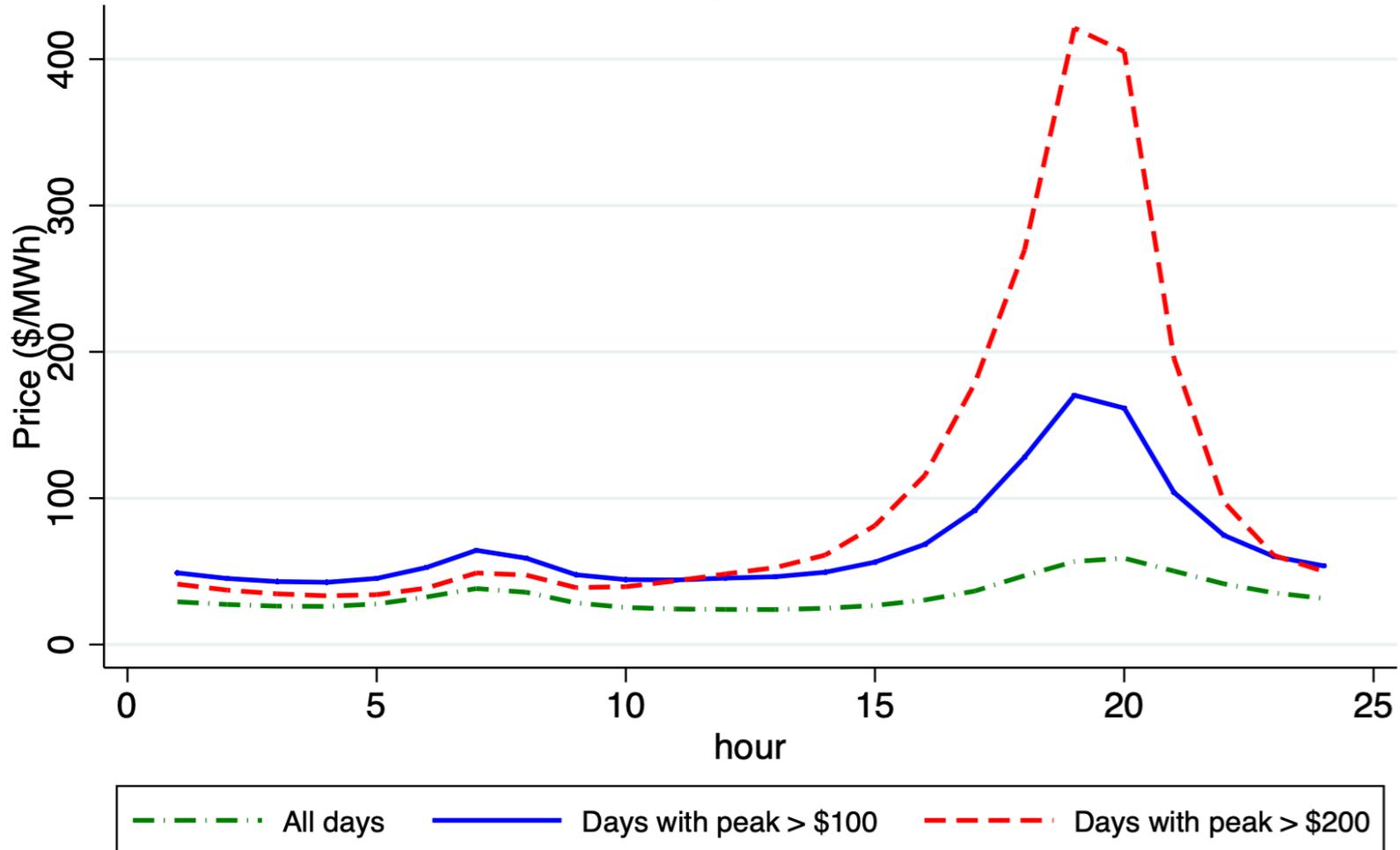


Average Price by Hour for High Price Days MIDC and NP15 Trading Hub 2018-2019



Price by Hour for All and High Price Days

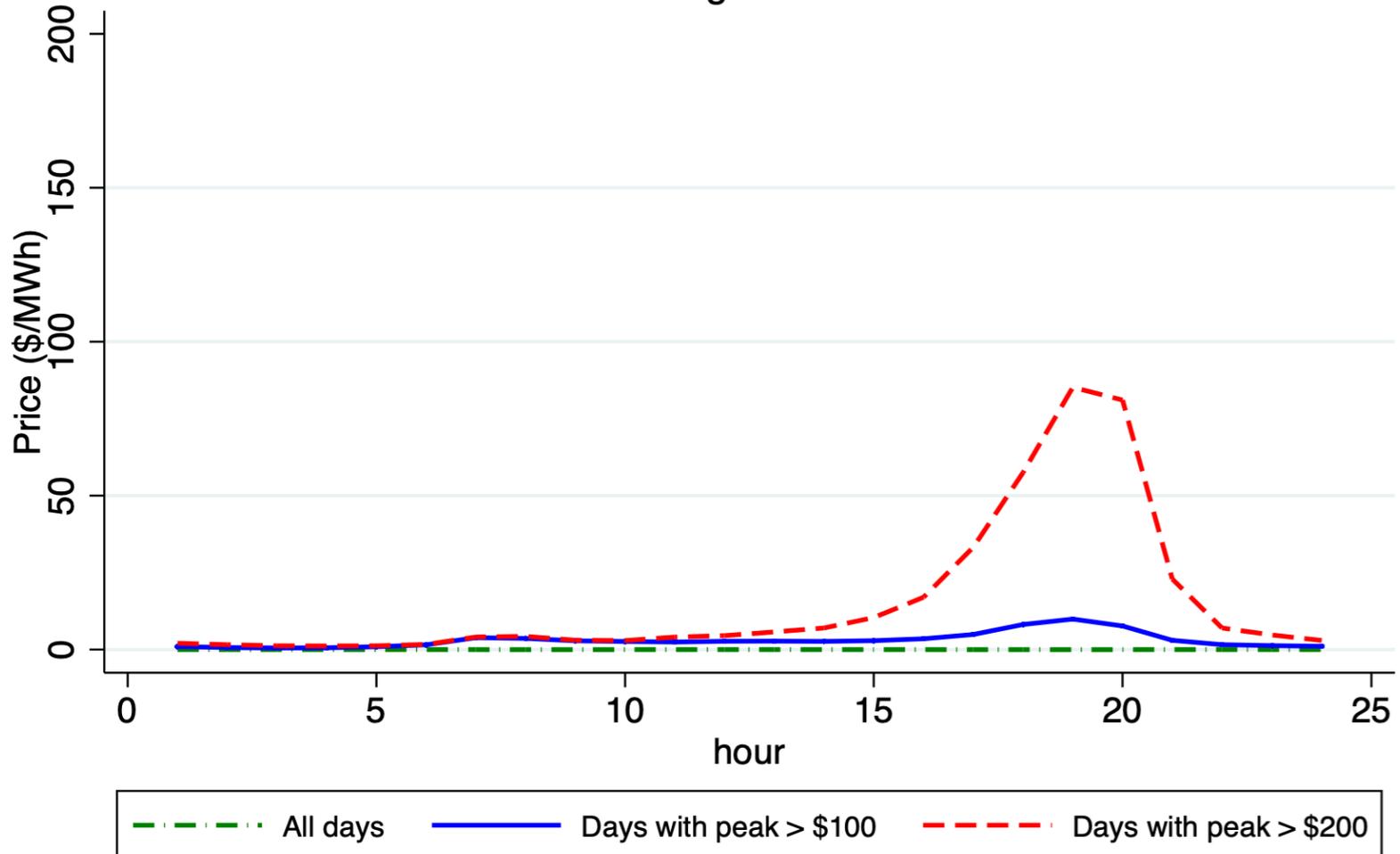
NP15 Trading Hub 2015-2019



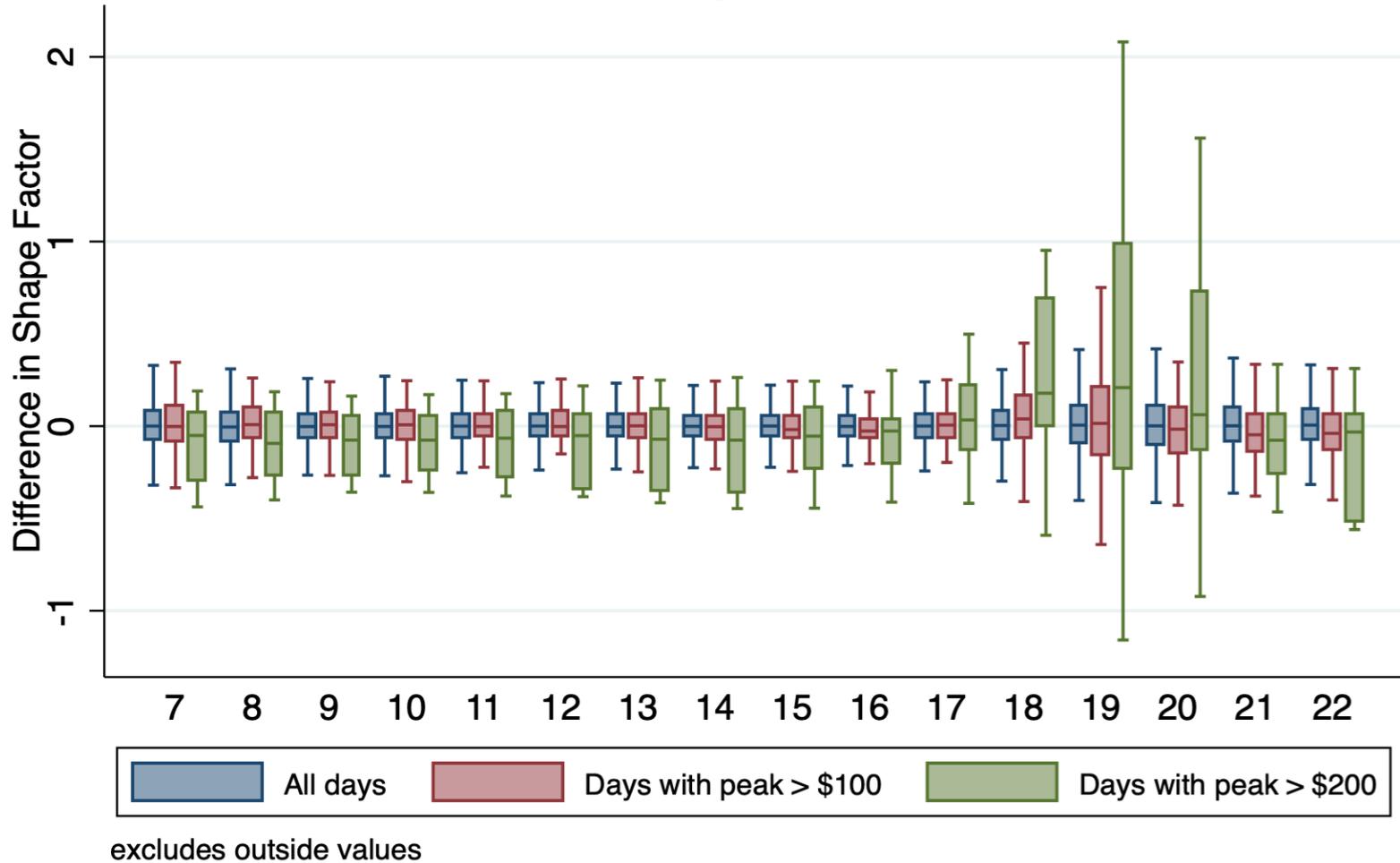
Mapping Bilateral Blocks to Hourly Prices

- Hourly price patterns are clearly different on high price days
 - *Taking monthly averages as basis for shape factors is problematic for this reason*
 - *Would want to think seriously about adding other observable variables to refine a prediction*
- How does the previous day's price for the same hour perform?
 - First, calculate $(\text{hour } y \text{ price}[\text{day } x]) - (\text{hour } y \text{ price}[\text{day } x-1])$ for each hour
 - For all and high price periods
 - Second, compare the “true” shape factor based upon actual hourly and daily average prices to the estimated shape factor using the previous day's prices

24 Hour Price Differences for All and High Price Days NP15 Trading Hub 2015-2019



Lag Shape Error for All and High Price Days NP15 Trading Hub 2015-2019



Discussion

- Lagged daily prices appears to perform better than hourly averages but still subject to potentially large mismatch in hourly shapes
 - How accurate does this need to be?
- Issues are different for SMPM than for Order 831
 - For 831, a (hopefully) very rare “ballpark” calculation
 - Scarcity more likely to play a role on these rare occasions
 - For SMPM potentially much more frequently applied metric
 - How do proxy peaker unit calculations compare?