

# Potential Demand Bid Volume Limits

Credit Subcommittee

May 6, 2014

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# Initial Demand Bid Volume Limit Concept Analyzed

(For April 4, 2013 Credit Subcommittee Conference Call)

- Objective – Reduce the risk of material costs accruing on demand bids in excess of the load-serving commitments of the load-serving entities (LSEs) entering those demand bids
- Potential Limit – Demand Bids will be rejected if  $> 20\%$  and  $> 10$  MWs above the load-serving entity's calculated peak load forecast reference point for the operating day
- Potential peak load forecast:
  - Each LSE's share of the total daily peak load contributions (PLCs) for each transmission zone times PJM's peak load forecast for each zone
  - For transparency, intend to have a file of calculated peak load forecasts by LSE by transmission zone available daily two days prior to the applicable operating day
- Demand bids in excess of limit would not be accepted into the day-ahead market system

1. Description of Day-Ahead Buy Bids and Associated Controls / Screens
2. Timeline for Calculating Potential Daily Zonal Peak Load Reference Points by LSE
3. PJM Two-Day Ahead Zonal Peak Load Forecast Accuracy
4. Additional Examples of Peak Load Reference Points Compared with Actual Real-Time Peak Load (include days from each season of the year)

Type of Day-Ahead Market Bid	Screens / Bid Requirements
Increment / Decrement	Screen of calculated potential net charges against available credit
Up-to-Congestion	Screen of calculated potential net charges against available credit
Load-Serving Entity Demand Bid	<ul style="list-style-type: none"> <li>• Must have a related InSchedule load contract</li> <li>• No volume limits</li> </ul>

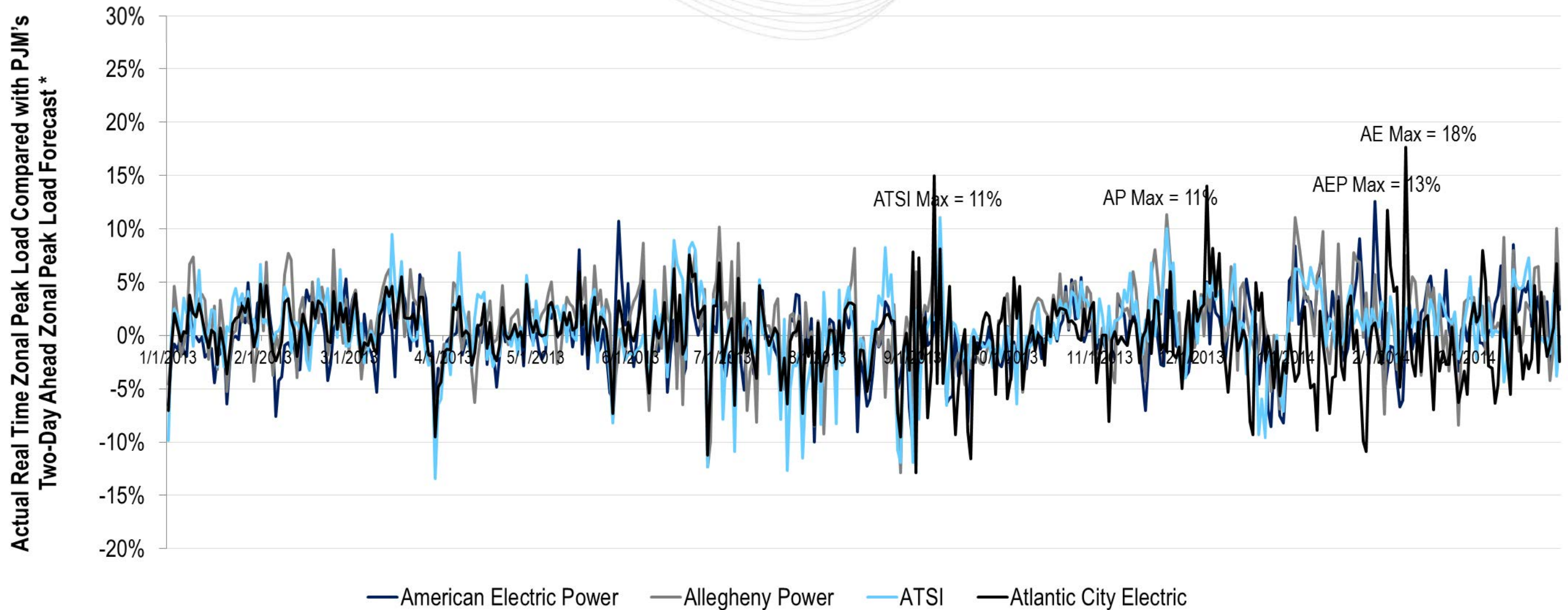
*For all these types of Day-Ahead buy bids, each member can establish its own voluntary bidding limits.*

# Timeline for Calculating Potential Daily Zonal Peak Load Reference Points by LSE



# PJM Historical Two-Day Ahead Zonal Peak Load Forecast Accuracy

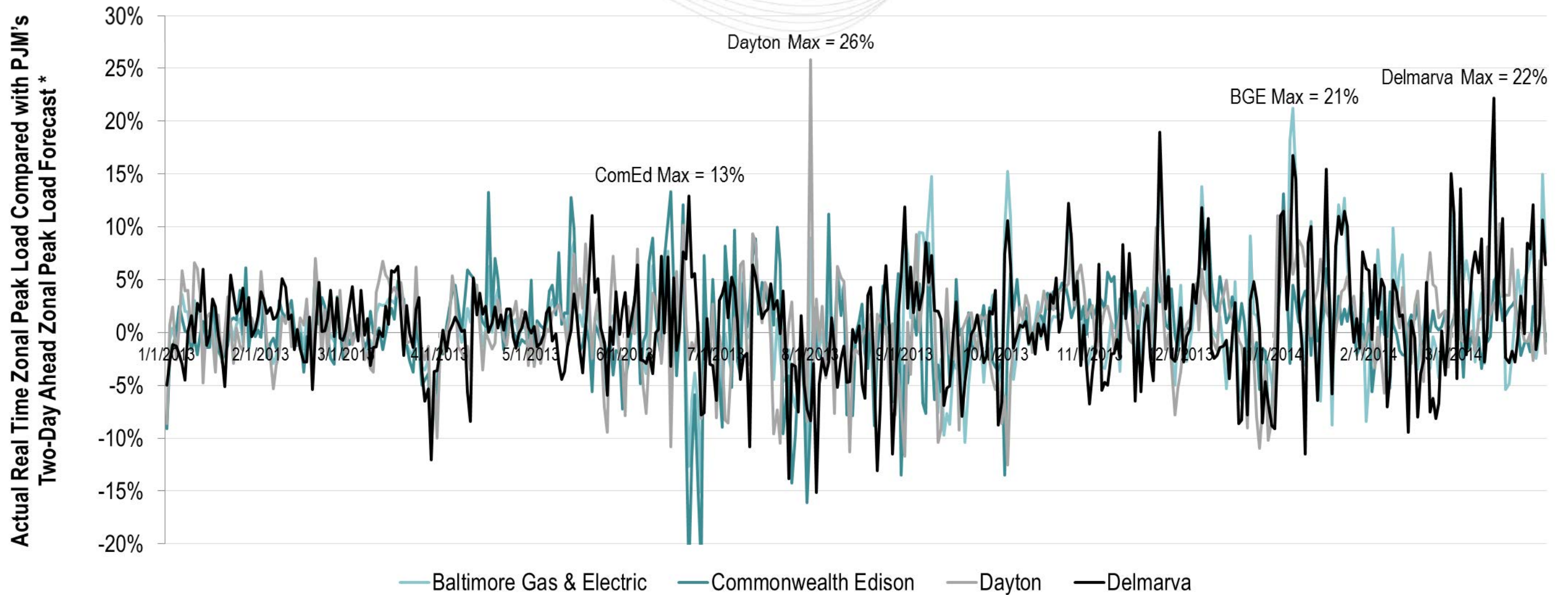
(Group 1: January 1, 2013 – March 31, 2014)



\* Positive percentages represent days in which the actual real-time zonal peak exceeded PJM's two-day ahead zonal peak load forecast.



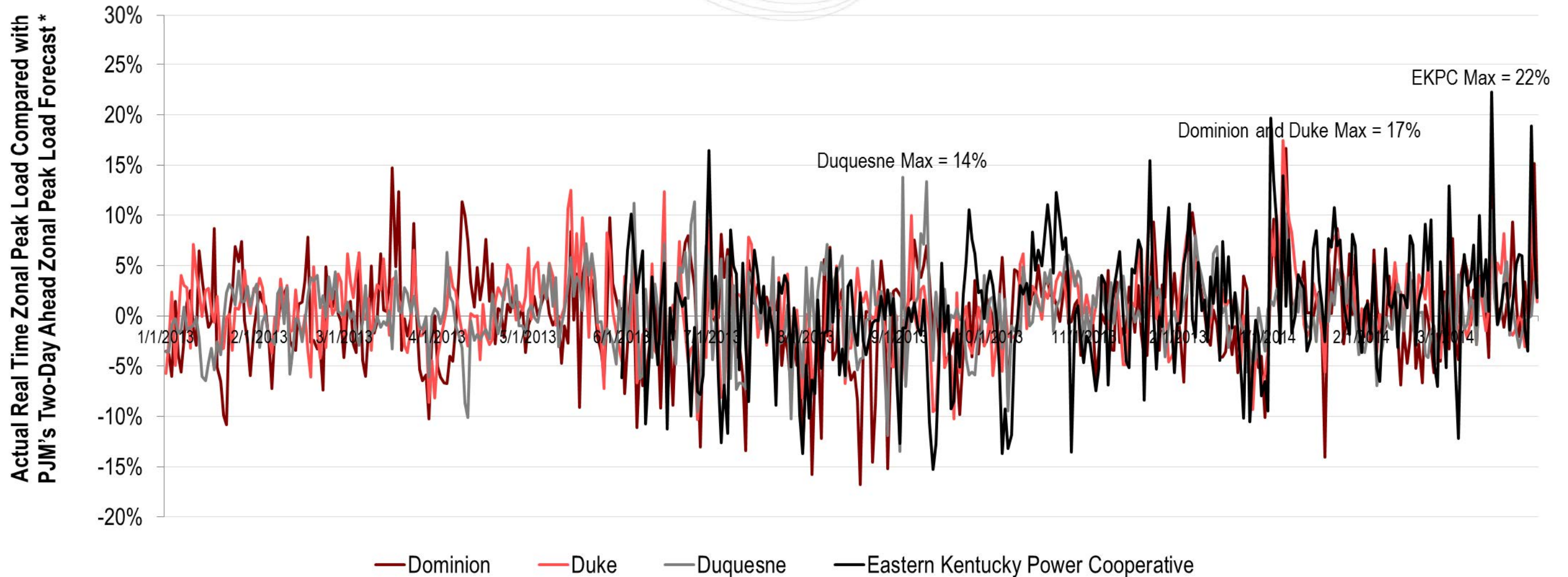
# PJM Historical Two-Day Ahead Zonal Peak Load Forecast Accuracy (Group 2: January 1, 2013 – March 31, 2014)



\* Positive percentages represent days in which the actual real-time zonal peak exceeded PJM's two-day ahead zonal peak load forecast.

# PJM Historical Two-Day Ahead Zonal Peak Load Forecast Accuracy

(Group 3: January 1, 2013 – March 31, 2014)

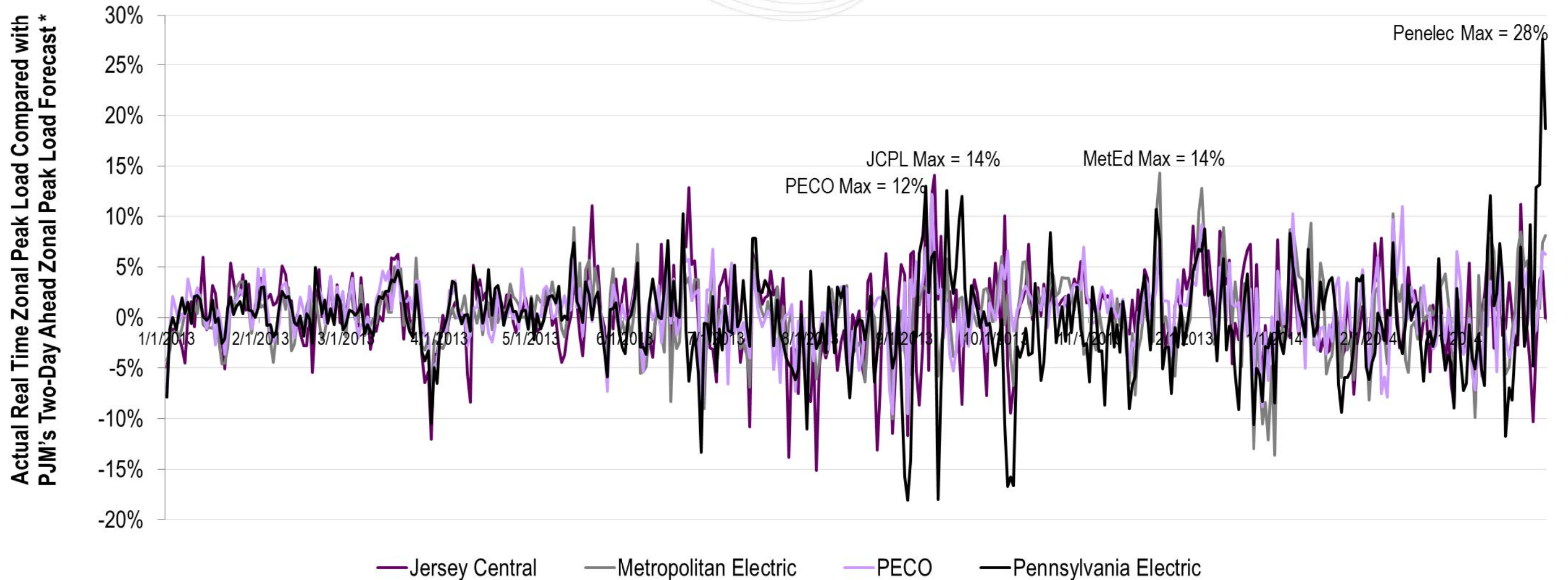


\* Positive percentages represent days in which the actual real-time zonal peak exceeded PJM's two-day ahead zonal peak load forecast.





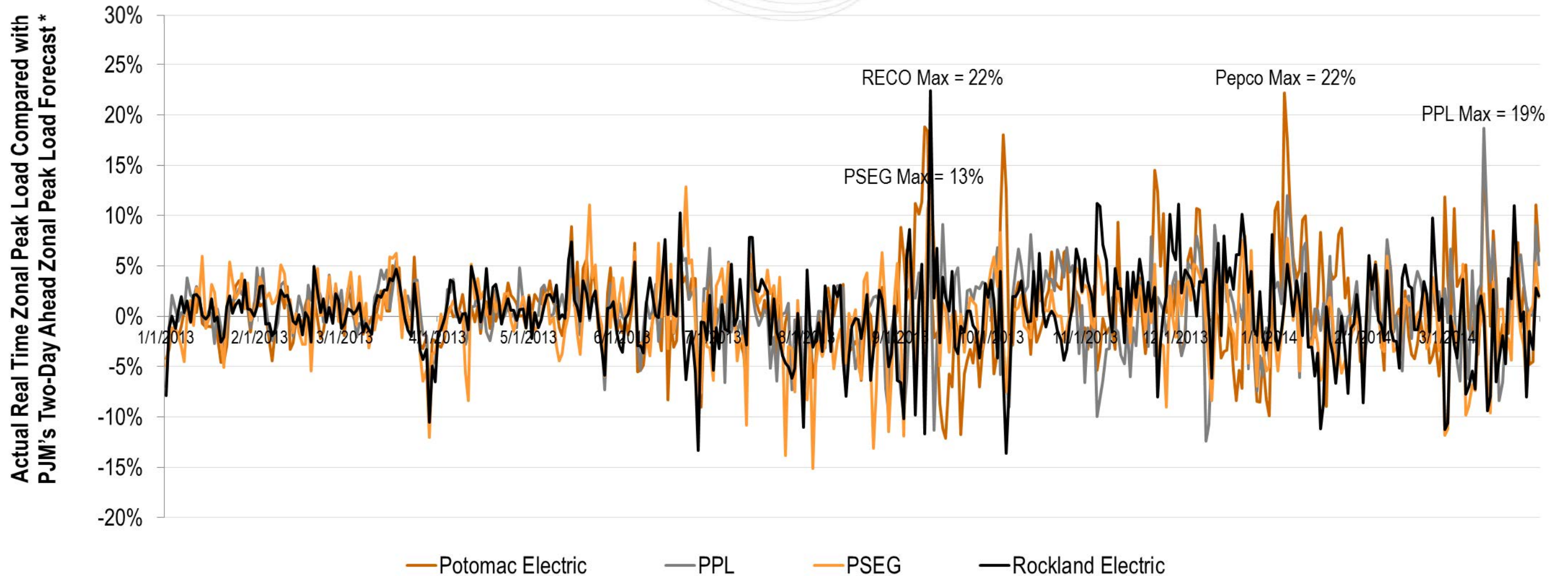
# PJM Historical Two-Day Ahead Zonal Peak Load Forecast Accuracy (Group 4: January 1, 2013 – March 31, 2014)



\* Positive percentages represent days in which the actual real-time zonal peak exceeded PJM's two-day ahead zonal peak load forecast.



# PJM Historical Two-Day Ahead Zonal Peak Load Forecast Accuracy (Group 5: January 1, 2013 – March 31, 2014)



\* Positive percentages represent days in which the actual real-time zonal peak exceeded PJM's two-day ahead zonal peak load forecast.

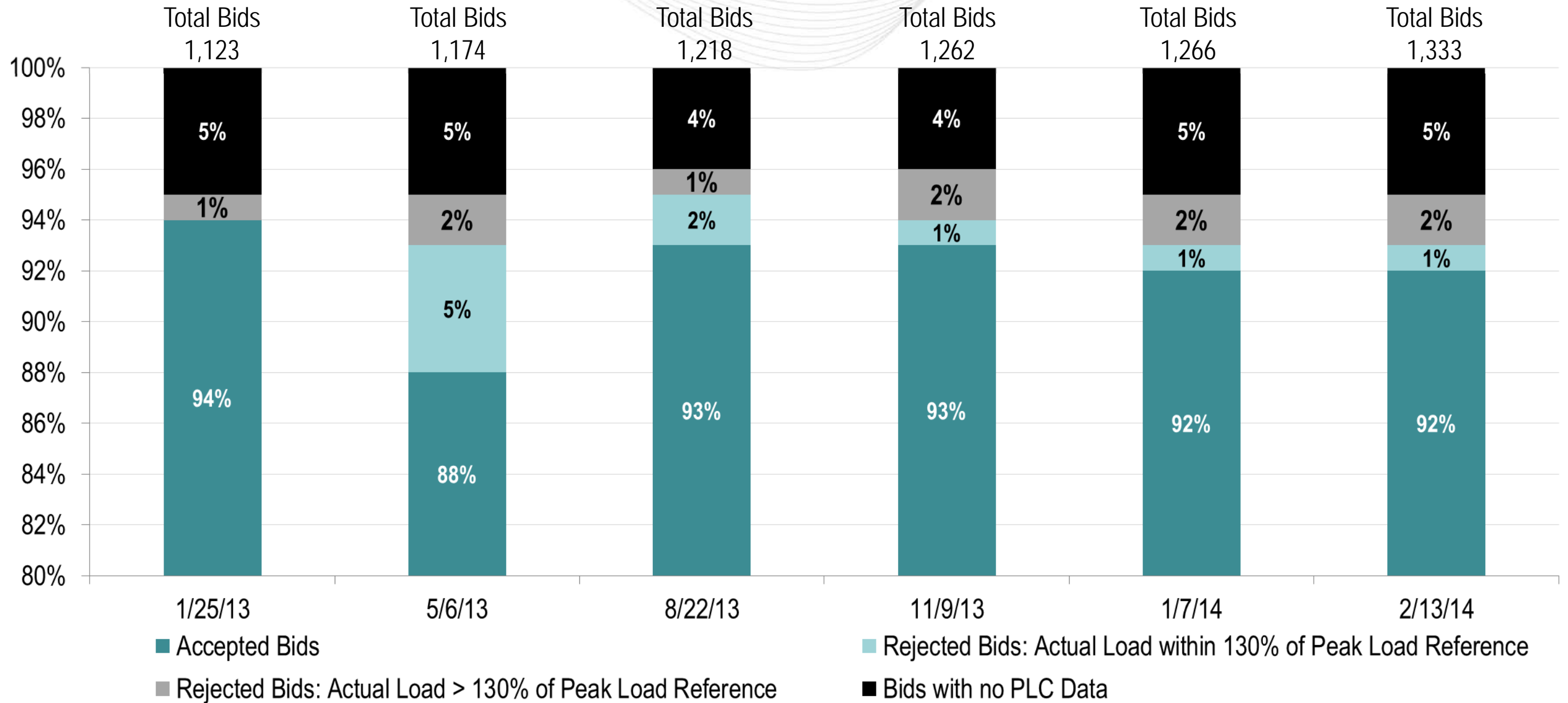
# Revised Demand Bid Volume Limit Concept Analyzed

(For May 6, 2013 Credit Subcommittee Conference Call)

- Objective – Reduce the risk of material costs accruing on demand bids in excess of the load-serving commitments of the load-serving entities (LSEs) entering those demand bids
- Potential Limit – Demand Bids will be rejected if **> 30%** and **> 10 MWs** above the load-serving entity's calculated peak load forecast reference point for the operating day
- Potential peak load forecast:
  - Each LSE's share of the total daily peak load contributions (PLCs) for each transmission zone times PJM's peak load forecast for each zone
  - For transparency, intend to have a file of calculated peak load forecasts by LSE by transmission zone available daily two days prior to the applicable operating day
- Demand bids in excess of limit would not be accepted into the day-ahead market system

# Results of Sample Days' Analyses

(Based on PLC Share Per Zone and Two-Day Ahead Zonal Peak Forecast)



# Initial Demand Bid Limit Matrix Components

*(For initial matrix discussion on June 10, 2014 CS Conference Call)*

- Status Quo – No volume limits on LSE demand bids in day-ahead energy market
- Reference points and calculation of peak load reference point
  - Based on PLC share and zonal peak load forecast data
  - Based on share of recent actual load served and zonal peak load forecast data
  - Single calculated reference point or higher of two calculated peak load reference points
- Member visibility to calculated peak load reference points
- Magnitude of “cushion” above peak load reference point before demand bids are rejected
  - Percentage component
  - Nominal megawatt component
  - Combination of percentage and nominal megawatt component
- Ability for PJM to authorize exceptions