

Day-Ahead Scheduling Reserve Operating Reserve Demand Curve

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The Day-Ahead Scheduling Reserve Market is not currently cleared using an Operating Reserve Demand Curve (ORDC).

- Implementing the downward-sloping ORDC concept in real-time only may create systematic differences between day-ahead and real-time energy and reserve prices
- Implementing a DASR ORDC would:
 - Allow the increased demand for reserves to be recognized in day-ahead market
 - Provide more consistent valuation of reserve scarcity in the day-ahead and real-time markets
 - Be consistent with the mid-term goal of implementing a real-time 30-minute reserve market with an ORDC



The methodology for defining a DASR ORDC would be similar, but not identical, to the draft methodology for the Synchronized Reserve and Primary Reserve ORDCs

- Minimum Reserve Requirement (MRR): Based on the existing DASR requirement calculation
 - Uses historical mean day-ahead Load Forecast Error (LFE) and the historical mean day-ahead
 Forced Outage Rate (FOR) and forecasted peak load for the next day
 - Adjusted during hot weather alerts, cold weather alerts and escalating emergency conditions
- Downward-sloping section of the curve: Based on Probability of Reserves Falling Below the Minimum Reserve Requirement (PBMRR)
 - Can be constructed by accounting for the frequency with which the historical LFE and historical
 FOR values have been greater than the corresponding LFE and FOR means.

Current DASR Requirement

Load Forecast Error (LFE for RFC plus EKPC zone)



Forced
Outage Rate
(FOR)
for RFC plus
EKPC zone



Dominion VACAR Reserve Sharing MW



Total
Day-Ahead
Scheduling
Reserve
Requirement

2018 LFE component is 2.04%.

2018 FOR component is 3.24%.

503 MW for 2018

Base requirement under normal conditions



Current Adjustments to the DASR Requirement

- The DASR requirement for each hour of the day is increased under conservative operating conditions
 - Triggered by Hot/Cold Weather Alert or escalating emergency conditions issued in the RTO, Mid-Atlantic Dominion or Mid-Atlantic regions
- Additional hourly increment in the requirement is calculated as:
 - Forecasted RT load for each hour minus Adjusted Fixed Demand for the hour, floored at zero
 - Plus
 - The amount of any additional generation committed for that hour to account for operational uncertainty



- Currently, without a demand curve, the DASR clearing price is set at the highest DASR offer price (plus LOC) of available resources if the DASR requirement cannot be met
- Maximum price on the DASR ORDC should take into consideration the maximum price on the real-time ORDCs (\$850)