

Agenda Item 2.1

PSPC Meeting 271

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Historical Peak Hour Availability 2010 Review

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Background

- Prior reviews of on-peak unit availability have been presented to the PSPC
 - November 2006 (20 samples: 2003 through 2006 data)
 - May 2009 (30 samples: 2003 through 2008 data)
- Results suggested that actual historical resource availability
 - Showed more outages at time of peak than the EFORd statistics would suggest
 - Different resource types had different performance compared to their respective EFORd statistics

Background: EFORd Review

- Investigation of availability statistics
 - Reconnaissance investigation to begin discussions
 - Six summers since start of SMD markets: 2003 through 2008
 - Top five peak load days were selected for each summer season
 - Sample set of 30 peak load hours used in making distributions
 - The actual availability performance of generating resources
 - Then compared to an approximation using the EFORd statistic
 - EFORd parameter is used in the calculation of ICR
- As part of the Forward Capacity Market (FCM)
 - A proposed sampling of resource availability based on only shortage hours is envisioned
 - Expected to better align the planning statistics with actual performance when capability is needed

ISO New England Statistics

- Preliminary review of historical data suggests:
 - Actual performance tends to be less than EFORd suggests
 - Comparison of mean statistic indicates
 - Total of 907 MW lower
 - About 3 percent of capacity
- Some resources bid in capacity above seasonal rating
 - Capability above seasonal ratings neglected
 - Need to better understand the incentives for under/over rating

Comparison of Mean Parameter (MW)			
Technology	EFORd Based	Operational Data	Difference
Combined Cycle	10420.2	10015.4	404.8
Combustion Turbines	1731.4	1765.6	-34.2
Fossil	8955.8	8791.0	164.7
Diesel	46.2	41.8	4.4
Hydro	3116.5	2837.6	278.9
Nuclear	4487.3	4398.4	88.9
Total	28757.3	27849.7	907.6

Additional Items to Consider

- Update to include 2009 data
- Temporal effects
 - Investigate the effect of resource fatigue one, two or three days after a peak load event
 - Investigate the effect of EFOR fatigue relative to one, two or three days before a peak load event
- Compare actual outages
 - To an “exact outage distribution”
 - Not to a normal approximation*

* Which shows a probability above 100 percent of the resources available because of small sample size.