Light Load Operational Performance

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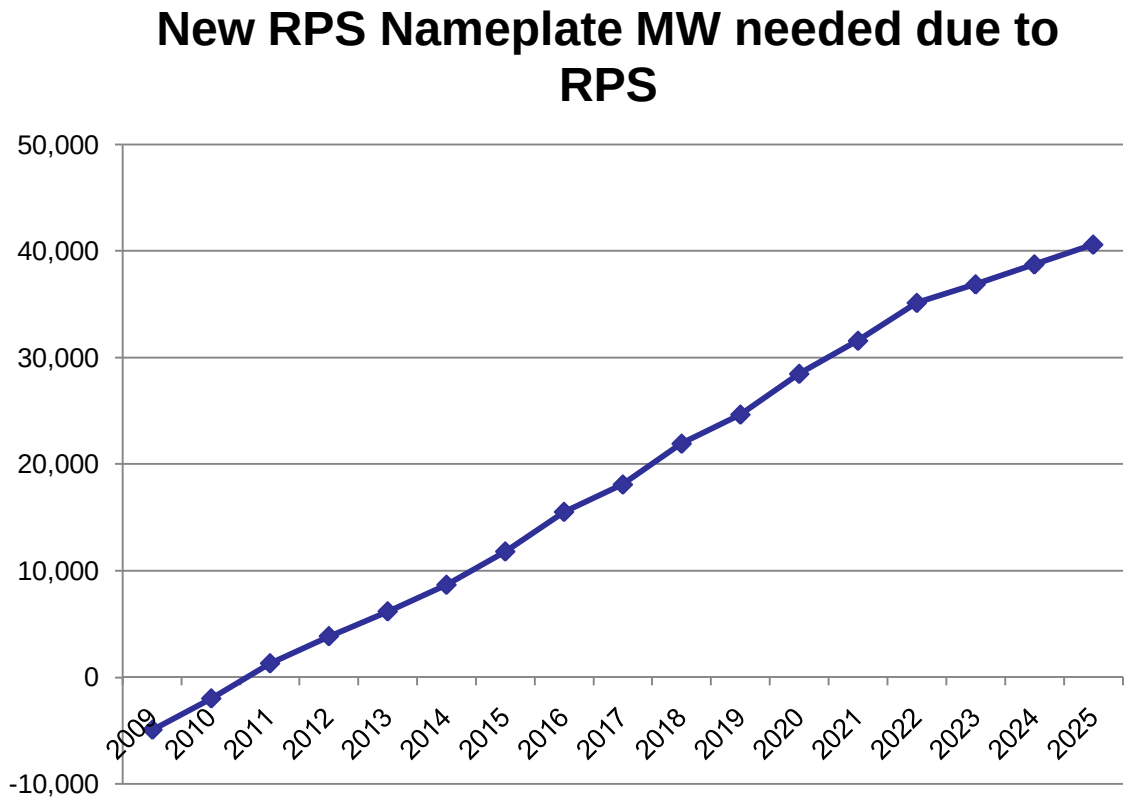
5/12/10

Operational Performance

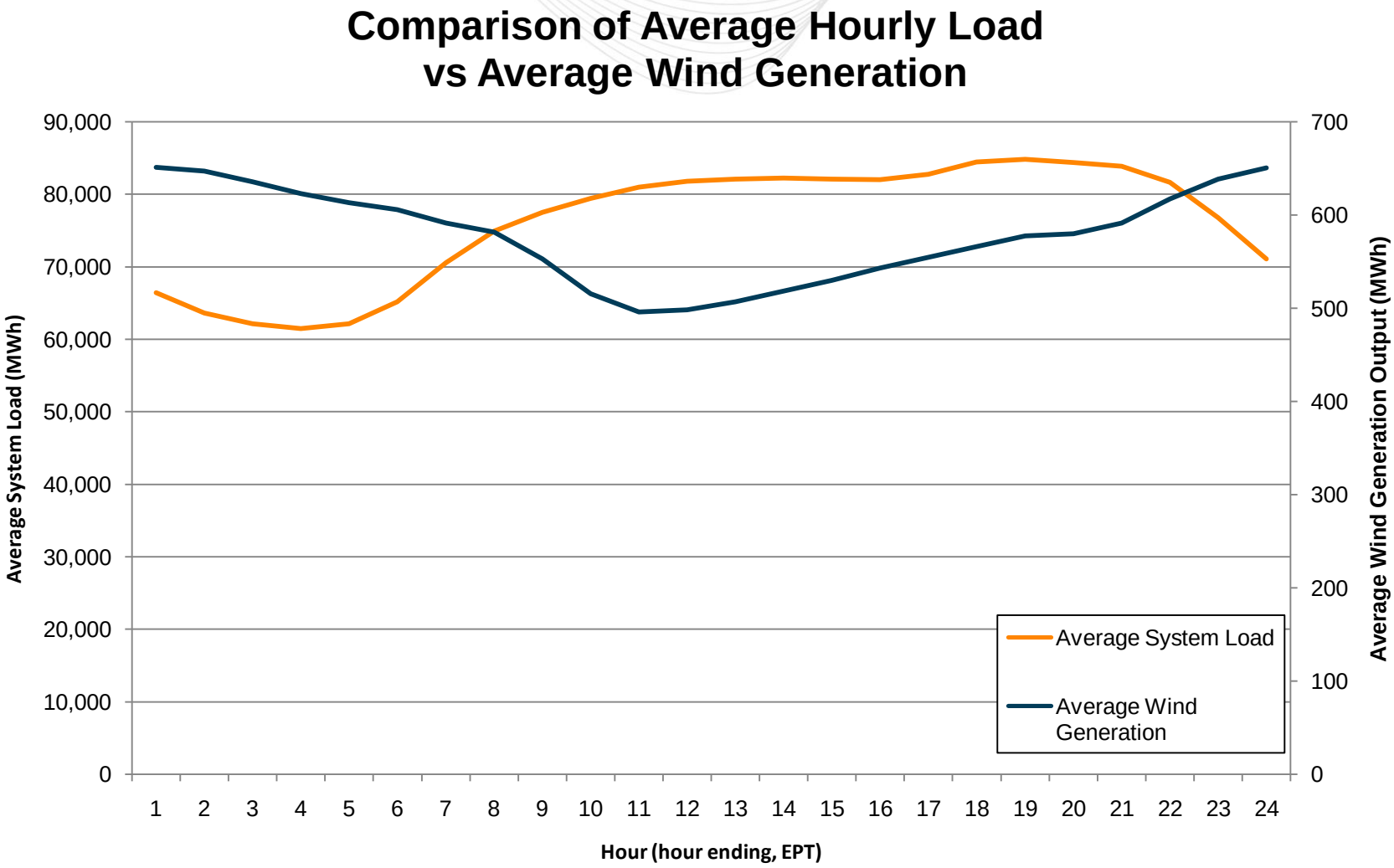
- Most of PJM's thermal and reactive criteria specifies testing to be done at peak load to ensure deliverability of capacity
- PJM Planning and Operation staff routinely review operating issues and develop upgrades as required to mitigate issues
  - PCLLRWs
  - TLR (level 3 for 1000 hours or 100 occurrences)
  - High Voltage Issues
- Emerging issues over the midnight period:
  - High Voltage – could be aggravated by new transmission
  - Thermal problems – pumped storage and renewable integration
- Do we need a criteria related to delivery of energy?

New Renewable Capacity Required due to RPS

Year	New RPS MW needed assuming a 30% CF for existing and future renewable generation
2009	-4,944
2010	**-2,000**
2011	1,295
2012	3,845
2013	6,175
2014	8,675
2015	**11,802**
2016	15,525
2017	18,093
2018	21,932
2019	24,664
2020	**28,497**
2021	31,602
2022	35,161
2023	36,904
2024	38,779
2025	**40,636**



Planning for Off-Peak Period



Light Load Criteria – Things to Consider

- What load levels should be studied?
  - Shoulder Peak (i.e. 70% summer peak 50/50)?
  - Off peak?
  - Others?
- How should we set up the generation dispatch?
  - Pump storage pumping
  - Base load on at full
  - Wind generation dispatch
- What interchange should be used?
  - Bias from areas with high wind penetration