



Light Load Operational Performance

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- What load level should the system be evaluated at for off-peak studies?
- What generation dispatch should be specified as part of the criteria?
- What interchange with adjacent areas should be assumed?
- What tests should be evaluated?



Wind Capacity Factor November – April from 1AM to 5AM

- Wind
 - **November – April** Hours ending 1 AM – 5 AM (approximately 900 samples per year)
 - Higher average wind capacity factor of 38% when only looking at these hours
 - Wind Capacity Factors during this period
 - Highest Capacity Factor
 - 87%
 - Percentage of hours when the Wind Capacity Factor was 50% - 60%
 - 32%
 - Percentage of hours when the Wind Capacity Factor was 60% - 70%
 - 26%
 - Percentage of hours when the Wind Capacity Factor was 50% - 70%
 - 58%
 - Percentage of hours when the Wind Capacity Factor was > 70%
 - 16%



Historical Operational Generation Data

- Operational data
- Entire PJM RTO
- **Entire Year** Hours ending 1 AM – 5 AM (1825 samples per year)
- Average capacity factor calculated for midnight through 5 am for three years of data, 2007 – 2009

Fuel Type	Percentage of Installed Capacity	2007-2009 Annual Capacity Factor AVG
Coal (<500 MW)	15%	46%
Coal (>500 MW)	26%	59%
Natural Gas	29%	6%
Nuclear	19%	93%
Wind	0%	27%
Other	13%	7% or less
TOTAL	100%	



Wind Capacity Factor November – April from 1AM to 5AM

- Load
 - Operational data
 - Entire PJM RTO
 - **November – April** Hours ending 1 AM – 5 AM (approximately 900 samples per year)
 - Metered PJM RTO load as a percentage of the yearly hourly peak
 - Measured RTO load / Peak RTO load averages approximately 53% for these hours

YEAR	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	Average
2007	52%	50%	50%	49%	50%	50%
2008	55%	54%	53%	53%	54%	54%
2009	56%	54%	53%	53%	54%	54%

- Gather additional information
- Consider wind impact from neighboring systems
- Propose scenarios