

PJM Summer Reliability Assessment Indiana Utility Regulatory Commission

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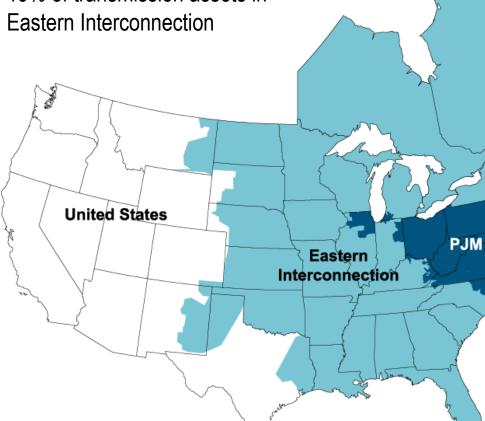


PJM as Part of the Eastern Interconnection

• 26% of generation in Eastern Interconnection

• 28% of load in Eastern Interconnection

• 19% of transmission assets in



KEY STATISTICS

PJM member companies	750+
millions of people served	60
peak load in megawatts	163,848
MWs of generating capacity	y 185,600
miles of transmission lines	65,441
GWh of annual energy	832,331
generation sources	1,365
square miles of territory	214,000
area served	13 states + DC
Internal/external tie lines	142

21% of U.S. GDP produced in PJM

As of 1/4/2012

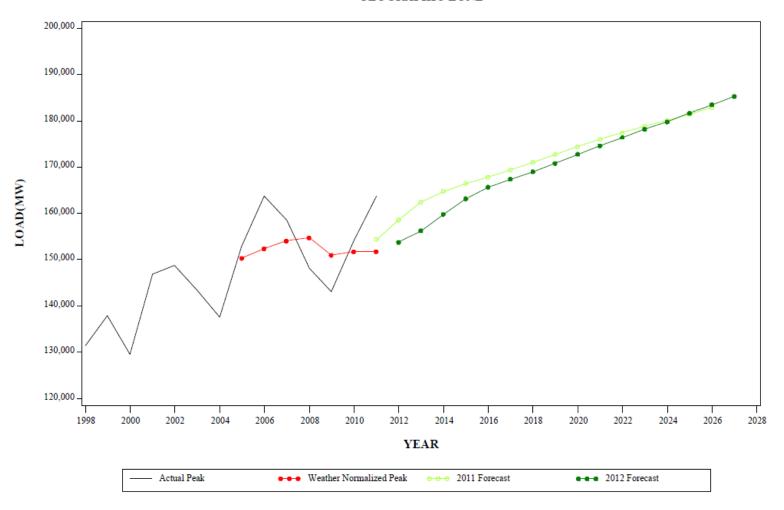
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- PJM expects to be able to reliably serve expected peak loads—peak loads are expected to be slightly higher this summer vs. last summer
- Demand response commitments may be slightly lower

2011 vs. 2012 PJM Load Forecast

SUMMER PEAK DEMAND FOR PJM RTO GEOGRAPHIC ZONE





PJM Load and Capacity Comparison: 2012 vs. 2011

2012 (with DEOK)

Forecast Load (MW) Total	Demand Response and Energy Efficiency (MW)	Forecast Load Less Demand Response (MW)	Installed Generation Capacity (MW)	Reserve Margin (MW)	Reserve Margin	Required Reserve Margin
153,780	10,230 ¹ (est.)	143,550	185,180	41,630	29.0%	15.6%

¹Includes 654MW of Energy Efficiency

2011 (without DEOK)

Forecast Load (MW) Total	Demand Response and Energy Efficiency (MW)	Forecast Load Less Demand Response (MW)	Installed Generation Capacity (MW)	Reserve Margin (MW)	Reserve Margin	Required Reserve Margin
148,940	11,897	137,043	180,400	43,357	31.6%	15.5%

¹Includes 75 MW of Energy Efficiency

2011 (Actual Peak Load: 158,016 MW on July 21, 2011 at HE 17)



Glossary for Load and Capacity Summary Slide

- Forecast Load Expected peak demand, based on normal weather (Total Internal Demand-TID)
- **Demand Response** Contractually interruptible load and other customer load willing to be interrupted at the direction of PJM. Compliance check is performed at end of summer.
- Forecast Load Less Load Management Expected peak demand <u>after</u> demand response has been implemented (Net Internal Demand-NID)
- Installed Generation Capacity Total MW amount of deliverable generation inside PJM (Installed Capacity)
- Reserve (MW) Installed Generation Capacity minus Net Internal Demand
- Reserve Margin (%) Reserve expressed as a percent of Net Internal Demand
- Required Reserve Margin (%) PJM required planning reserve, as determined by the RPM process (Installed Reserve Margin-IRM)



- PJM Operations Assessment Task Force (OATF)
 Summer Operating Study
- Reliability First Summer Assessment
- Joint MISO/PJM Operations Coordination Meeting
- PJM Spring Operator Seminar (10 sessions over 700 operators attended)
- PJM Emergency Procedures Drill May 22, 2012

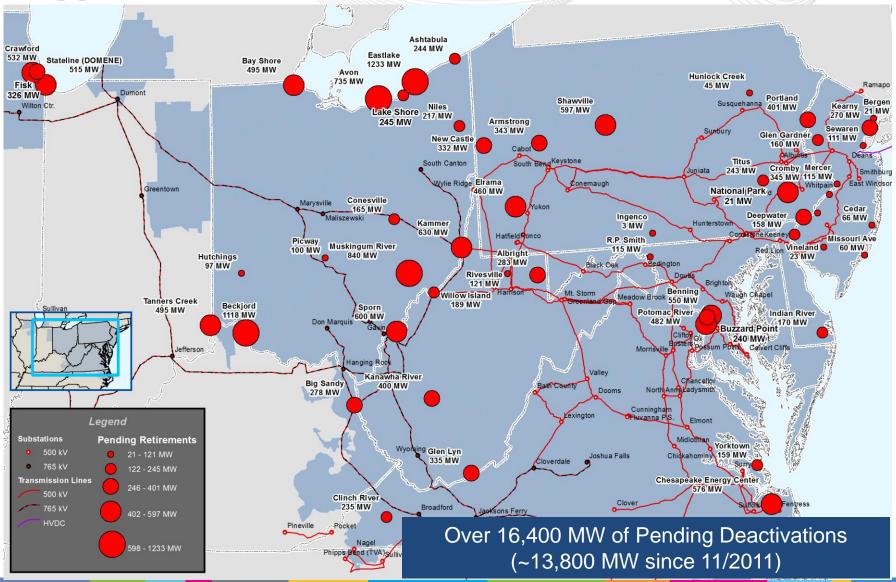


Normal Sequence of Emergency Procedures

- Alerts Usually, issued the day before the operating day
- Warnings Usually, issued the morning of the operating day or when the event is imminent
- Actions At the onset of the event

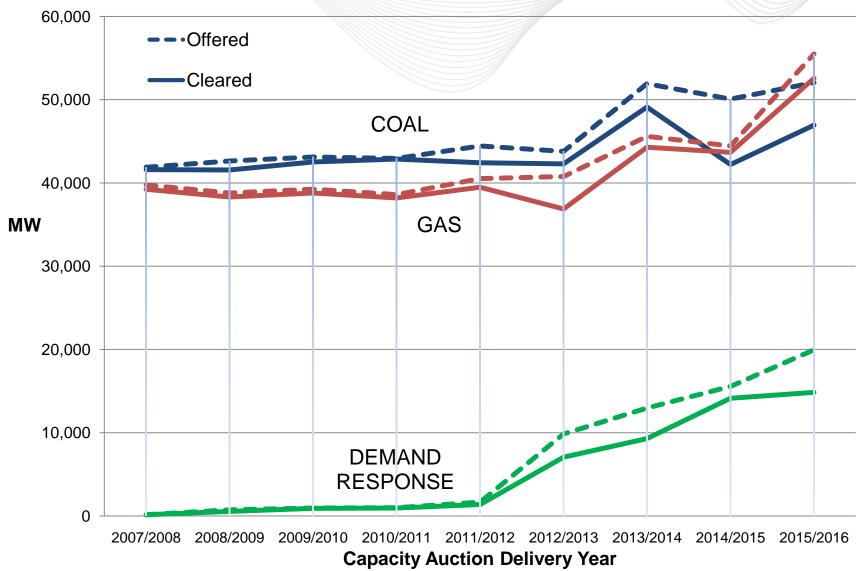


Generation Retirements



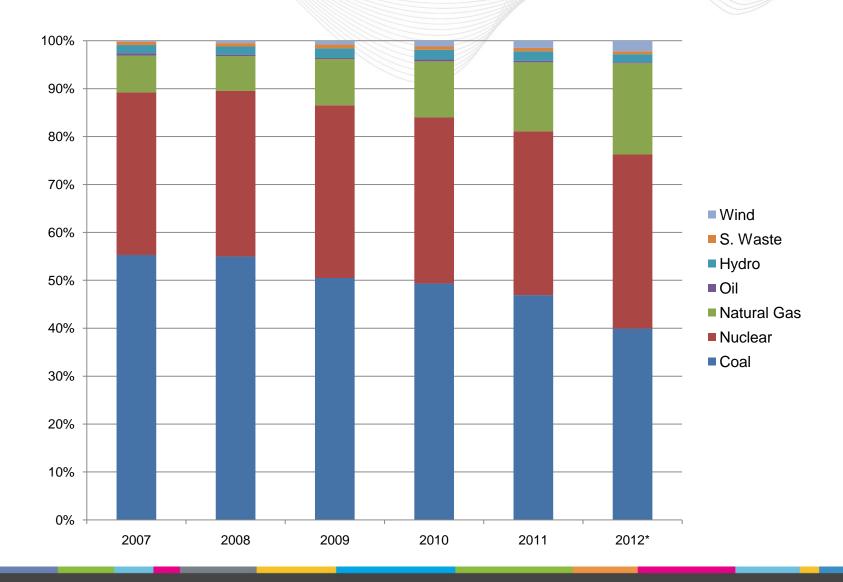


Capacity Resources: In Transition



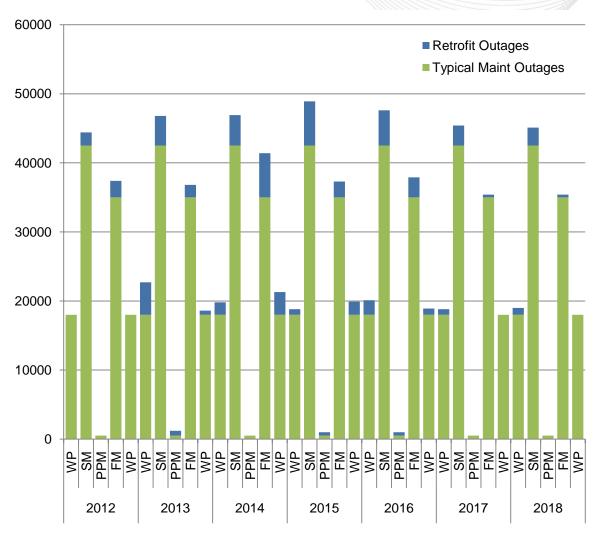


Generation: In Transition





Environmental Retrofit Outages and Typical Maintenance Outages



		Retrofit Outages (MW)	Typical Maint Outages (MW)
2012	Winter Period (WP)	0	18000
	Spring Maintenance (SM)	1900	42500
	PPM	0	500
	Fall Maintenance (FM)	2400	35000
	Winter Period (WP)	0	18000
	Winter Period (WP)	4700	18000
	Spring Maintenance (SM)	4300	42500
2013	PPM	700	500
	Fall Maintenance (FM)	1800	35000
	Winter Period (WP)	600	18000
	Winter Period (WP)	1800	18000
	Spring Maintenance (SM)	4400	42500
2014	PPM	0	500
	Fall Maintenance (FM)	6400	35000
	Winter Period (WP)	3300	18000
	Winter Period (WP)	800	18000
	Spring Maintenance (SM)	6400	42500
2015	PPM	500	500
	Fall Maintenance (FM)	2300	35000
	Winter Period (WP)	1900	18000
	Winter Period (WP)	2100	18000
	Spring Maintenance (SM)	5100	42500
2016	PPM	500	500
	Fall Maintenance (FM)	2900	35000
	Winter Period (WP)	900	18000
	Winter Period (WP)	800	18000
	Spring Maintenance (SM)	2900	42500
2017	PPM	0	500
	Fall Maintenance (FM)	400	35000
	Winter Period (WP)	0	18000
2018	Winter Period (WP)	1000	18000
	Spring Maintenance (SM)	2600	42500
	PPM	0	500
	Fall Maintenance (FM)	400	35000
	Winter Period (WP)	0	18000

^{*}Some retrofit outages may be included in typical maintenance outages.





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