



Summer 2013 PJM Reliability Assessment

Pennsylvania Public Utility Commission
June 6, 2013



PJM as Part of the Eastern Interconnection

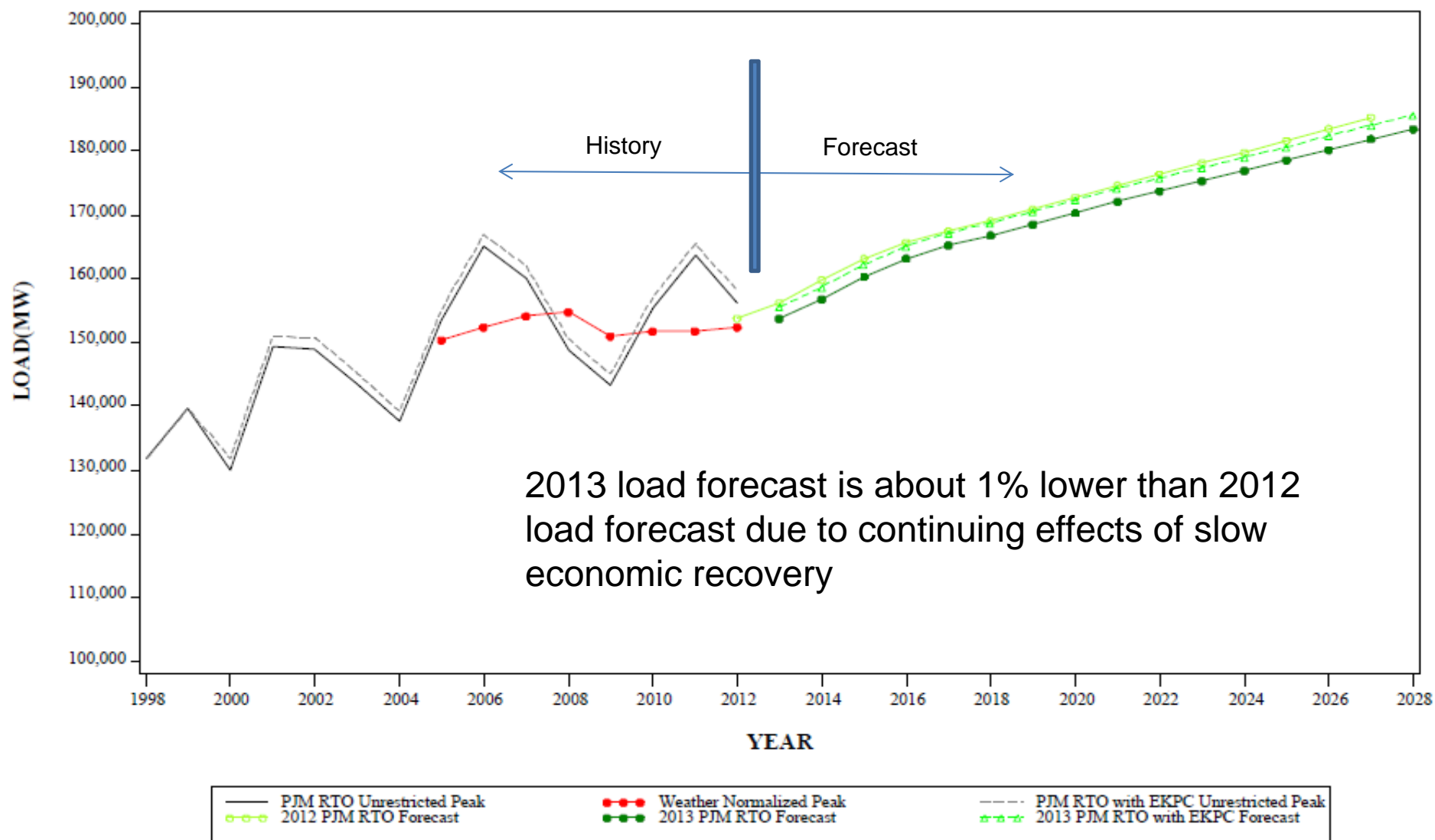


Numbers include integration
of EKPC on 6/1/13

KEY STATISTICS

Member companies	800+
Millions of people served	61
Peak load in megawatts	165,492
MW of generating capacity	183,604
Miles of transmission lines	62,556
2012 GWh of annual energy	793,679
Generation sources	1,376
Square miles of territory	243,417
States served	13 + DC

As of 6/1/2013



2013 (with EKPC)

Forecast Load (MW) Total	Demand Response and Energy Efficiency (MW)	Forecast Load Less Demand Response (MW)	Total Installed Generation Capacity (MW)	Reserve Margin Based on Total Resources (MW)	Reserve Margin Based on Total Resources	Reserve Margin Based on Committed Resources	Required Reserve Margin
155,553	11,175 ¹ (est.)	144,378	186,884	42,506	29.4%	22.5%	15.9%

¹Includes 651MW of Energy Efficiency

2012 (without EKPC)

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 654 MW of Energy Efficiency

2012 (Actual Peak Load: 154,339 MW on July 17, 2012 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 after demand response has been implemented (Net Internal Demand-NID)

Installed Generation Capacity – Total MW output of all of the generators that cleared in RPM and are committed to serve PJM load (Installed Capacity)

Reserve (MW) – Installed Generation Capacity minus Net Internal Demand

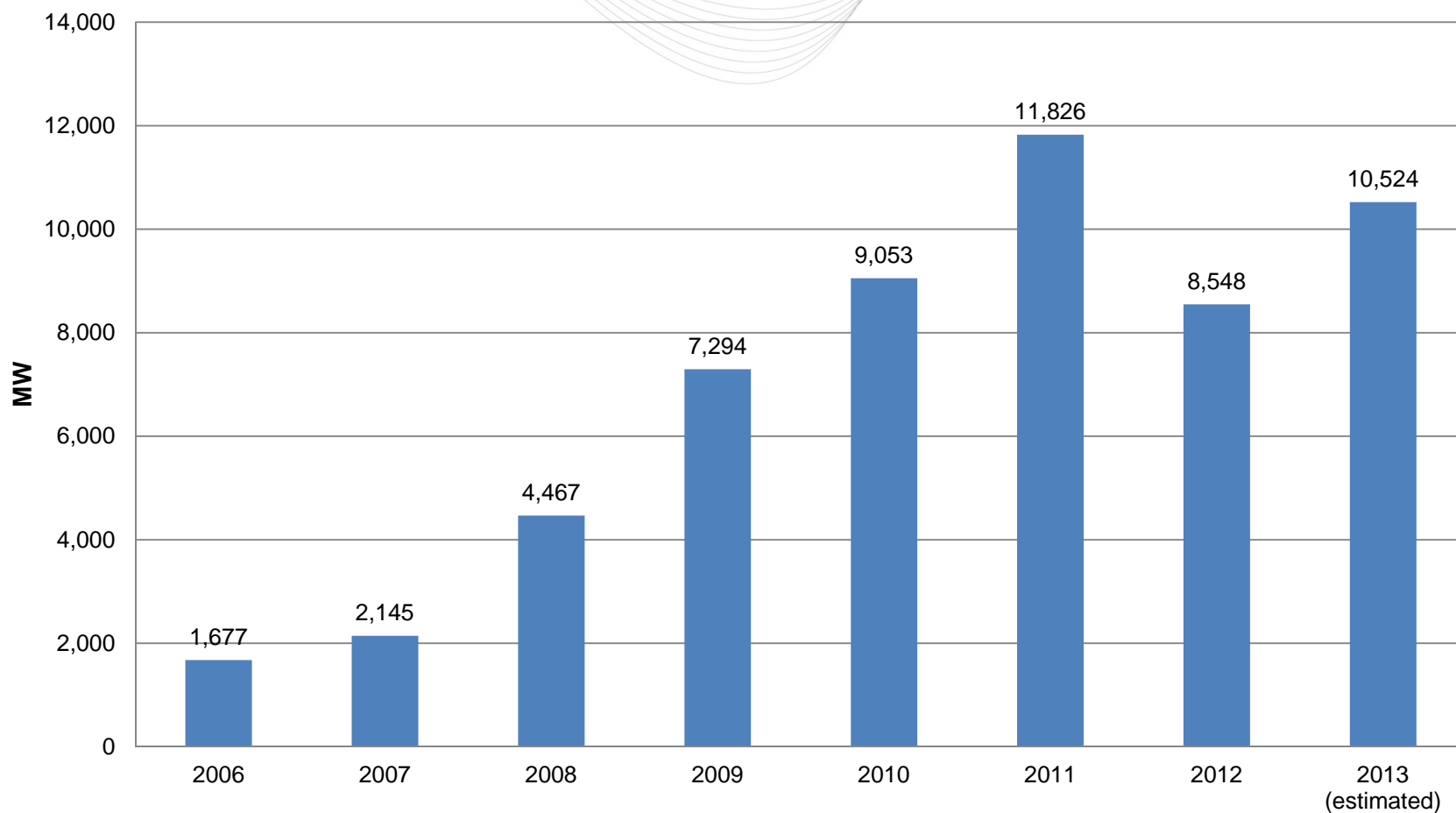
Reserve Margin (%) – Reserve expressed as a percent of Net Internal Demand

Required Reserve Margin (%) – PJM required planning reserve, as determined by the RPM process (Installed Reserve Margin-IRM)

Total Installed Generation is all capacity within PJM plus external capacity that has committed through RPM or all capacity within PJM (regardless of commitment in RPM) plus external capacity that has committed through RPM

The Reserve Margin based on Committed Resources uses as its numerator the Total Installed Generation above and subtracts out internal uncommitted generation (the MW of the numerator is not in the slides...just the resulting reserve percentage.) This percentage of 22.5% is what must exceed the required reserve margin of 15.9%.

Growth in PJM Demand Response



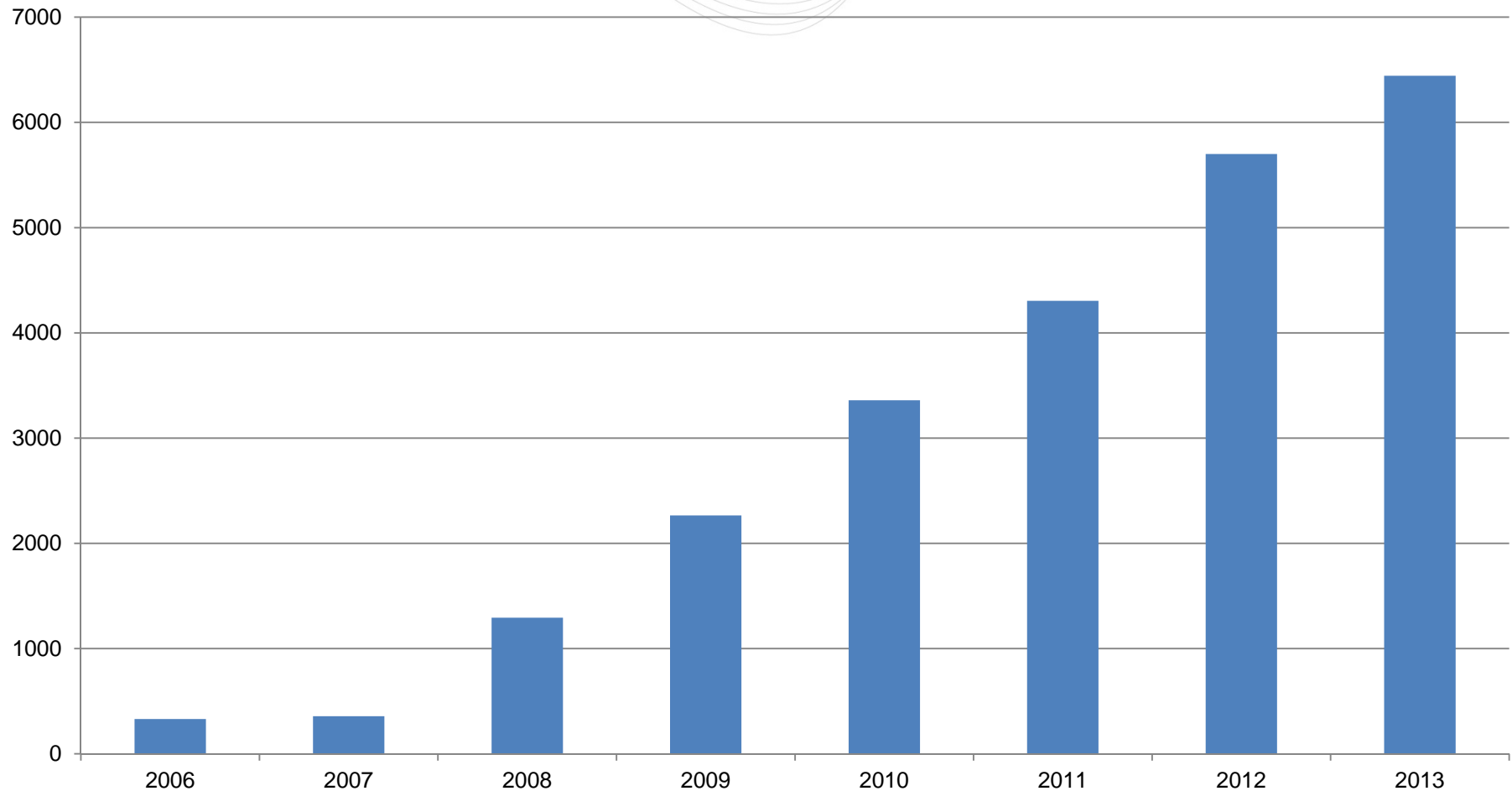
- Compensated through RPM
 - Operational control turned over to PJM
 - Requirements regarding number of interruptions, duration of interruptions, lead time, etc.
 - PJM verifies compliance
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Number of Historical Events

<u>Year</u>	<u># of LM Events</u>	<u>Year</u>	<u># of LM Events</u>
2005	2	2009	0
2006	2	2010	6
2007	1	2011	3
2008	0	2012	2

- Historically about 6% of PJM capacity is “forced out” of service during the peak summer period
- Scheduled generator maintenance is coordinated to minimize peak period impacts
- Water levels are expected to be normal for hydro units
- Projected to have 6,443 MW of wind generation in PJM on 6/1/2013
 - 1,310 MW in Pennsylvania

PJM Wind Nameplate Capability (MW)





Some PJM Summer Preparations

- PJM Operations Assessment Task Force (OATF) Summer Operating Study
- Reliability *First* Summer Assessment
- Joint MISO/PJM Operations Coordination Meeting
- SERC Operating Committee / VACAR Pre-summer Coordination Meetings
- PJM Spring Operator Seminar (10 sessions – over 800 operators attended)
- PJM Emergency Procedures Drill – May 14, 2013

- PJM expects to be able to reliably serve expected peak loads—peak loads are expected to be slightly higher this summer vs. last summer's weather-normalized loads
- Amount of Demand Response is down slightly from summer 2011, but DR has increased significantly since 2006 —helping to offset the impact of generator retirements
- Transmission system is expected to perform adequately based on applicable criteria