



Summer 2005 PJM Reliability Assessment

June 7, 2005

Pennsylvania Public Utility Commission



- Projected Peak Demand and Capacity
- Bulk Power Purchases/Sales
- Reserves
- Unavailable Capacity
- PJM Load Response Programs
- Transmission Adequacy
- PJM Implementation of NERC Reliability Standards

Period	Forecast Load (MW) Total	Forecast Load (MW) (Less Active Load Management)	Actual Load (MW)
Summer 2005	132,983	130,948	To be Determined
Summer 2004 (including DOM)			120,367
All-Time Summer Peak: 130,309MW on 8/1/2002 at 17:00 EPT			

- Since June 1, 2004
 - 2,937 MW added through PJM Interconnection Queue Process
 - 3,630 MW retired
- Intermittent Capacity Resources – 127MW of wind power is receiving capacity credit, another 80 MW is eligible to apply for capacity credit
- Forecasted Installed Capacity June 1, 2005 – 165,640 MW

	Installed Capacity	Forecasted Demand	Reserve Margin
June 2005	165,640 MW	130,948 MW	26.5%

- Installed reserve margin is based on “Iron-in-the-Ground” capacity resources, and excludes the impact of external purchases or sales.
- Projected reserve margin exceeds required reserve margin of 15.0%.

- Currently, PJM has 3,918 MW of firm transmission service in place for net energy sales out of PJM through the summer peak period
- Current transactions out of PJM are not capacity backed
 - Transactions can be curtailed in the event of a PJM capacity emergency

- Historically 7.9% of PJM capacity is “forced out” of service during the summer peak
- All nuclear units are expected to be in service and at full capacity (28,084 MW) at the time of the peak
- Planned generator outages are not permitted during peak periods
- Scheduled maintenance is coordinated to minimize peak period impacts

- 2,035 MW of ALM for Summer 2005
- Operational control turned over to PJM
- Requirements regarding number of interruptions, duration of interruptions, lead time, etc.
- PJM verifies compliance
- ALM was initiated on 2 occasions in 2000, 4 times in 2001, 3 times in 2002, and not at all in 2003 and 2004.

EMERGENCY

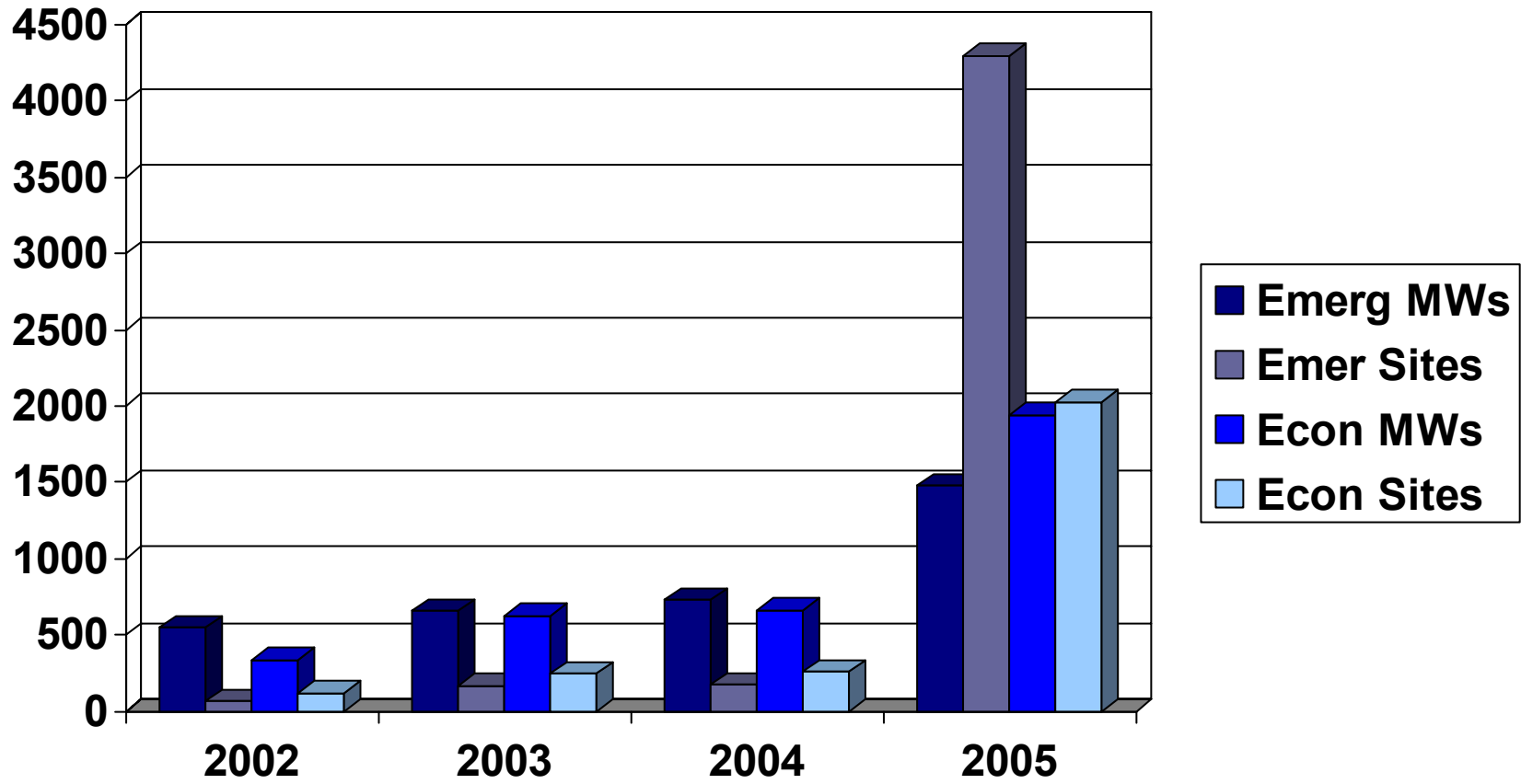
Designed to provide a method by which end-use customers may be compensated by PJM for voluntarily reducing load during an emergency event.

As of 4/8/05:
1479 MW
4299 Sites

ECONOMIC

Designed to provide an incentive to customers or curtailment service providers to reduce consumption when PJM LMP prices are high.

Two options:
Day-Ahead Option
Real-Time Option
As of 4/8/05
1940 MW
2026 Sites



- The PJM Mid-Atlantic Region bulk power system is expected to perform adequately in Summer 2005 based on MAAC criteria.
- The PJM Western Region (Allegheny Power, AEP, Dayton, DQE) bulk transmission system is expected to perform adequately in Summer 2005 based on ECAR criteria.
- The ComEd bulk power system is expected to perform adequately in Summer 2005 based on MAIN criteria.

- Integral part of bulk power supply reliability
- Allows lower installed reserve margins
- Assistance not required this summer if:
 - Weather is normal
 - Units perform as expected
- If required, assistance from neighboring systems should be available

NPCC

IESO

Available Resources	29,303 MW
Net Internal Demand	23,897 MW
Margin	22.6%

New York

Available Resources	38,999 MW
Net Internal Demand	31,116 MW
Margin	25.3%

New England

Available Resources	30,874 MW
Net Internal Demand	26,355 MW
Margin	17.1%

PJM

Available Resources	165,640 MW
Net Internal Demand	130,948 MW
Margin	26.5%

MISO

Available Resources	132,000 MW
Net Internal Demand	107,000 MW
Margin	23.4 %

VACAR (-)

Available Resources	47,093 MW
Net Internal Demand	40,138 MW
Margin	17.3%

ECAR and MAIN figures included in MISO and PJM

(-) refers to areas outside of PJM

- **Expected Peak Demand and Reserves**
 - Peak demand higher than 2002 record peak
 - Reserves exceed required margin of 15%
- **Bulk Power Purchases/Sales**
 - Energy sales out of PJM are recallable under PJM emergency conditions
- **Transmission Adequacy**
 - Expected to perform per criteria
- **Load Response Resources**
 - 5.5% of total demand is in load response programs
 - Voluntary PJM sponsored program participation is increasing

- Approved by industry and NERC Board
- Effective April 1, 2005
- 90 Standards containing 800+ requirements
- Majority are translations from existing Operating Policy and Planning Standards
- Regional Councils are prepared to monitor – NERC will update list of items for which compliance will be measured in 2005
- MAAC, ECAR, MAIN and SERC have coordinated procedure for reviewing PJM compliance

Resource & Demand Balancing

Critical Infrastructure Protection

Communications

Emergency Preparedness

Facilities Design, Construction
And Maintenance

Interchange Scheduling
And Coordination

Interconnection Reliability
Operations and Coordination

Modeling, Data & Analysis

Organization Certification

Personnel Performance,
Training & Qualifications

Protection & Control

Transmission Operations

Transmission Planning

Voltage and Reactive



- Operating Requirements – apply to all “PJM Monitored Facilities” with PJM as the Transmission Operator.
- Planning Requirements – each Regional Reliability Council has developed a list of facilities for its region to which the Transmission Planner requirements will apply
- Non-compliance to requirements on facilities not in the PJM Monitored Facilities (Operating) or Regional lists (Planning) will fall upon the local entity registered as Transmission Operator or Transmission Planner

- Standards are not really “new” – nearly all are translations of existing Operating Policies and Planning Standards
- New Standards more clearly identify the metrics and responsible party
- More effort will be required of industry participants to demonstrate compliance
- PJM has a history of complying with all requirements and expects to continue to do so under the new standards