2010 ISO/RTO Metrics Report
PJM M Highlights

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PJ M as Part of the Eastern Interconnection

KEY STATISTICS
- PJM member companies: 660+
- Millions of people served: 54
- Peak load in megawatts: 144,644
- MWs of generating capacity: 164,895
- Miles of transmission lines: 56,500
- GWh of annual energy: 745,000
- Generation sources: 1,310
- Square miles of territory: 164,260
- Area served: 13 states + DC
- Internal/external tie lines: 250

26% of generation in Eastern Interconnection
23% of load in Eastern Interconnection
19% of transmission assets in Eastern Interconnection

19% of U.S. GDP produced in PJM
Reliability - Transmission Planning

- **Recent Activity**
  - PJM Board has approved five new backbone transmission lines

- **Future Impacts**
  - Annual congestion costs reduced $1.7 billion
  - Annual capacity costs reduced $3.0 billion
Recent Trend
- 1,100 study requests from 2005 through 2009
- More than 50% reduction in average time to complete studies while number of study requests tripled

Future Enhancements
- Backlog reduction
- Reduce average aging of incomplete studies
Reliability & Markets - Demand Response

**Recent Trend**
- 5,682 MW increase in demand resources from 2008 to 2009
- Demand side responders earned over $300 million

**Future Enhancements**
- Shortage Pricing
- Price Responsive Demand
Markets - Energy Market Prices

Recent Trends

- 70% of changes in load-weighted energy prices are driven by changes in fuel costs
- In the past five years, load-weighted fuel-adjusted wholesale spot energy prices in the PJM region have decreased 30% from $30.45 to $21.46
PJM Innovations

**Future Enhancements**

- **Perfect Dispatch** – Expand initiative to optimize steam generating unit commitment actions
- **Advanced Control Center** – Duplicate operations and markets control and data centers utilizing shared architecture
- **Storage and Frequency Regulation** – Develop and implement “pay-for-performance” pricing structure to stimulate participation of advanced technologies
- **Credit Risk Management** – Title clarification through PJM Settlement as counterparty to pool transactions
Communication, Coordination and Collaboration
Appendix
PJ M Wholesale Power Cost Breakdown

2009 Total Cost = $55.31

Transmission 7%

Energy
Capacity
Ancillary Services
Operating Reserves
RTO Cost & Regulatory Fees

PJM Wholesale Power Cost Breakdown ($/megawatt hour)

2005: $68.78
2006: $58.37
2007: $70.98
2008: $84.66
2009: $55.31
Recent Trend

- Prices in PJM are set, on average, by marginal units operating at or close to their marginal costs.

Note: The data on Market Competitiveness was obtained from the State of the Market Reports issued by PJM's independent market monitor.
Markets – Regulation and Storage

- **Recent Trend**
  - Cost efficiency savings across the RTO footprint is between $80 million and $105 million per year.

- **Future Enhancements**
  - Develop and implement “pay-for-performance” regulation market pricing structure to stimulate participation of advanced technologies.
Organizational Effectiveness – Administrative Costs

**Recent Trend**
- Economies of scale and favorable actual to budget variances in 2008 and 2009 lowered PJM’s administrative rate
- Represent 0.4% of wholesale power costs
- Benchmarks best-in-class internationally

**Projections**
- Annual administrative rates forecasted at $0.26 to $0.31 per MWh of load served
PJ M Specific Initiative - Credit Risk Management

**Recent Trend**
- Implemented weekly billing and settlement in summer 2009
- 70% reduction in peak transaction exposure
- $1 billion of working capital returned to members

**Future Enhancements**
- Title clarification through PJM Settlement as counterparty to pool transactions
**PJM Value Proposition**

**Reliability** – resolving constraints and economic efficiency

$470 million to $490 million in annual savings

**Generation investment** – decreased need for infrastructure investment

$640 million to $1.2 billion in annual savings

**Energy production cost** – efficiency of centralized dispatch over a large region

$340 million to $445 million in annual savings

**Grid services** – cost-effective procurement of synchronized reserve, regulation

$80 million to $105 million in annual savings

$2.2 billion in annual savings