



# Preparation For Summer 2005



**PSI Energy Presentation to  
Indiana Utility Regulatory Commission**

May 6, 2005

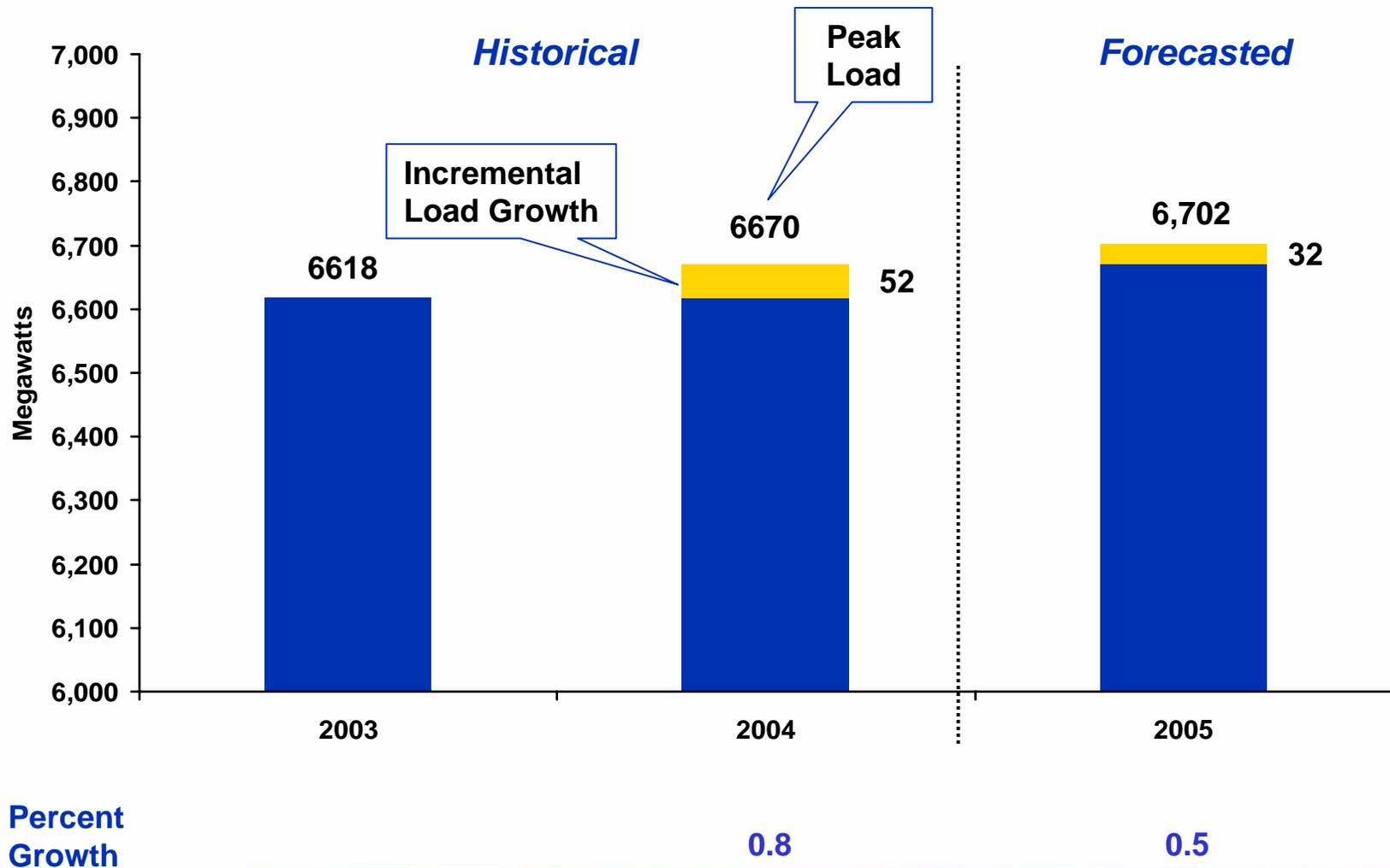
# Overview of Presentation

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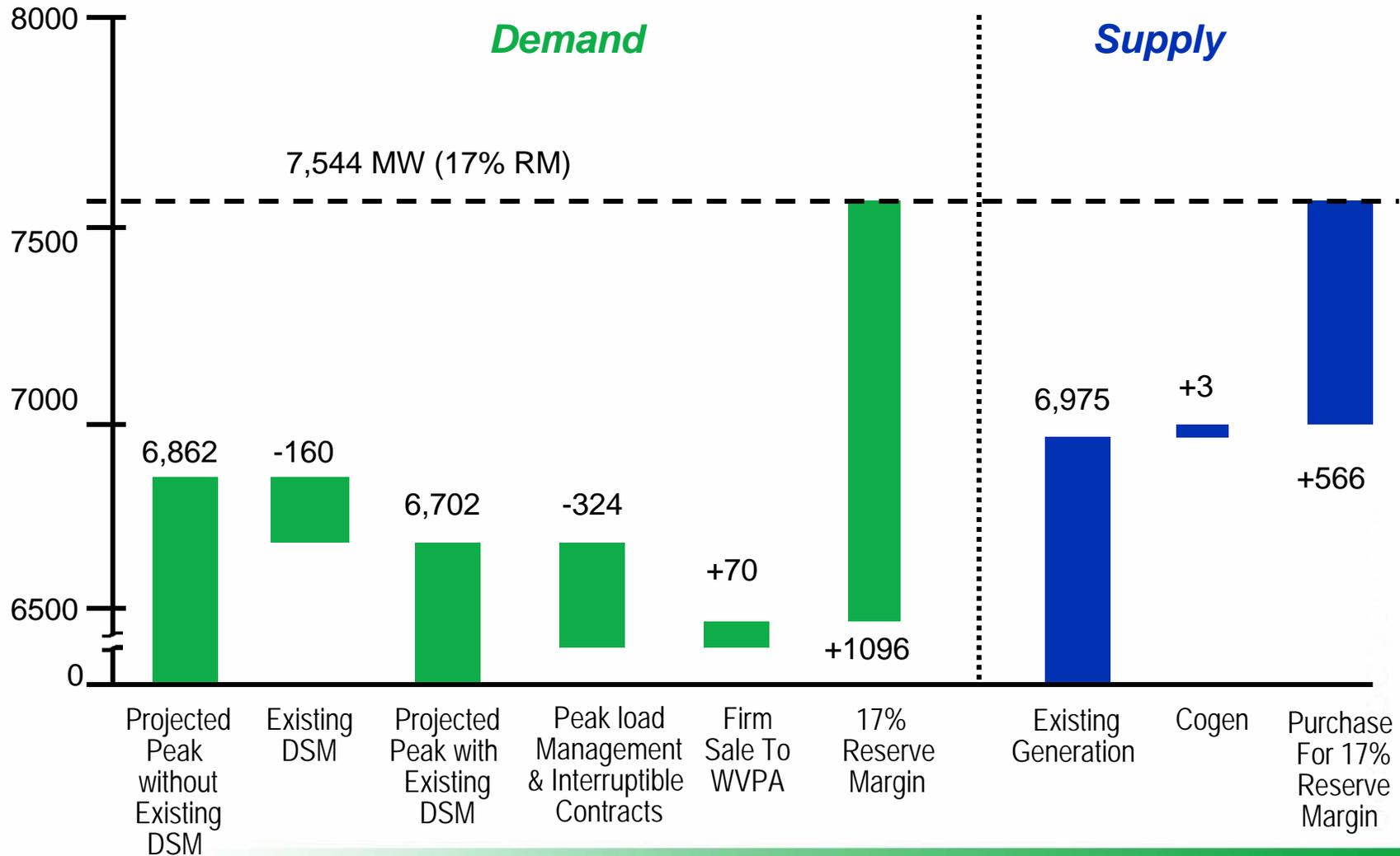
- PSI's Summer 2005 Capacity and Energy Needs
- Steps Taken to Prepare for the Summer
- Summer 2005 Challenges

# PSI's Peak Demand Forecast

## Weather Normalized Peak Load



# PSI's Capacity Requirements For Summer 2005

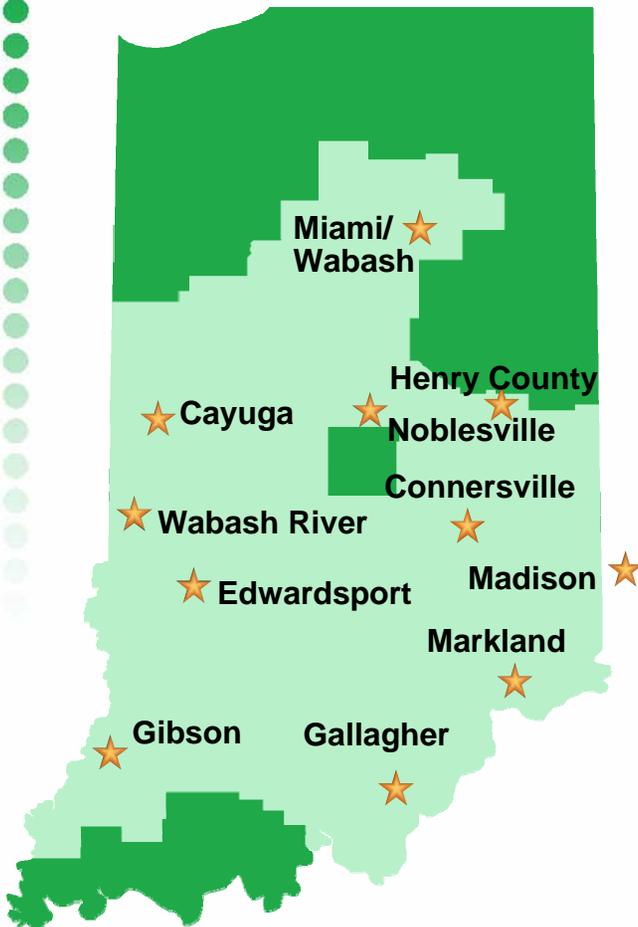


# PSI's Energy Requirements For Summer 2005

- Energy Position is different from Capacity Position
  - Capacity Position is determined by comparing the unit capability of PSI's generation and purchase portfolio to the expected peak load
  - Energy Position is determined by comparing the economic dispatch of PSI's generation and purchase portfolio to expected market prices
- As of end of April 2005, PSI is slightly long in its expected average economic energy position for Summer 2005
- However, there will be some hours when PSI's economic energy position is short
  - For this summer, PSI is about 300 MW short for a 1 in 10 (90%) scenario
- If PSI does not make energy purchases to fill this short position, PSI's customers could be at risk of paying spot market prices for this energy at times when these prices would be the highest

# Steps Taken To Prepare For Summer 2005

## PSI's Generation System



- With the exception of Edwardsport Unit 8 Turbine, all PSI generating units are scheduled to be available June through September 2005.
- PSI will operate 5 SCRs at Gibson this summer
  - Added permanent control system for SO<sub>3</sub> mitigation to support all 5 units
- PSI has performed 37 weeks of maintenance outages this past spring including:
  - Outage maintenance on 16 of its 19 steam generating units
    - A 13 week outage at Gibson 1 for SCR installation
    - A 10 week outage at Cayuga 1 for precipitator replacement
  - Continued outage maintenance program on its combustion turbines during low demand periods
- PSI continues to focus on:
  - Peak availability (i.e., high availability during peak periods)
  - A program of “availability outages” aimed at addressing potential summer failure situations
  - System-wide and plant-wide contingency planning with the goal of reducing the length of any forced outages

# Steps Taken To Prepare For Summer 2005

## PSI's Transmission & Distribution System

- \$113.7 million in long-term T&D investments for load growth and system enhancements includes:
  - \$9.8 million for an 18 mile 138kV line from Madison, IN to Scottsburg and a 100MVA, 138/69kV transformer at Scottsburg.
  - \$5 million for 2.5 miles of 138kV line, substation capacitors and system enhancements to improve reliability for the Seymour area.
- 230 kV and 138 kV transmission rehabilitation
  - In 2003 and 2004, 158 miles of 138 kV transmission lines were completed at a cost of approximately \$4.56 million.
  - Through March 2005, 38.5 miles of 230kV transmission lines have been completed at a cost of \$1.6 million and the contract to complete the 593 miles of refurbishment by the end of 2008 was approved.
- Storm emergency plans have been updated and training completed.
- NERC Blackout recommendations regarding System Operator training and Cyber Security Standards have been implemented.

# Steps Taken To Prepare For Summer 2005

## Incremental Demand Side Management Programs

- Between 1991 & 2005, PSI DSM programs have created:
  - Over 160 MW of annual peak demand reductions
  - 661,000 MWh annual energy reductions
- Additional 2005 projected peak load management reductions:

– Special contracts (e.g., interruptible):	221 MW
– Real Time Pricing (RTP):	
• Capacity Reduction	40 MW
• Price Response	26 MW
– PowerShare®	
• Call (customer contractual commitment):	40 MW
• Quote (voluntary, yet compensated):	38 MW
– Power Manager-Direct Load Control*	23 MW

  - \* DLC capability is growing faster than expected due to higher than expected numbers of customers opting for the 1.5 kW impact rather than the 1.25 kW impact

# Steps Taken To Prepare For Summer 2005

## Purchased Capacity and Energy

- Despite the significant 2003 additions to its physical capacity, PSI's current on-system reserve margin is below 9%
- MISO Day 2 requirements include a day-ahead 4% capacity reserve requirement (after outages and derates) from physical capacity for ECAR companies
- PSI anticipates that a separate capacity market will develop in MISO (PJM already has such a market) due to Day 2 requirements and a future expected Capacity Adequacy Requirement
- PSI has completed purchases from physical capacity for June-September to achieve a 17% installed reserve margin in order to ensure compliance with the day-ahead 4% requirement
- PSI plans to purchase about 300 MW of Energy Call Options for July/August to provide an energy price hedge

# Summer 2005 Challenges - MISO Day 2

## Transmission Reliability

- Extensive testing and preparations were completed to assure Cinergy's readiness for Day 2 operations. This level of effort resulted in an incident free startup on April 1 of a large and very complex undertaking
- No unusual transmission power flow patterns have been experienced as a result of Day 2 operations. Cinergy will continue to monitor flows and coordinate operations with the MISO. We expect Day 2 will help maintain transmission reliability.

# Summer 2005 Challenges - MISO Day 2

## Generation Reliability

- Market is balanced every 5 minutes per MISO instructions
- New market has the potential to be more efficient and transparent than before, although it will take time to work through the bugs in the system
  - Both volume and liquidity are lower so far compared to pre-Day 2
- The start of Day 2 operation resulted in transitional issues:
  - Substantial increase in capacity factors for simple cycle CTs and combined cycle units across MISO
  - Problems with settlement statements
- MISO and its Stakeholders are jointly trying to find solutions to avoid potential reliability problems this summer

# Conclusions

- PSI believes it has adequate resources and infrastructure to meet customer needs this summer
- PSI and other utilities in Indiana face a number of near-term challenges:
  - MISO Day 2 operations and its impact on the regional market and the regional transmission system
  - Meeting the more stringent day-ahead capacity standard every day
  - MISO Day 2 transitional problems and their impacts on unit operations