



CAPACITY MARKETS IN THE PJM REGION

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- **Equilibrium level of resources and reliability**
 - Reliability objective
 - Requires additional resources in equilibrium
 - Reduces frequency of scarcity pricing
 - Reduces net revenue
- **Sources of investment incentive**
 - Energy market scarcity revenues
 - Capacity market
- **Market for required level of reliability**
 - Market mechanism
 - Match load and reliability requirements for resources

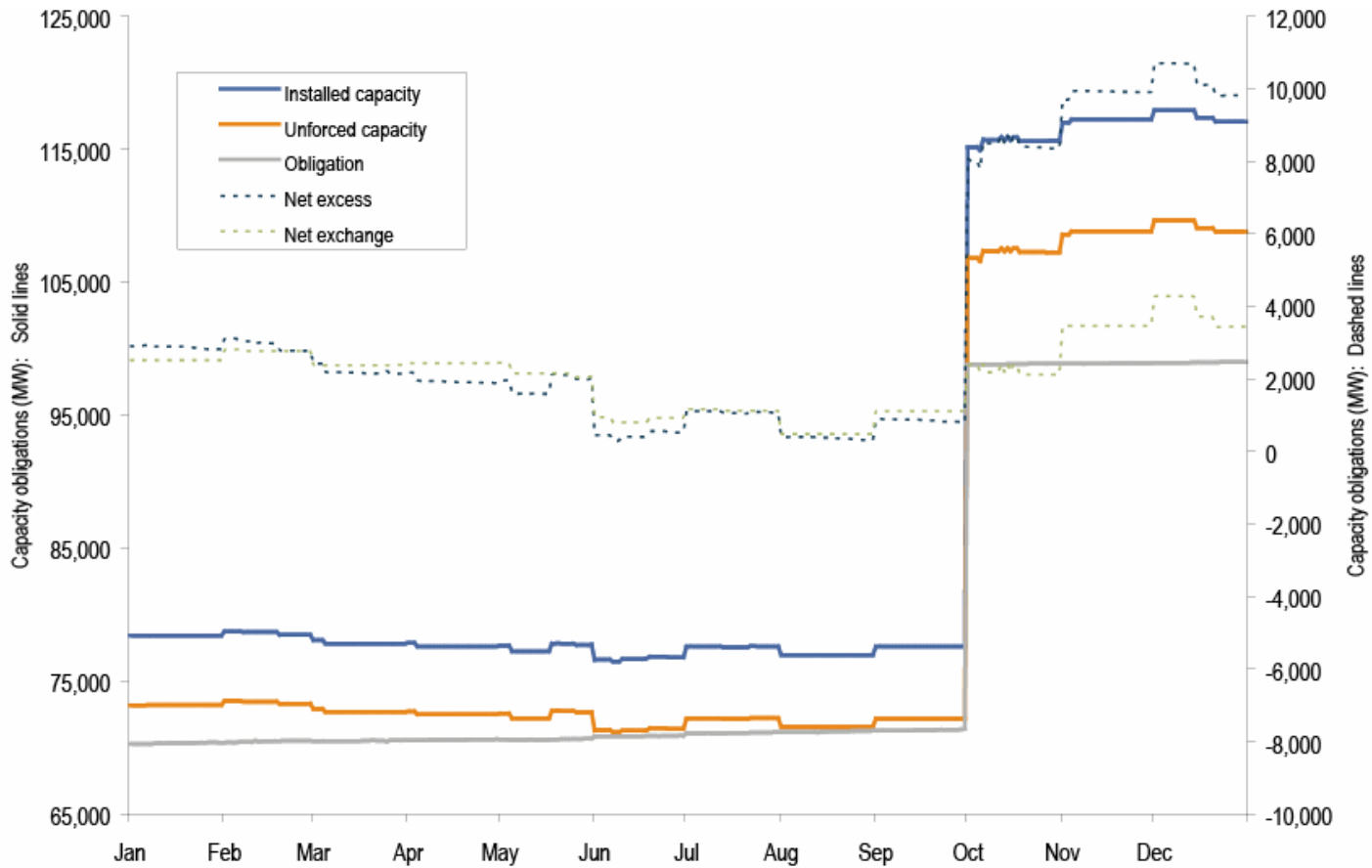
- Inadequate locational investment signals
 - Locational reliability issues
 - Locational retirement issues
 - Non-market bilateral contracts
- Risks to market design of non-market contracts
 - No competition
 - No market
 - No entry
 - Short term
 - Regulatory negotiations
- No market power rules

- Disconnect between market signals and reliability
 - Load growth not reflected past one year
 - Investment incentives are short term
 - Locational variation in supply-demand balance
 - Generation retirement is symptom
 - Net revenue
- Unlikely to achieve equilibrium at target level of reliability
 - Supply-demand balance not reflected in prices with adequate response time

- Not forward looking
 - Relatively smooth equilibration unlikely
 - Competition from new entry difficult
 - Investment incentives do not reflect expected supply-demand balance
- No locational capacity prices
 - Investment incentives do not track requirements
 - Retirement incentives not consistent with reliability
 - Aggregate market price signals do not reflect actual, local supply-demand balance

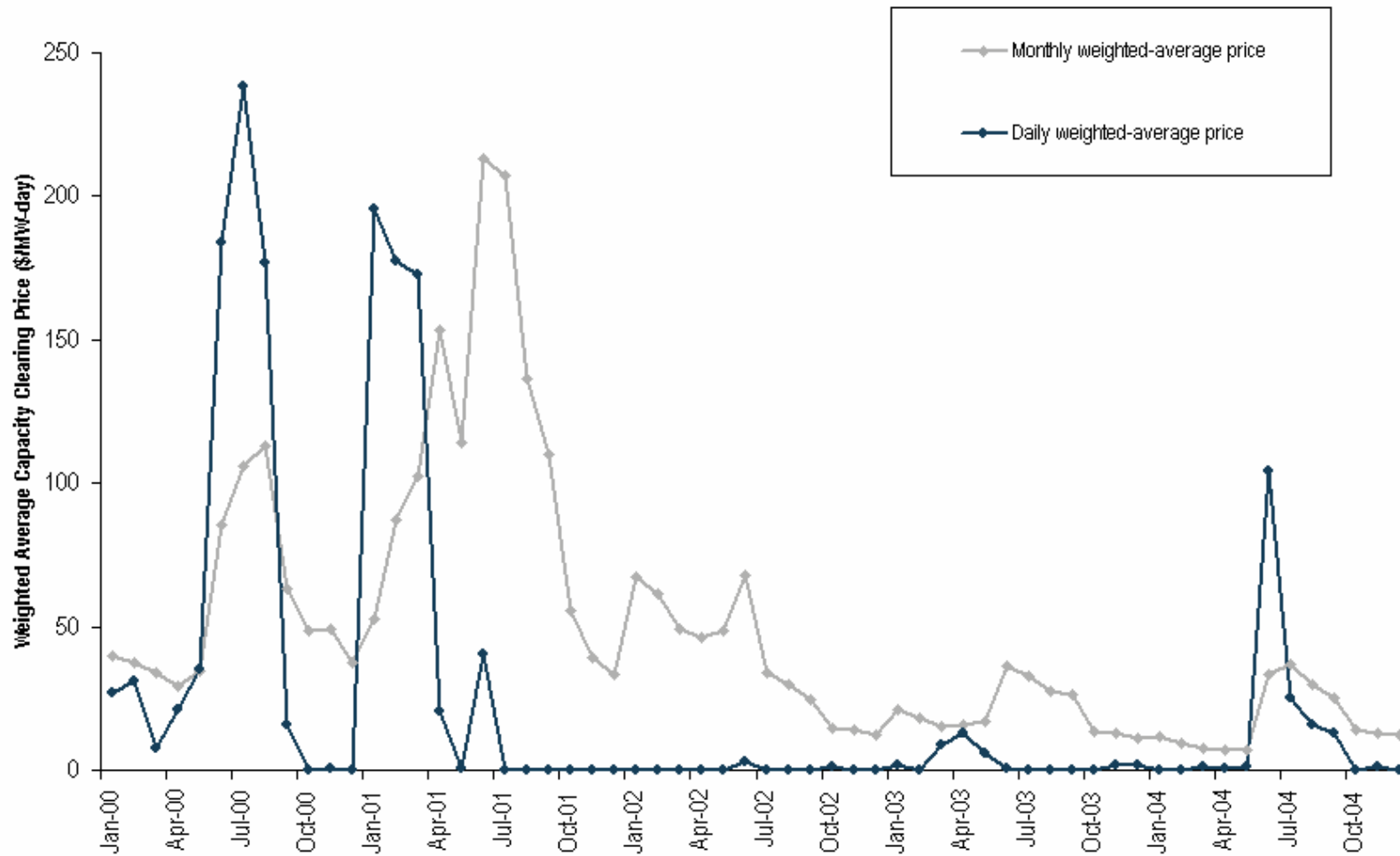


Capacity obligations to the PJM Capacity Market: Calendar year 2004





PJM Daily and Monthly Capacity Credit Market (CCM) prices: Calendar years 2000 to 2004





PJM Net Revenue

Unit Type	20 Year Levelized Fixed Cost	Realistic Dispatch Average Net Revenue 1999 to 2004
Combustion Turbine (CT)	\$72,207	\$36,195
Combined Cycle (CC)	\$93,549	\$52,243
Pulverized Coal (CP)	\$208,247	\$137,015

- Capacity markets susceptible to market power
 - Locational capacity markets more susceptible to market power
 - Market power mitigation plan required to address these risks
- RPM plan addresses market power
 - Explicit market power rules critical
 - Integrate market power mitigation into market design
 - Mitigation not applied to new entry
 - Mitigation limited to relatively small local capacity markets for periods that do not require new entry