

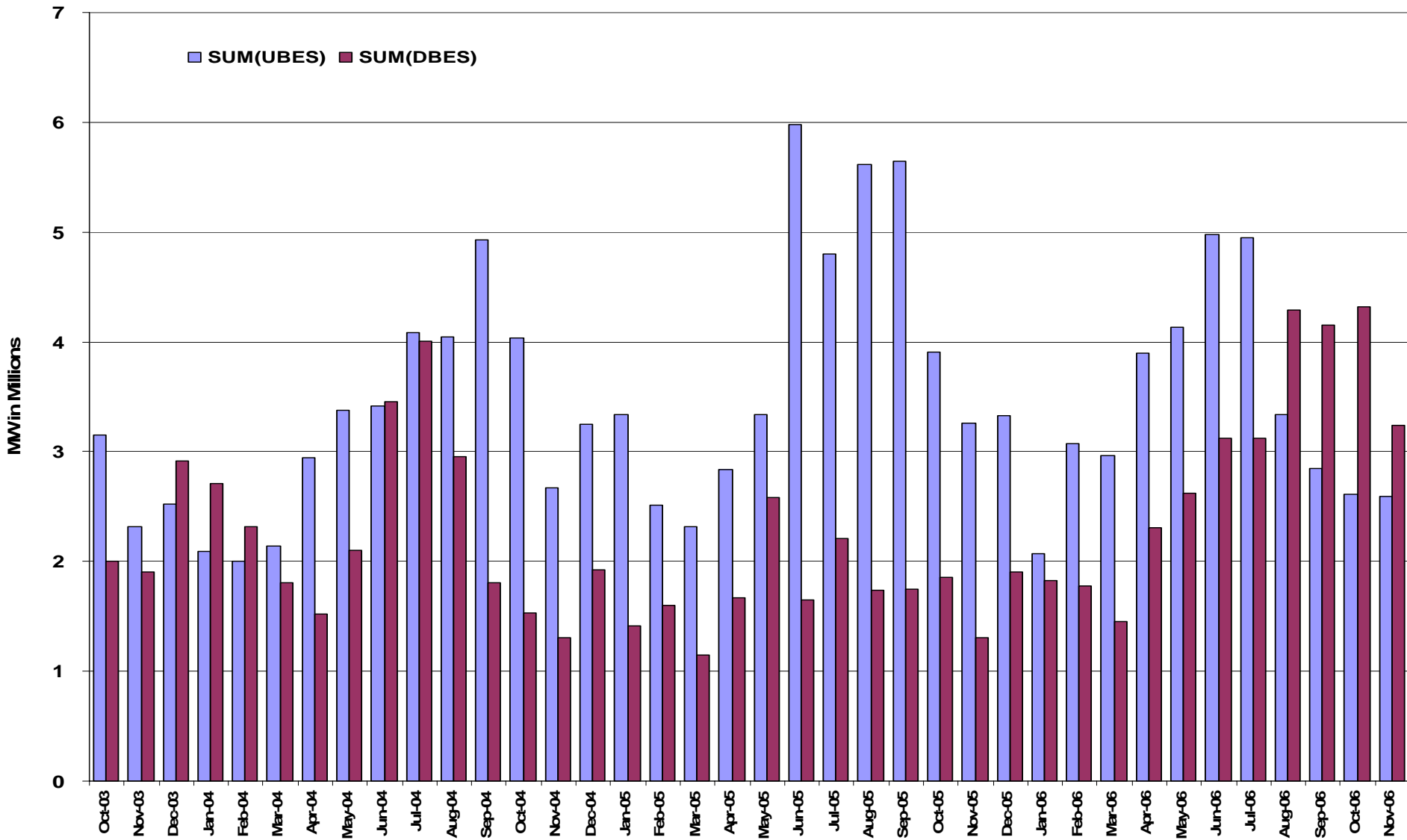


# PRR 674 and the Balancing Energy Market

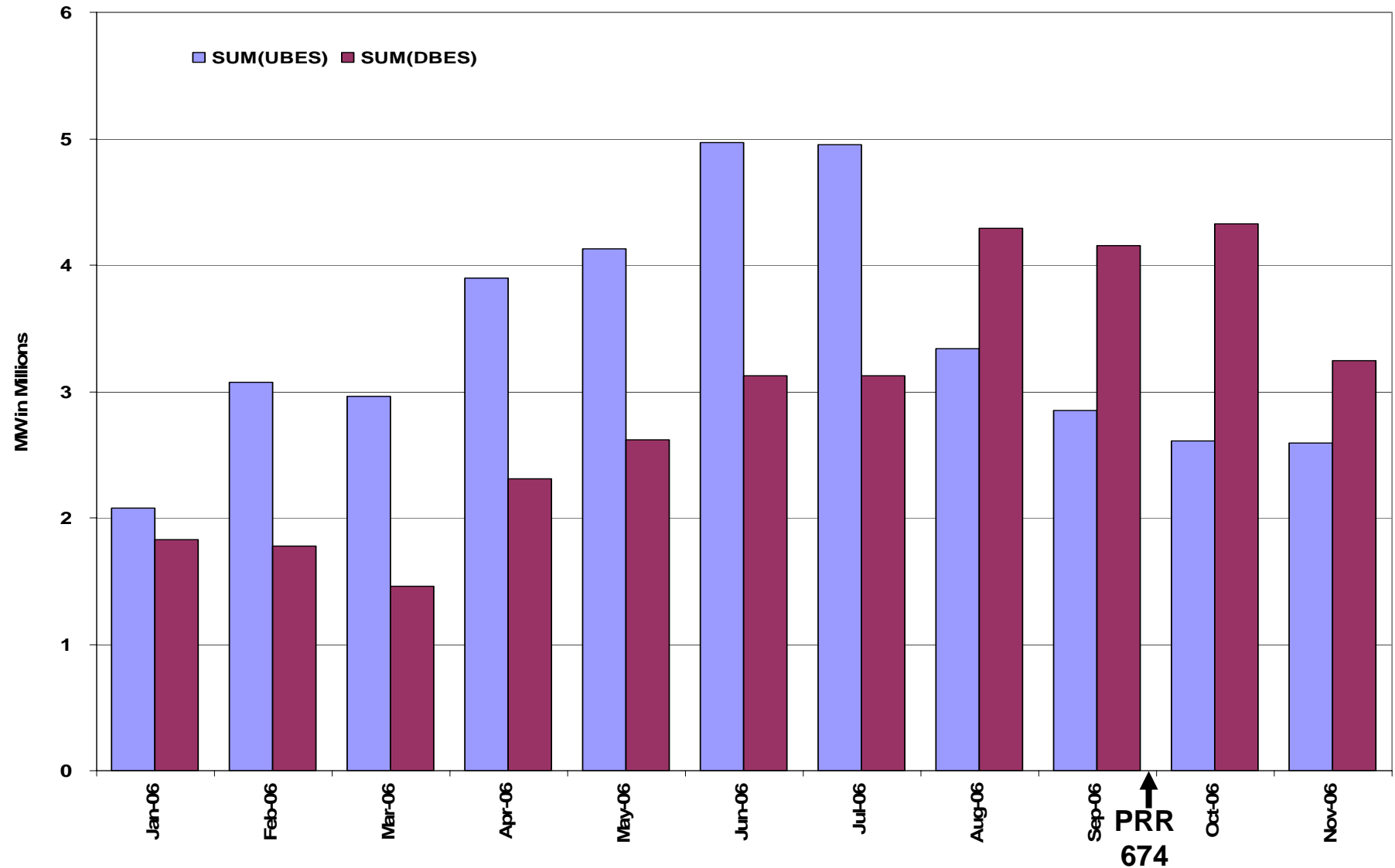
System Operations Division  
ERCOT

- **Approved by BOD on September 17, 2006**
- **Effective October 1, 2006 until the earlier of February 1, 2007 or implementation of PRR 676**
- **Spread all costs of Replacement Reserve Service (RPRS) on a load ratio share basis with no direct assignment to short scheduled QSEs**
- **Concern that elimination of direct assignment of RPRS costs might affect the Balancing Energy Service (BES) market**
  - Presumably removes a disincentive to short schedule day ahead
  - Increased short schedules in real-time increases use of BES
  - Increased use of BES may lead to increased BES prices (MCPE)

# Balancing Deployments

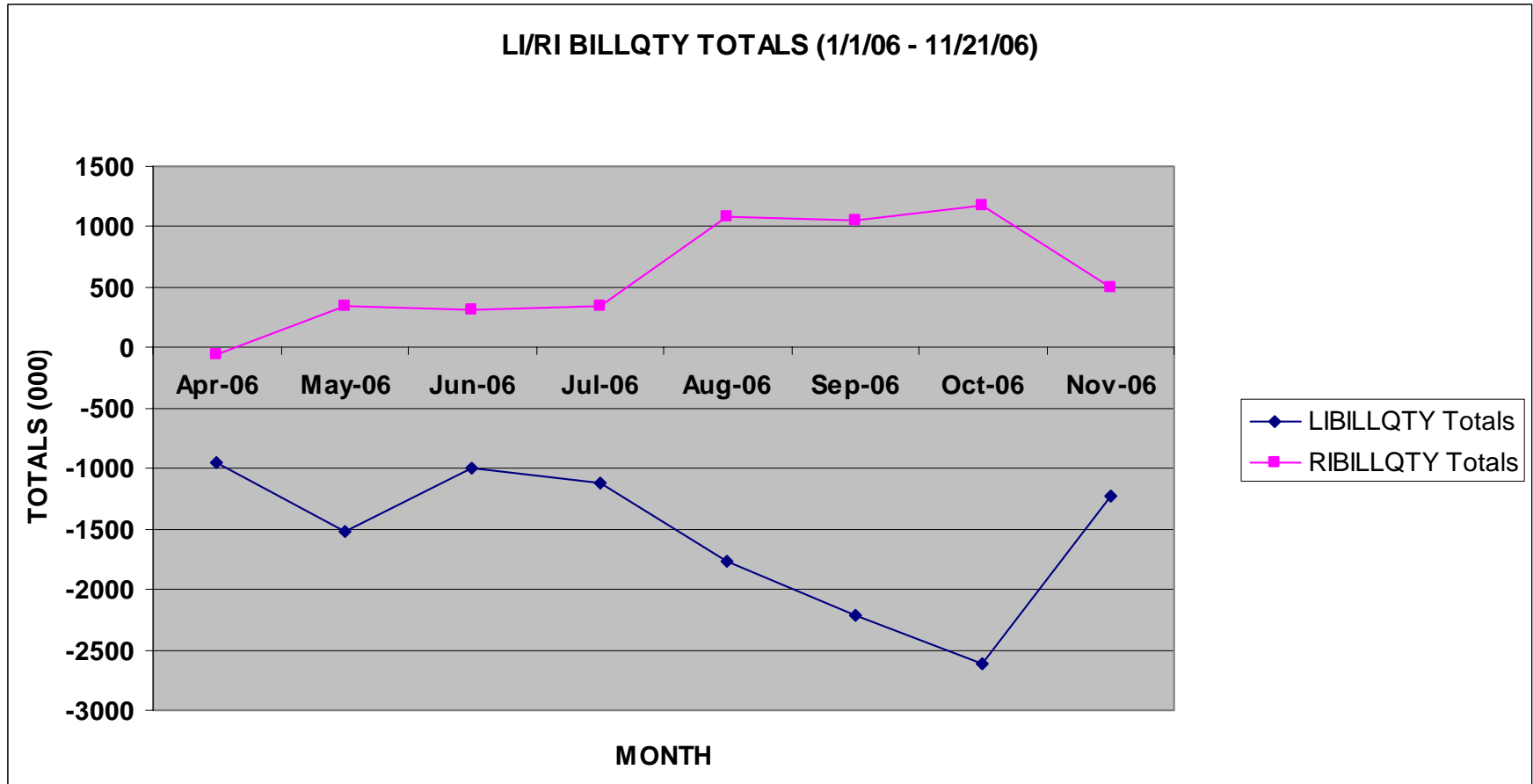


# Balancing Deployments 2006



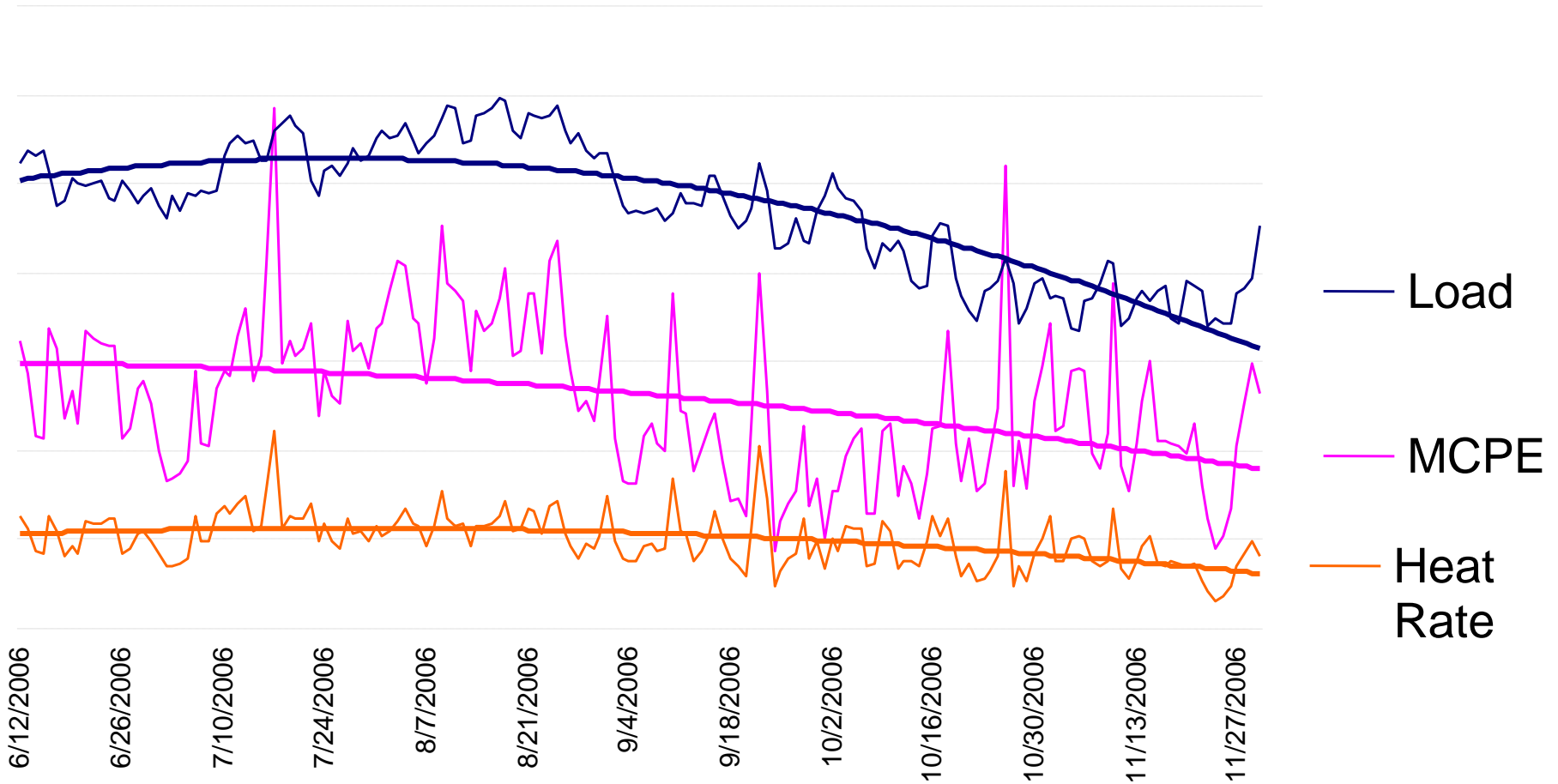
- **In August, ERCOT started deploying less Up BES and more Down BES.**
- **In November, net Down BES was deployed, but the difference between Up and Down was less than the previous three months.**

# Resource and Load Imbalance

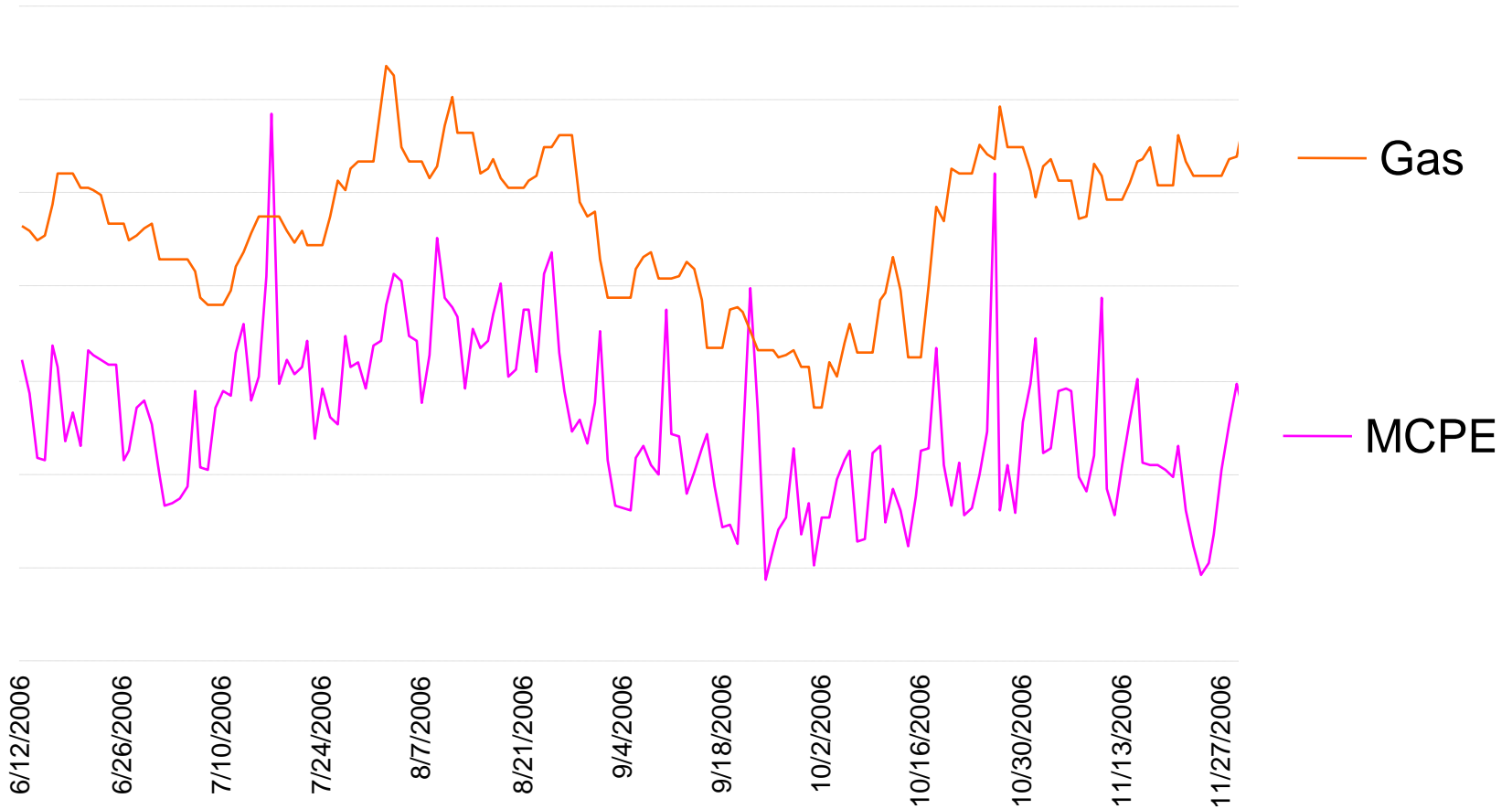


- **Resource Imbalance (QSEs providing more generation than they scheduled) started increasing in August. This corresponds with the increase in Down BES deployments**
- **Load Imbalance (QSEs with actual load obligations more than they scheduled) started decreasing in August. This corresponds to the decrease in Up BES deployments**
- **In November, Resource Imbalance decreased while Load Imbalance increased.**

# 2006 MCPE, Load, and Heat Rate

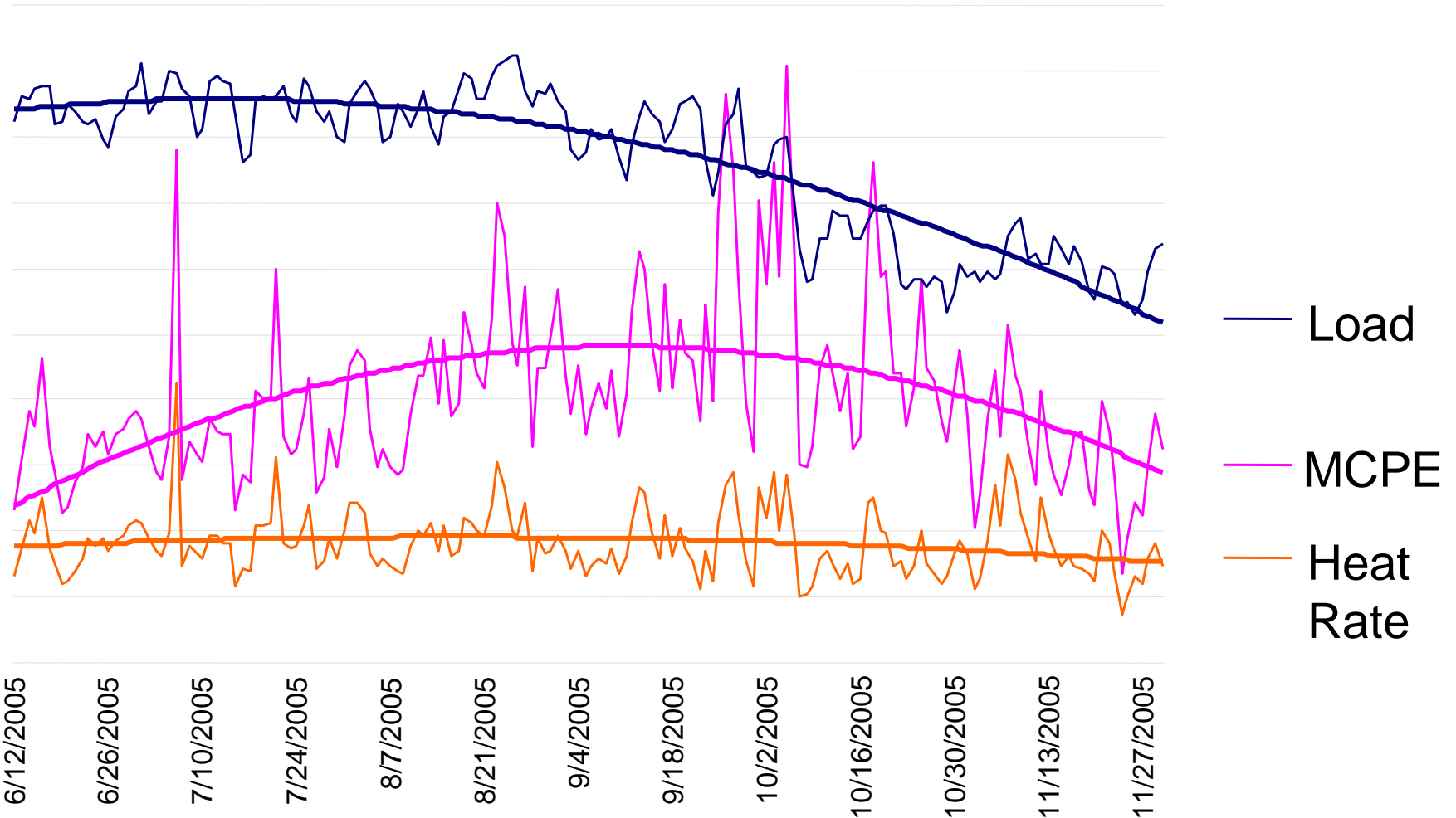


## 2006 MCPE and Gas Price



- **Load trend started decreasing in August. This is typical.**
- **MCPE started decreasing in August. This is typical since less inefficient generation is needed as load decreases. Trend line for load and MCPE almost identical.**
- **Implied heat rate (MCPE/Market Gas Price) accounts for effect of fuel price on MCPE. Heat rate is fairly constant with a slight downward trend starting in August. This would be expected as less inefficient generation is used.**
- **MCPE increased in mid-October through the end of the study period. This seems to be at least partially explained by the significant increase in gas prices after mid-October.**

# 2005 MCPE, Load, and Heat Rate



- **Load trend started decreasing in August. This is typical.**
- **MCPE kept increasing August 2005 to October 2005. Likely driven by increase in gas prices due to hurricanes Katrina and Rita**
- **Implied heat rate (MCPE/Market Gas Price) shows similar trend to 2006. This further supports MCPE increase in 2005 was due to fuel cost increase and that 2006 price trend not unusual.**

- **Since numerous factors influence the BES market and MCPEs, it is extremely problematic to quantify the effect of any one factor in isolation (e.g. RPRS, PRR 674)**
- **MCPE trend has followed load trend which is normal behavior.**
  - MCPE has moved closely with the Gas Index
  - ERCOT has not seen data which indicates that PRR 674 has affected the MCPE
- **There has been a change observed since August in decreasing amounts of Up BES and increasing amounts of Down BES**

## Changes other than PRR 674 that could have an effect

- **RPRS Market and direct assignment of RPRS costs started in March 2006, five months before change observed in August**
- **Adder to load forecast used for RPRS procurement started in May 2006, two months before change observed in August. (Adder discontinued in August)**
- **Delayed market reaction??**
  
- **Modified Competitive Solution Method (MCSM) which reduced MCPE when all BES bids used was discontinued on October 1, 2006, two months after change observed in August. Increased risk of high MCPE would discourage short scheduling.**
- **Market anticipation??**

END