



Emergency Interruptible Load Service

Report to WMS and TAC

Paul Wattles, ERCOT Staff

May 18, 2009

- **Review of 2008 EILS program year & procurement results for June-Sept. 2009 Contract Period**
- **EILS Resource availability during Oct.'08-Jan'09 Contract Period (economic downturn)**
- **Baseline discussion**

- **PUCT Subst. Rule 25.507 (f):**
 - “ERCOT shall review the effectiveness and benefits of the EILS and report its findings to the Commission annually within 70 days of the completion of the program year.”
 - Report filed with PUC covering the 2008 program year (Docket 27706) will be posted to the web page for this WMS meeting
- **Protocols § 6.5.12(19):**
 - “ERCOT will review the effectiveness and benefits of the EILS every twelve (12) months from the start of the program and report its findings to TAC.”
- **TAC requested that ERCOT Staff provide this report to WMS**

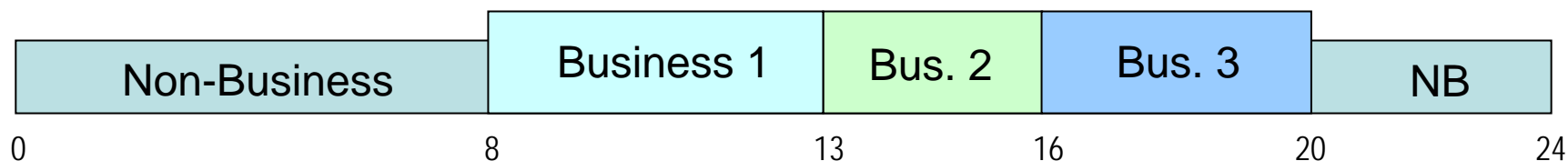
- **‘The commission ... finds value in having resources that have not participated in demand response programs being enabled to do so by this program. The commission encourages ERCOT to make an effort to attract such customers to the program.’**
- **‘The commission ... agrees ... that it is in the public interest for the commission to expand the scope of demand-response through the implementation of EILS.’**

-- Preamble to the Order adopting amendments
to Subst. Rule §25.507, Nov. 1, 2007
(Project 34706)

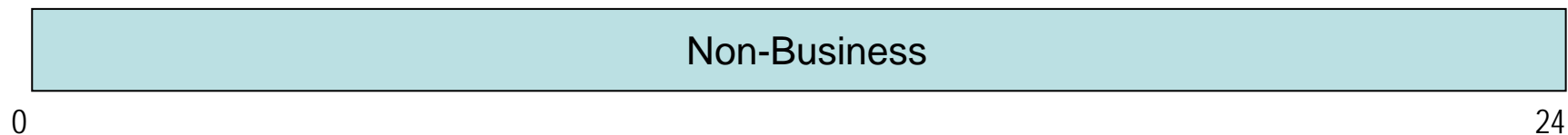
- **ERCOT management selects EILS providers from bids submitted in response to an RFP**
- **QSEs representing selected EILS Resources are paid as-bid 70 days after the end of the Contract Period**
- **Payments are reduced if:**
 - Committed MW were not available during committed hours, and/or
 - EILS Resource fails to deploy committed load in an event
- **EILS resources are tested (unannounced) annually**
 - Must deploy committed Load within 10 minutes
 - If a resource fails 2 consecutive tests it is subject to suspension
 - To date no one has failed twice

- **EILS is procured for 4-month Contract Periods**
 - February thru May
 - June thru September
 - October thru January
- **ERCOT evaluates bids by Time Period (4 separate stacks)**

Monday thru Friday (except ERCOT Holidays):



All other days:



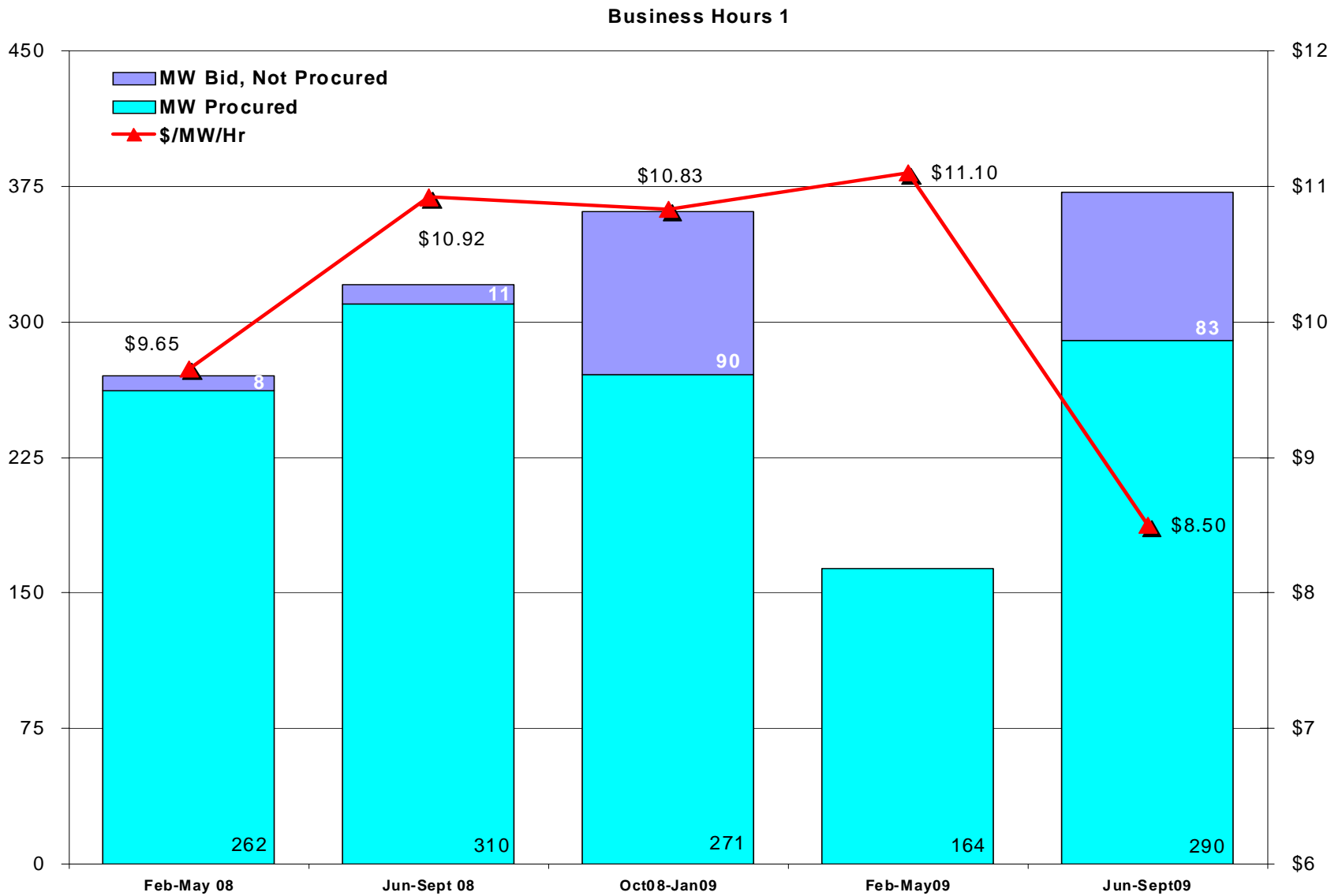
- **5 RFPs for EILS have been issued since the Commission amended the Rule (Nov. 2007)**
 - Eliminated the 500 MW floor
 - Increased the annual cost cap from \$20M to \$50M
- **Several new Market Participants have moved into ERCOT to provide EILS**
- **Steady growth in the number of participating Loads**
 - Continuing influx of new participants for the upcoming Contract Period (June-Sept. '09)
- **Growth in EILS MW capacity was interrupted following the economic downturn, but is rebounding**
 - Many Loads are bidding more conservatively to avoid failing their availability requirements
- **No deployment events to date**

- **June thru September 2009 Contract Period**
 - A market notice will be sent today (May 18) announcing these results

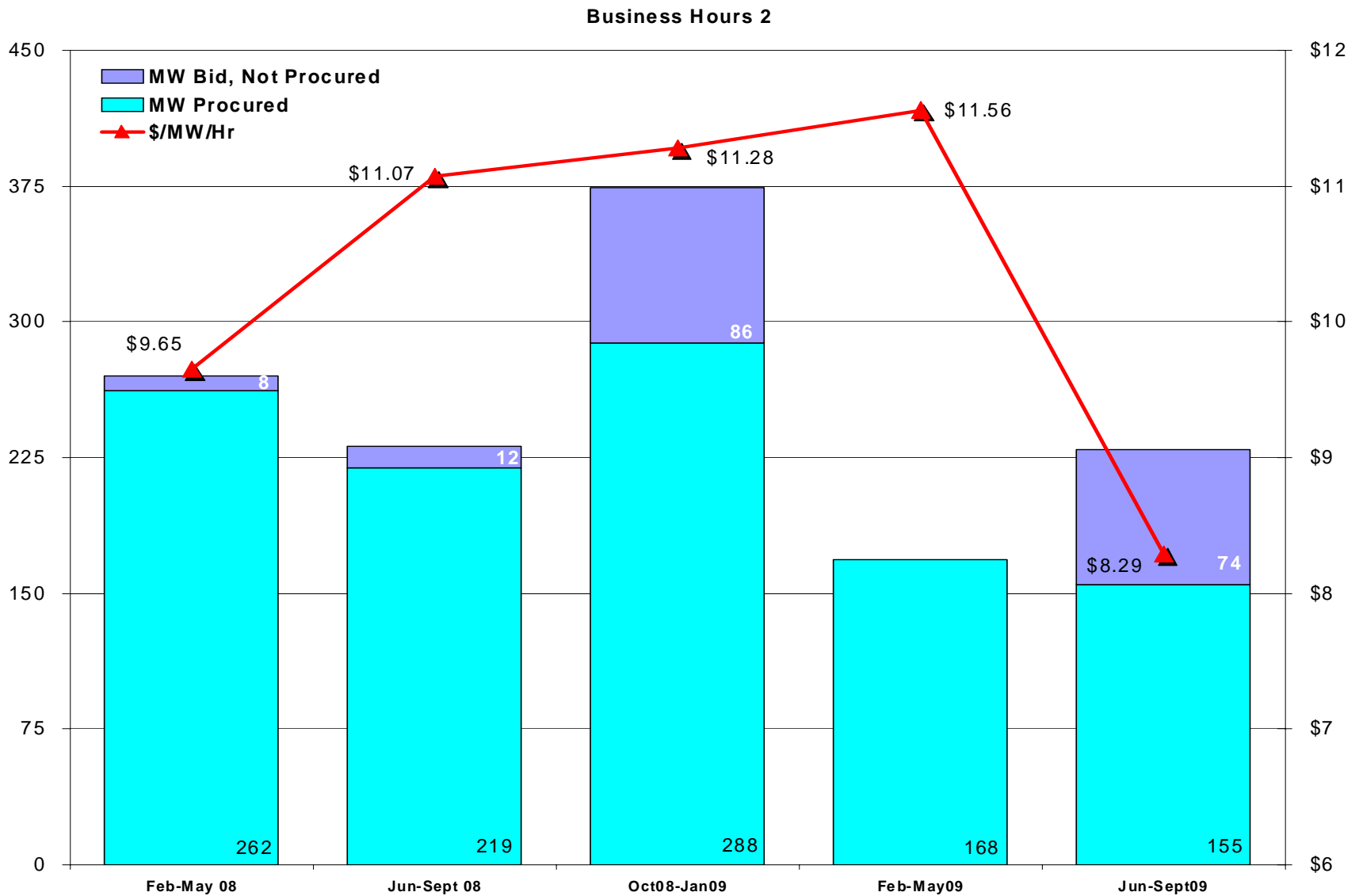
Time Period	Business Hours 1	Business Hours 2	Business Hours 3	Non-Business Hours
Definition	8 AM to 1 PM Mon-Fri except Holidays	1 PM to 4 PM Mon-Fri except Holidays	4PM to 8 PM Mon-Fri except Holidays	All other hours
EILS Procured	289.5 MW	154.7 MW	237.3 MW	255.6 MW
# of EILS Resources	48 (includes 35 aggregations)	34 (includes 27 aggregations)	50 (includes 34 aggregations)	46 (includes 30 aggregations)
Avg. Cost per MW per Hour	\$ 8.50	\$ 8.29	\$ 9.90	\$ 8.66

- **Projected cost for this Contract Period: \$ 6.39 million**
- **Total projected cost year-to-date: \$10.90 million**

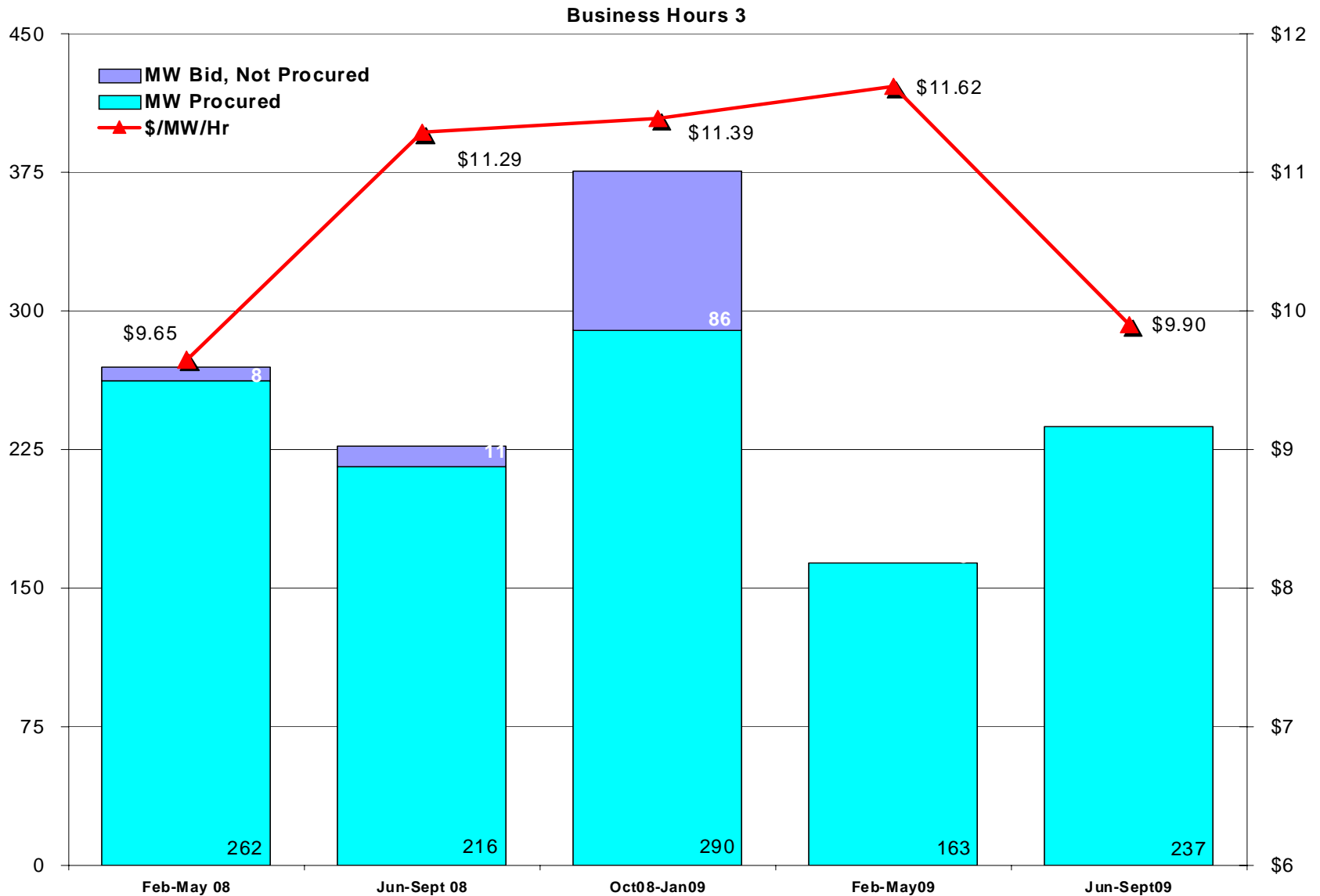
EILS Procurement Trends (Business Hours 1)



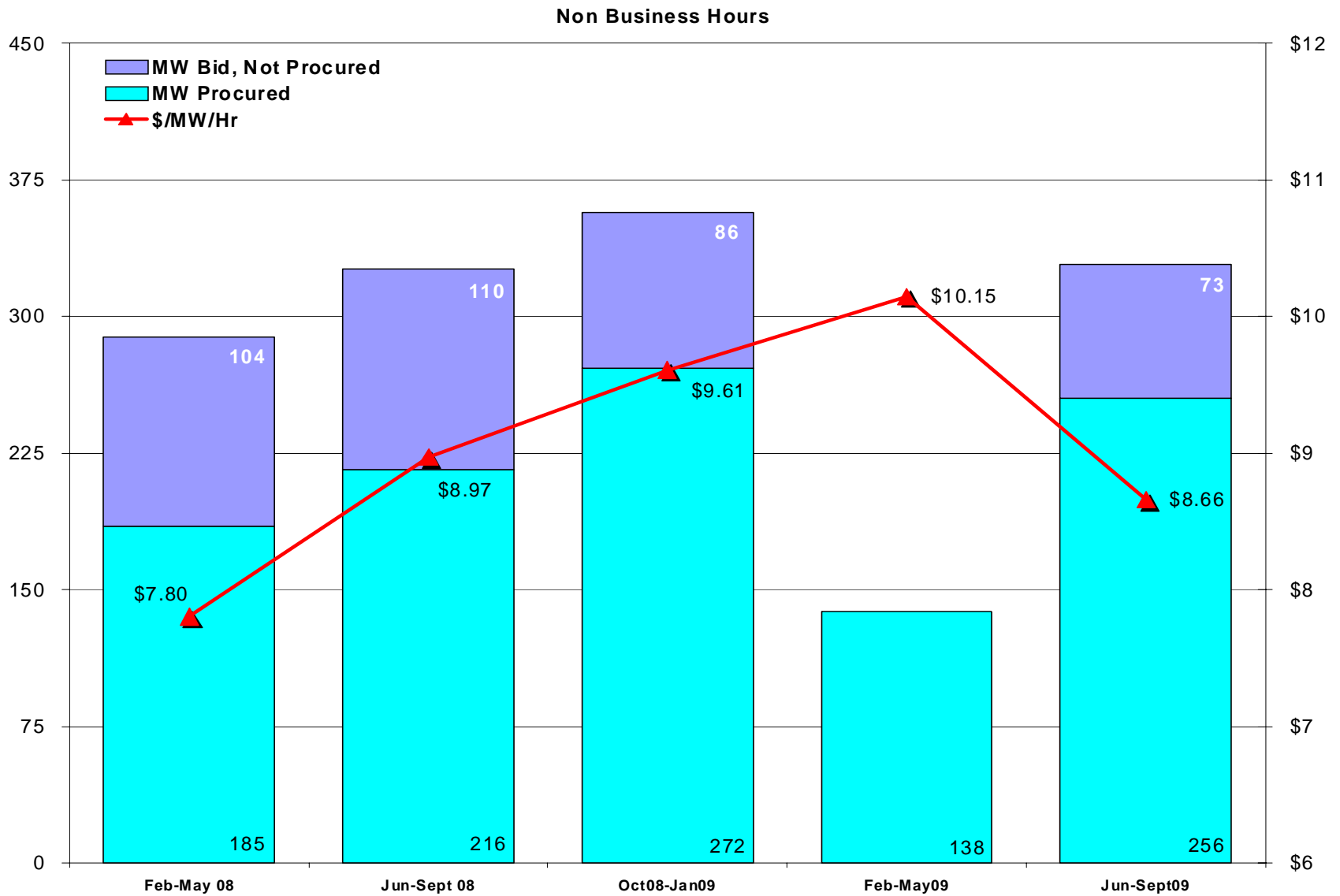
EILS Procurement Trends (Business Hours 2)



EILS Procurement Trends (Business Hours 3)

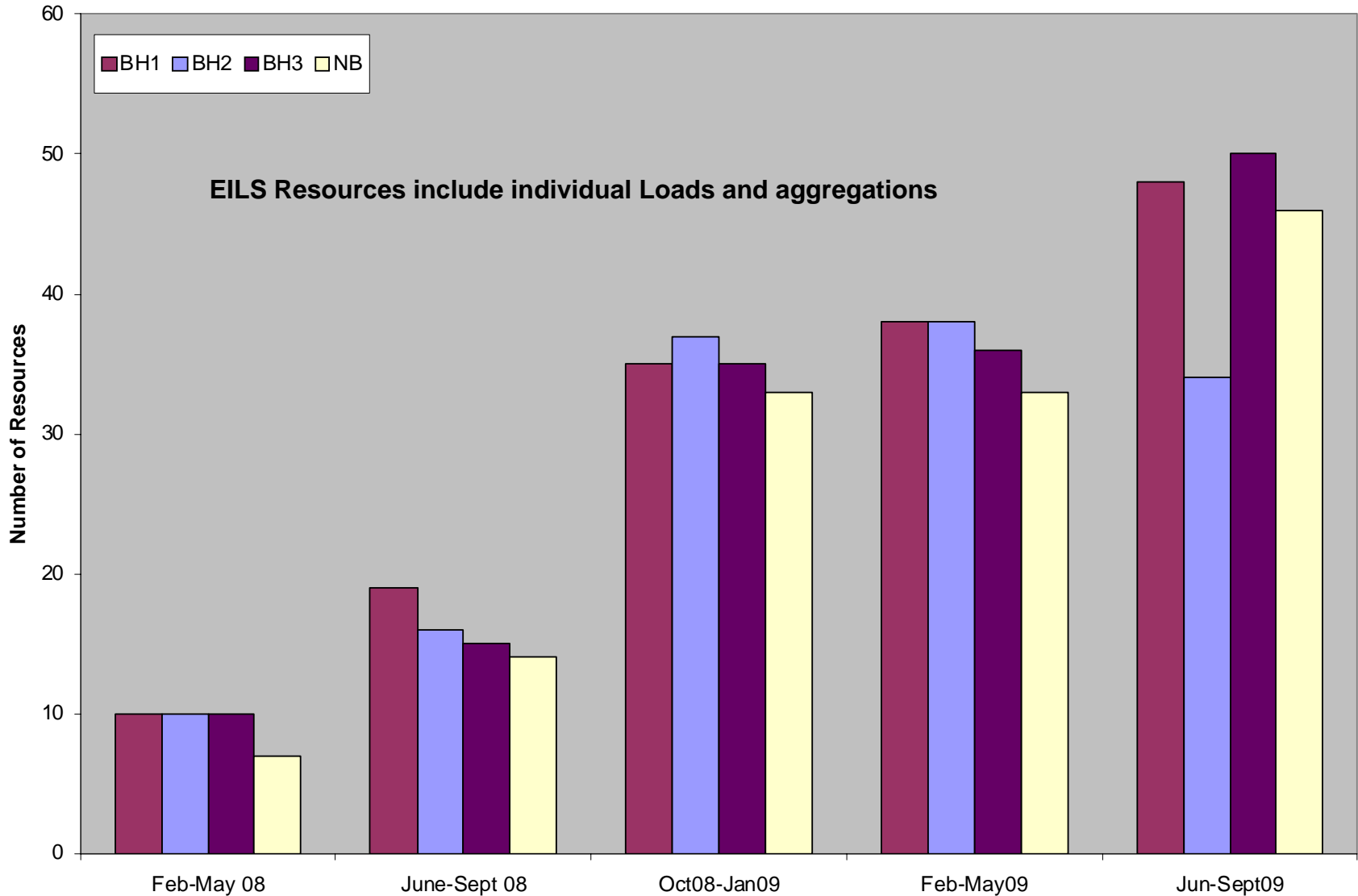


EILS Procurement Trends (Non-Business Hours)



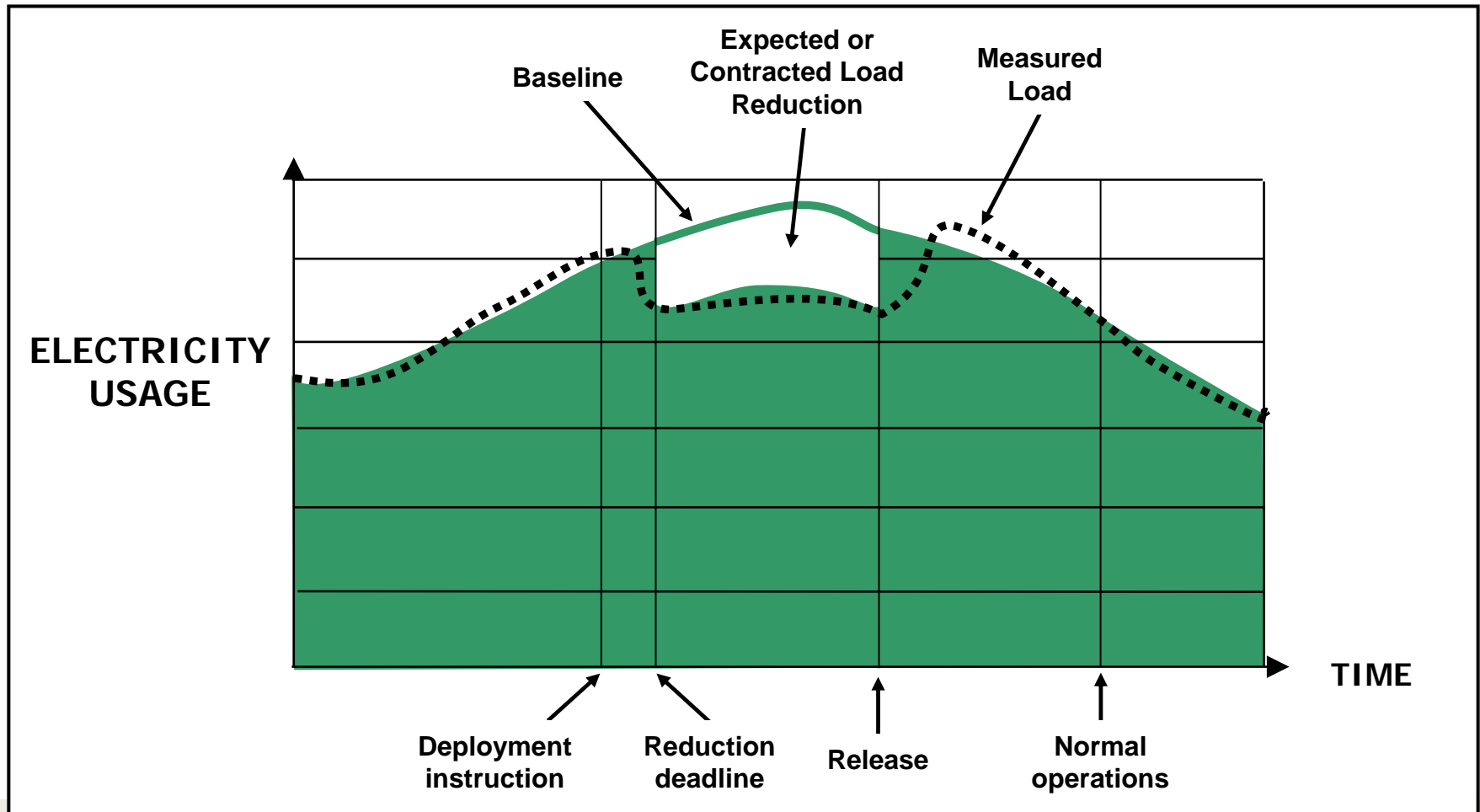
EILS Procurement Trends (Number of Resources)

Number of EILS Procured Resources



- **Per Protocols, an availability factor of <95% subjects an EILS Resource to a 6-month suspension in addition to a payment reduction**
- **U.S. economy took a severe downturn shortly after start of the Oct.'08-Jan.'09 Contract Period**
 - At time bids were due (early Sept.), DJIA was well over 11,000
- **After review, a majority of EILS Resources failed to meet their availability requirements in at least one Time Period**
- **ERCOT, after consultation with PUC Staff, applied 'mitigating factors' clause (Protocols 6.10.13.4) to allow a one-time exemption from the suspension provision for these availability failures**
- **Payment reductions were applied per Protocol, reducing the uplift to QSEs representing Load by >\$3.3 million**

- A demand response baseline is an estimation of what a Load would have been in the absence of a DR deployment



- **Per Protocols, ERCOT determines a baseline assignment for all EILS Resources**
 - Either default baseline or alternate baseline
- **Original default baseline is a regression model that uses 12+ months of historical meter data plus weather and calendar data to build a model**
 - Default baseline model allows a Load to offer capacity that it can reduce at any time, a.k.a. drop-by capacity
- **The alternate baseline, designed for Loads that cannot be modeled accurately, is based on a Minimum Base Load – a level to which the Load must reduce regardless of its level at dispatch**
 - Intended to allow participation by Loads with irregular patterns, such as batch-process Loads
 - EILS Resources on the alternate baseline bid and are paid based on their average (not peak) Load
 - This is known as a drop-to baseline
 - (In fact it's not really a 'baseline' per se)

- **Over time, many more Loads than expected received alternate baseline assignments**
 - Qualifying for default baseline regression model has proved more difficult than anticipated
 - Alternate baseline is a very challenging concept for most Loads, especially newcomers to DR
- **ERCOT Staff and a DSWG subgroup began looking at other alternatives in early 2008**
 - Many baseline models are in use across the country by ISOs and utilities
 - ERCOT Staff's objective is to maintain equal level of accountability with existing baseline models
- **Over a year of rigorous modeling and testing using data from Loads that had been assigned to alternate baseline**

- **2 new default baseline types rolled out for June-Sept. 2009**
 - Contract Period:**
 - Middle 8 of 10
 - Use interval data for last 10 ‘like’ days (weekday or weekend/holiday)
 - Throw out the highest and the lowest day, & average the middle 8 into a Load model
 - Apply an event-day adjustment
 - Matching Day Pair
 - Find the day-pair from the preceding 12 months with a load shape that most closely matches the event day & preceding day
 - Apply an event-day adjustment
 - **Event-day adjustments account for unusual conditions (e.g. weather events) and give ERCOT the confidence that these baseline types have equivalent accuracy to the regression model**
 - **Original regression model remains as 3rd default baseline type**
 - **No Protocol changes required**

