

Review of Emergency Energy (EE)

MPWG September 1, 2006

Revised September 7, 2006



- Review of Emergency Energy (EE) rule changes
- Overview of events where new procedure was used
- Next Steps

- Prior to August 10, 2005 Emergency Energy purchases were subtracted from the Market Schedule demand
 - This had the effect of lowering prices in tight conditions when prices would be expected to rise

Market Demand is 190 MW and the market clearing price is \$50



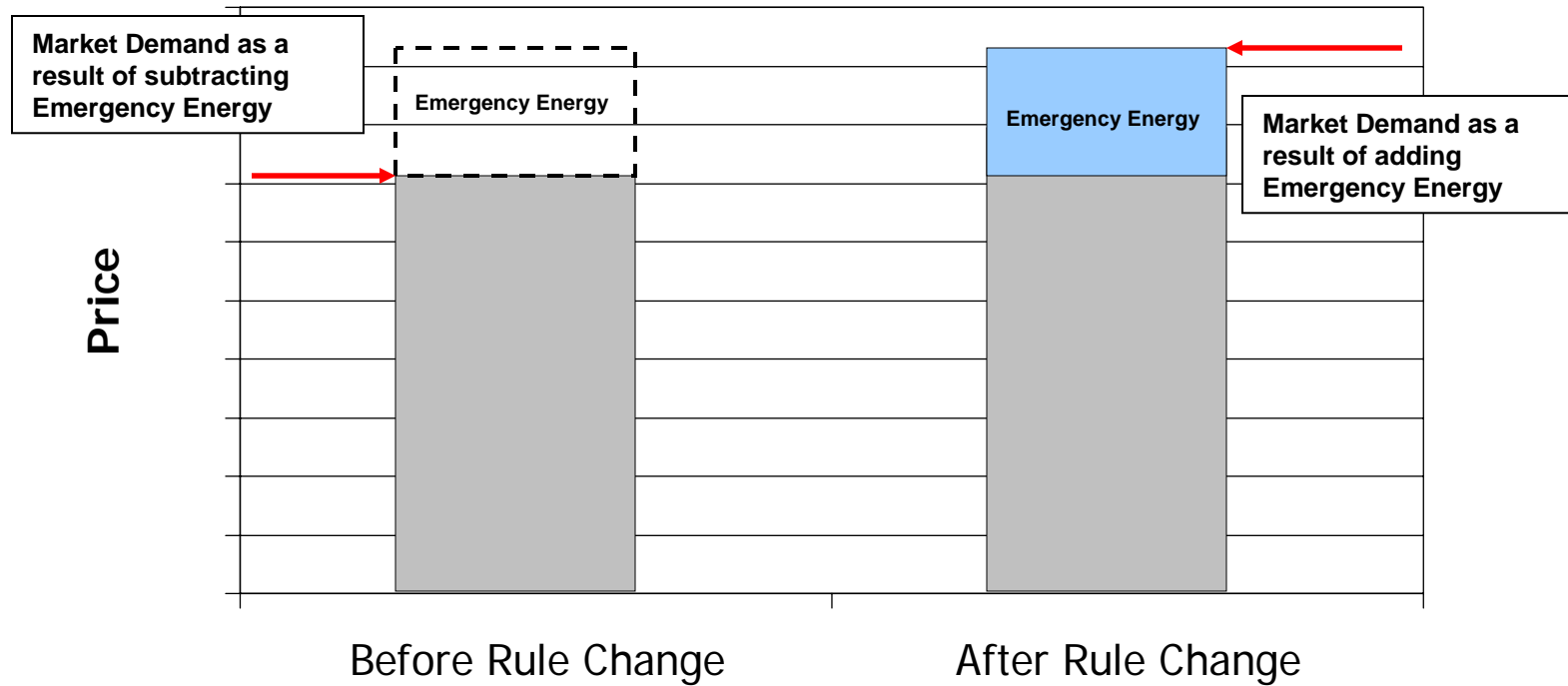
50 MW @ \$50
50 MW @ \$40
50 MW @ \$30
50 MW @ \$20

Market Demand is 110 MW as a result of an Emergency Control Action. The market clearing price would be \$40



- At the June 16, 2005 meeting of the IESO board MR296 was passed
 - Rule amendment MR 296 states that EE purchases are no longer subtracted from the Market Schedule demand and demand in the amount of a voltage reduction is added
 - The effective date of this change was August 12, 2005

Effect of Emergency Energy Rule Changes



- The IESO has purchased Emergency Energy on four occasions and has initiated voltage reductions twice since August 10, 2005
- Monday, September 12, 2005
 - A voltage reduction was implemented for HE 16 and 17 in the Toronto zone due to Cherrywood autotransformer post contingency overload concerns

- Monday, December 12, 2005
 - Emergency Energy was purchased from New York for HE 8 and HE 9 due to adequacy concerns as a result of a forced outage to a 500kV circuit
- Tuesday, May 30, 2006
 - Emergency Energy was purchased from New York for HE 17 and 18 following the loss of a 500 kV circuit in North Eastern Ontario

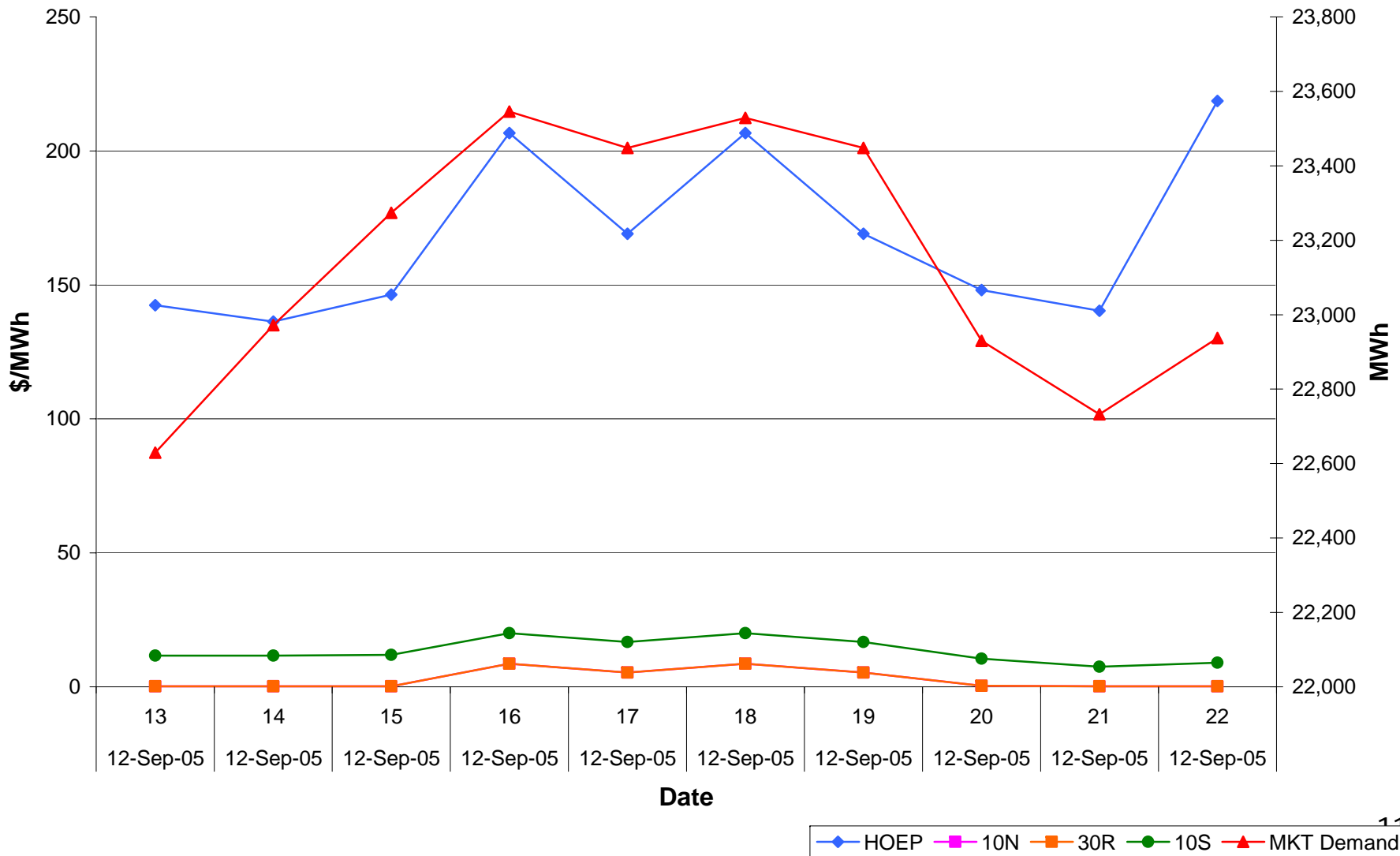
- Friday, July 28, 2006
 - Emergency Energy was purchased from Quebec for HE 17 for local reliability concerns in the St. Lawrence area
- Monday, July 31, 2006
 - Emergency Energy was purchased from Quebec for HE 15 to HE 20 to aid in reducing the St. Lawrence area flow below post contingency limits

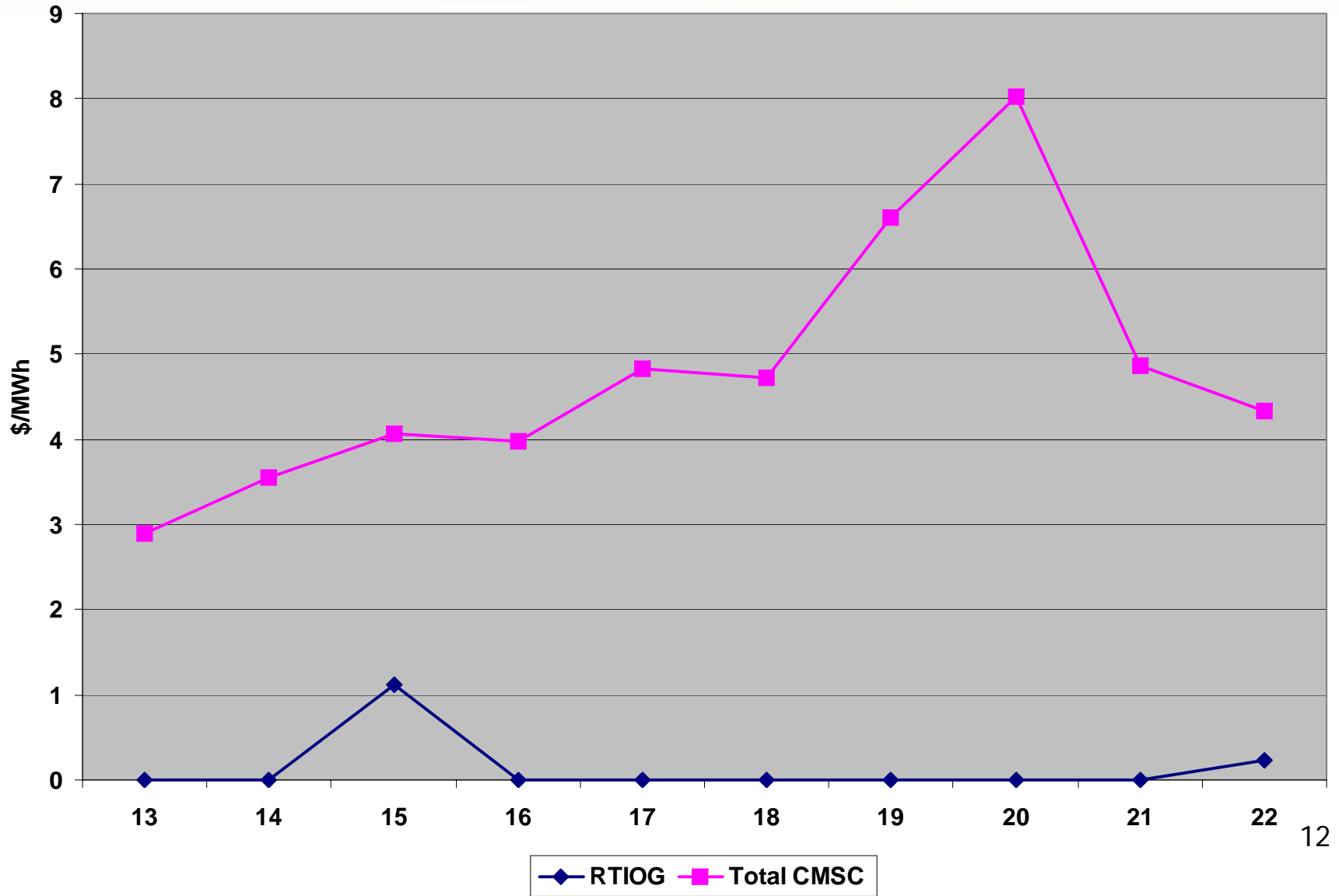
HOEP During Emergency Energy Purchases

Emergency Energy Purchases					
Day of Transaction	Start Time (HH:MM)	End Time (HH:MM)	HE	Emergency Energy Purchases (MWh)	HOEP
12-Dec-05	7:30	8:00	8	300	146.20
12-Dec-05	8:00	9:00	9	500	144.70
30-May-06	16:00	17:00	17	313	145.18
30-May-06	16:15	18:00	18	400	80.45
28-Jul-06	16:30	17:00	17	200	97.47
31-Jul-06	14:54	14:59	15	90	131.30
31-Jul-06	15:00	15:59	16	90	196.45
31-Jul-06	16:00	16:59	17	40	292.22
31-Jul-06	18:00	18:59	19	200	114.31
31-Jul-06	19:00	19:59	20	122	104.20

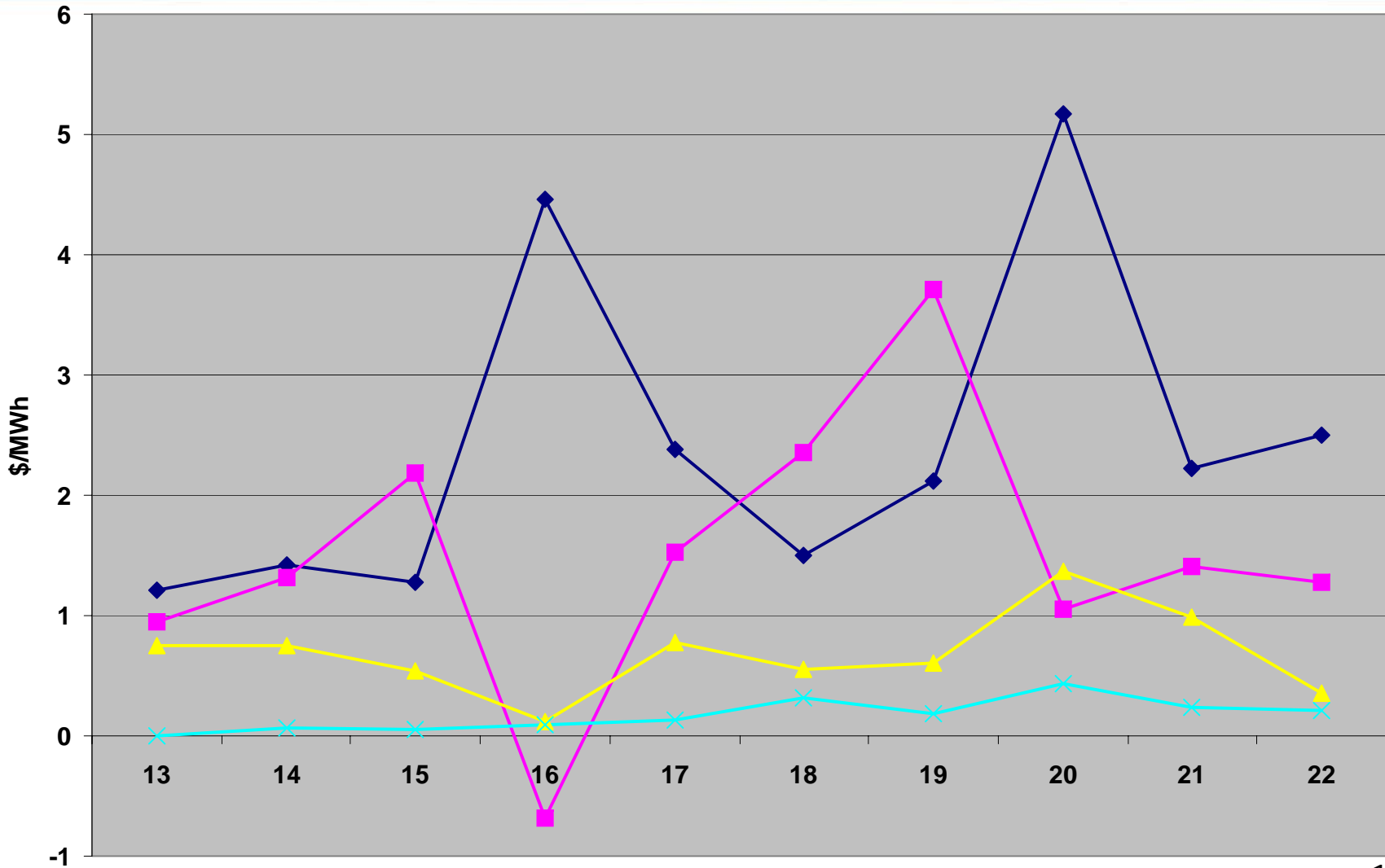
Voltage Reductions						
Date	Start Time (HH:MM)	End Time (HH:MM)	HE	Type of VR	Load Reduction (MW)	HOEP
12-Sep-05	15:08	16:00	16	5%	250	206.67
12-Sep-05	16:00	16:14	17	5%	250	169.13
31-Jul-06	14:40	15:00	15	5%	80	131.3
31-Jul-06	15:00	16:00	16	5%	80	196.45
31-Jul-06	16:00	16:25	17	5%	80	292.22
31-Jul-06	16:25	17:00	17	3%	40	292.22

Market Prices for September 12, 2005



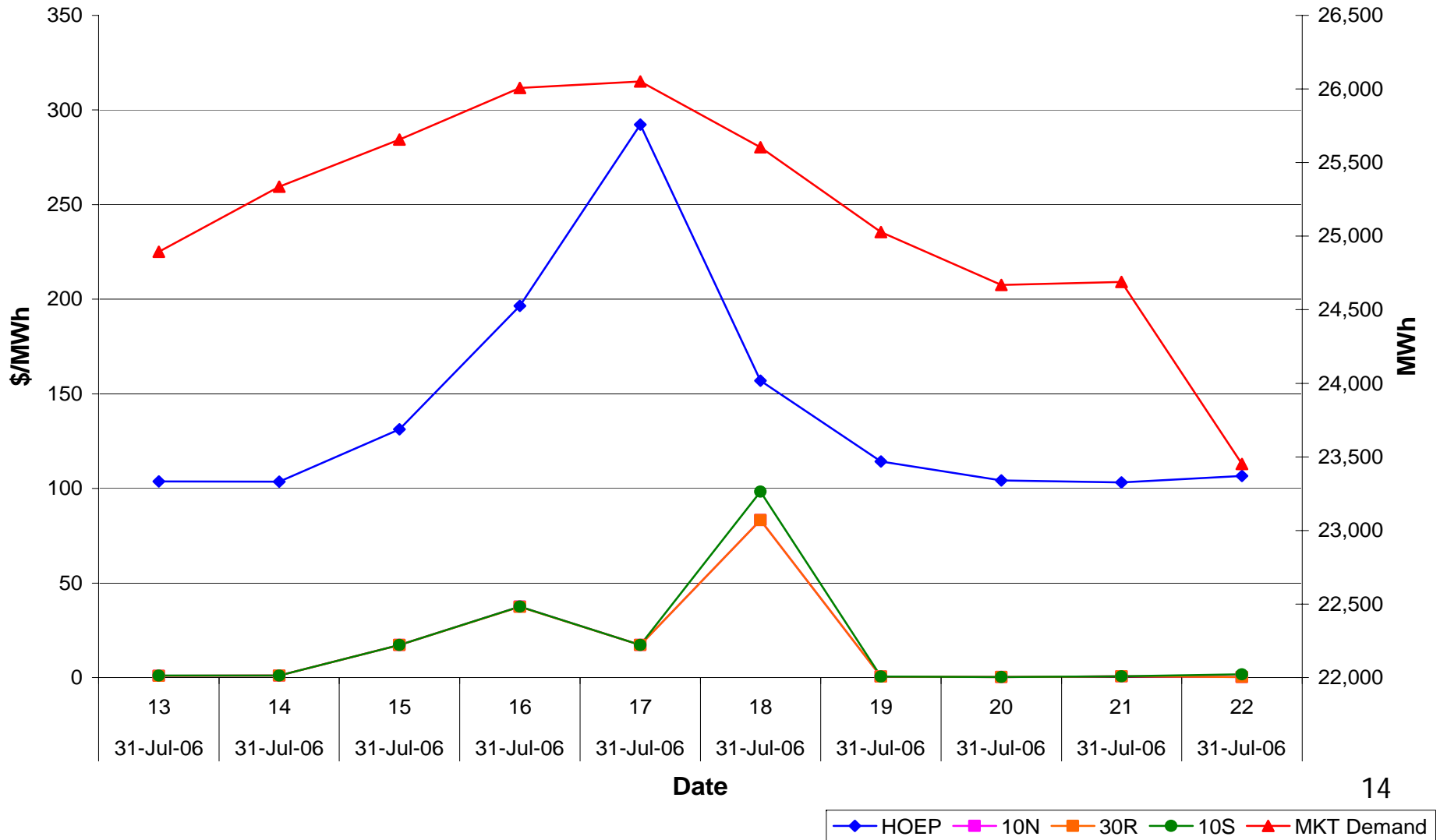


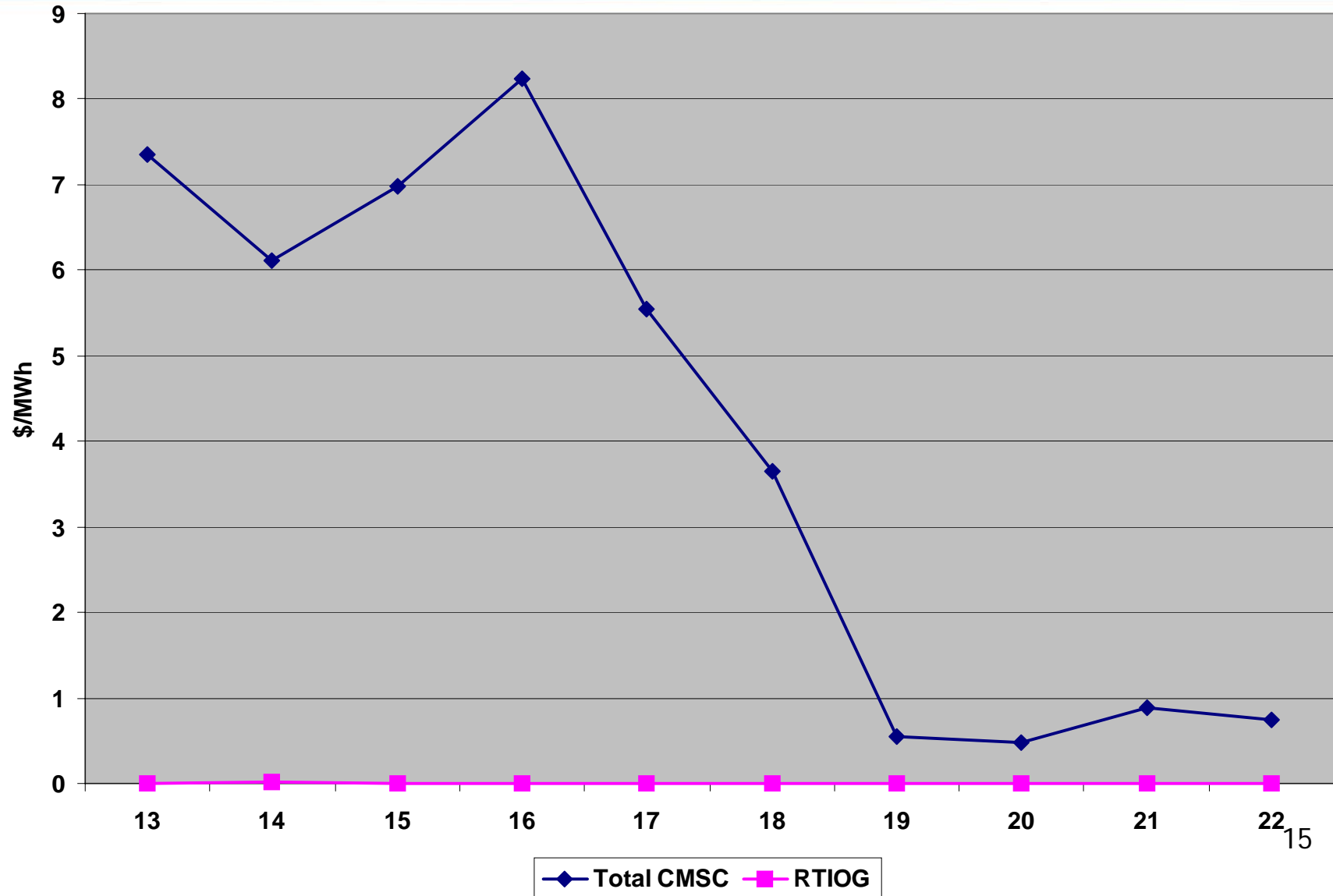
Breakdown of CMSC for September 12, 2005



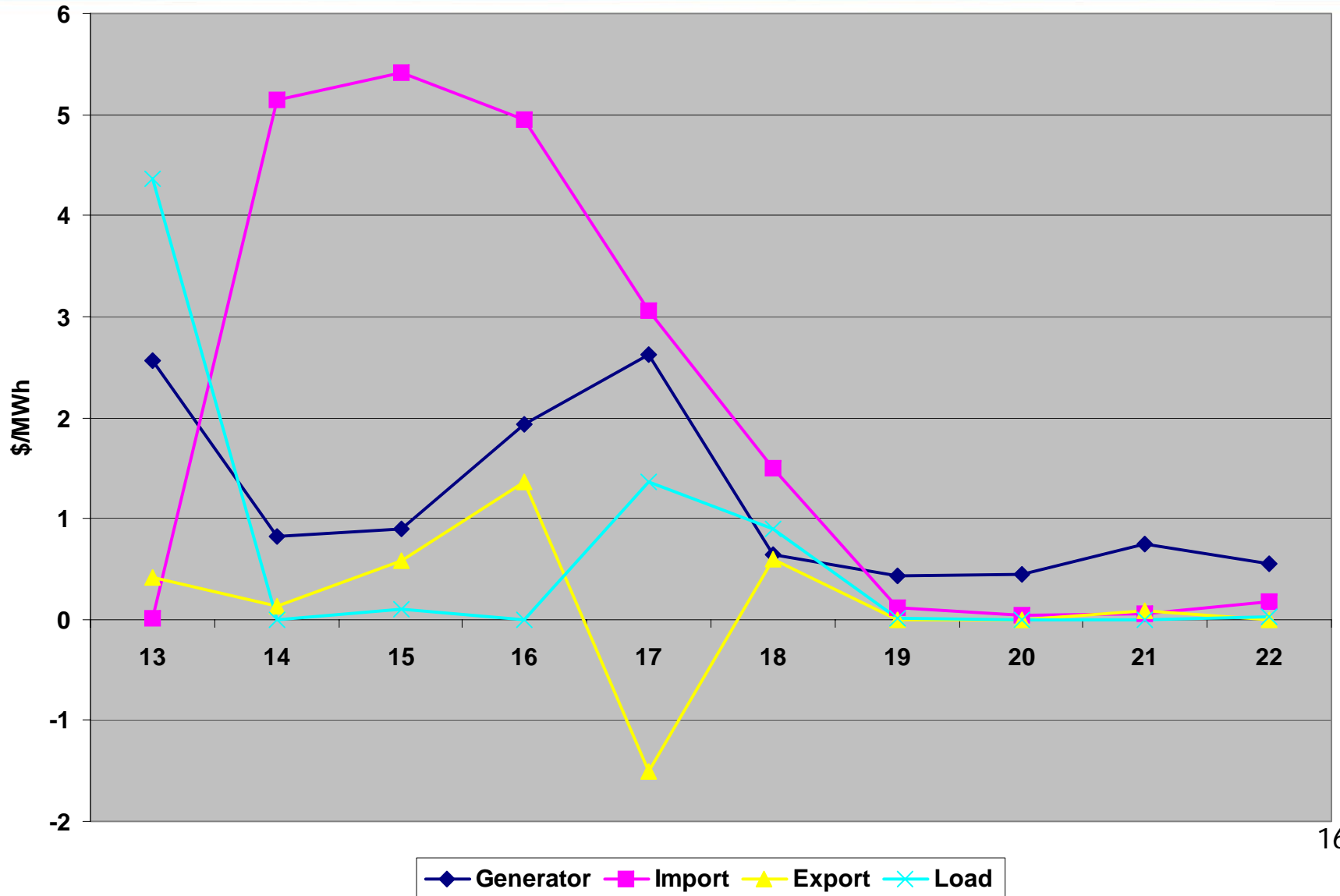
◆ Generators ■ Imports ▲ Exports × Loads

Market Prices for July 31, 2006





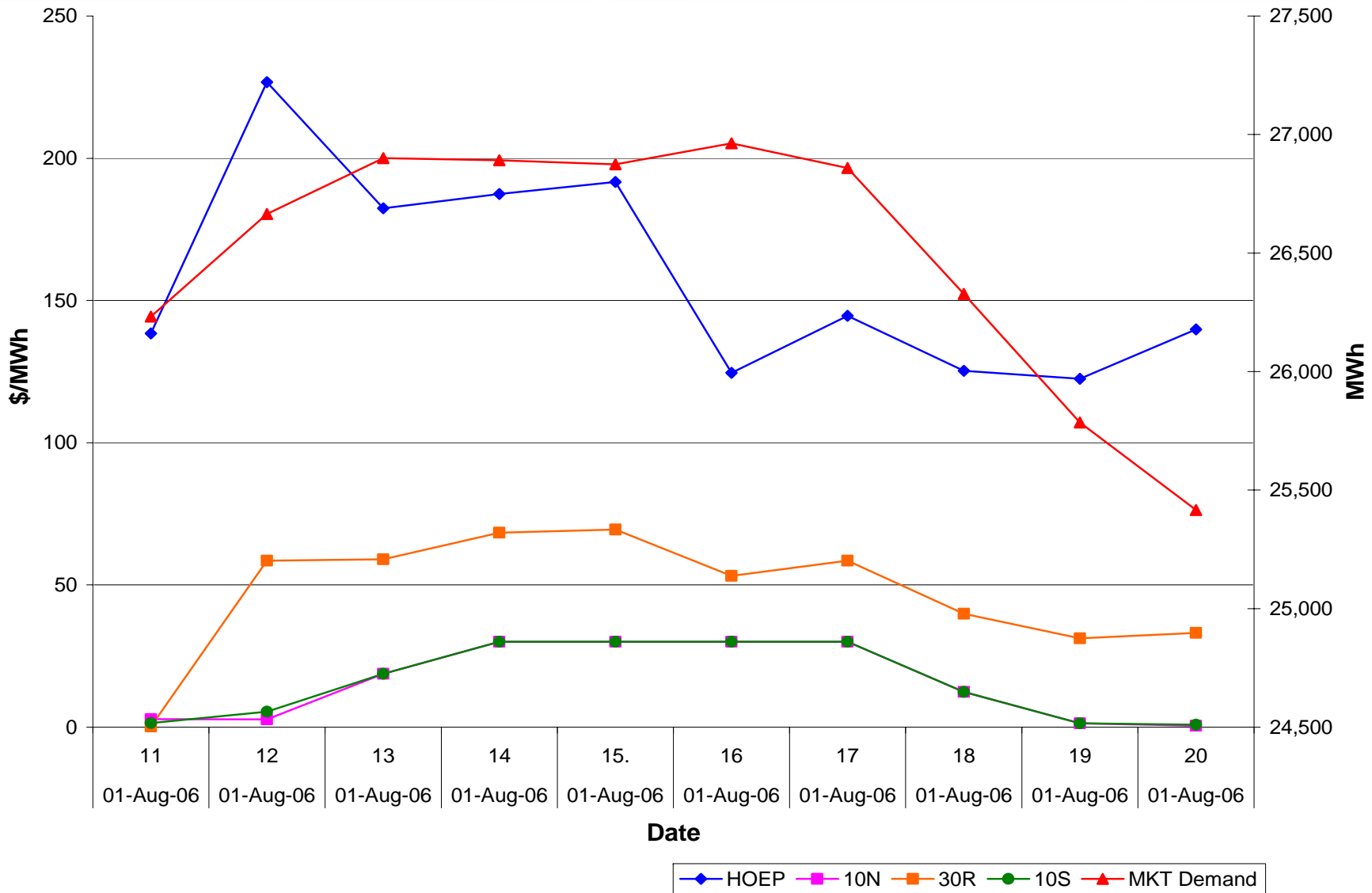
Breakdown of CMSC for July 31, 2006



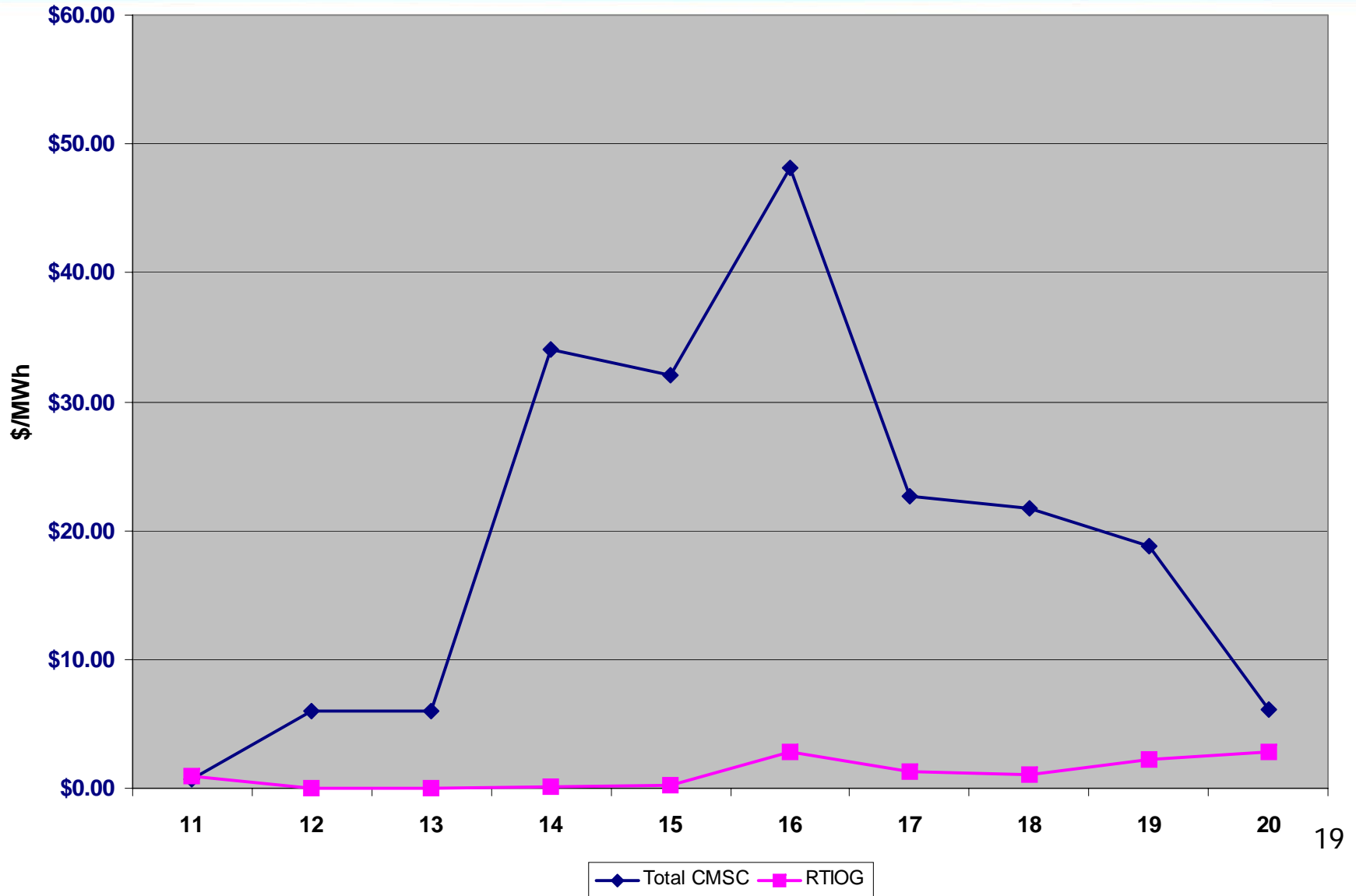
- At the previous meeting of the MPWG a member requested information on CMSC for August 1, 2006.

Day of Transaction	TOTAL CMSC	GEN	INJ	LD	OFFT
01-Aug-06	\$5,200,654	\$442,105	\$4,673,248	\$67,692	\$17,609

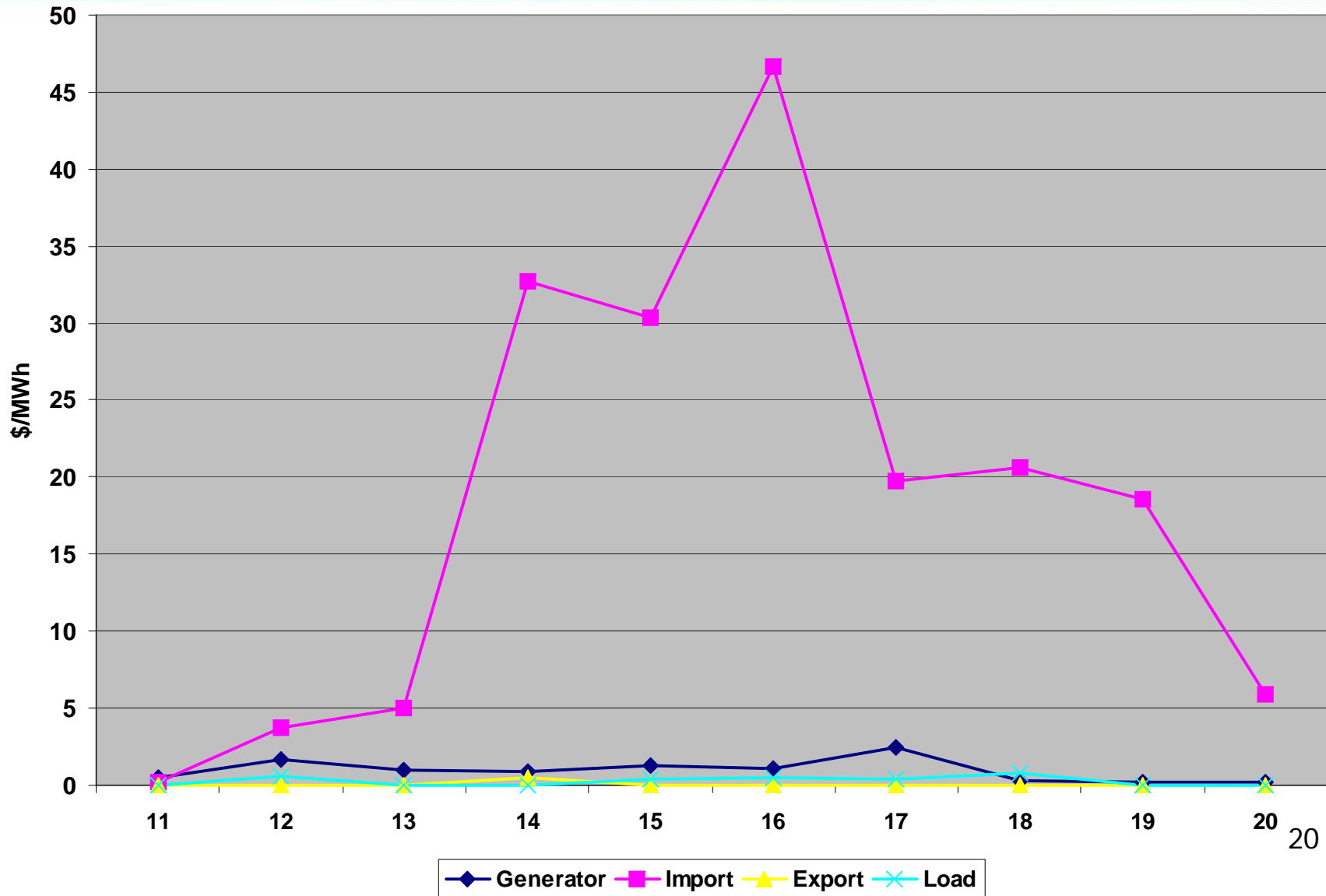
Market Prices for August 1, 2006



Real Time IOG and CMSC for August 1, 2006



Breakdown of CMSC for August 1, 2006



- Perform simulations on Emergency Energy purchases, and Voltage Reductions to illustrate the effects of the Emergency Energy rule change
- We will present these findings to the MPWG on October 6th, 2006