

Market Pricing Working Group

MIO Price Testing Results
January 14, 2005

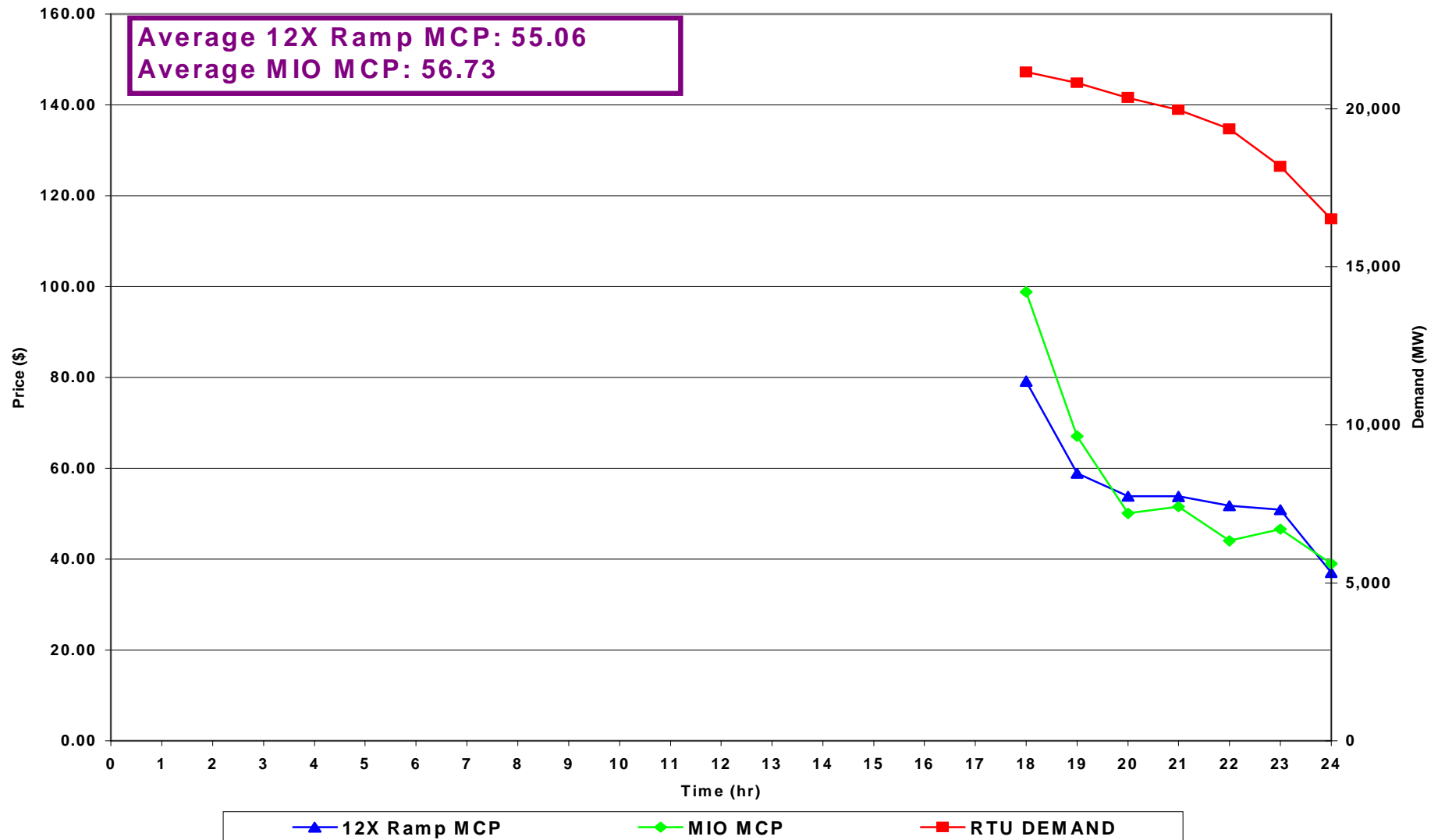


- » **Data Inputs for the DSO Mio constrained sequence are adjusted to simulate the MIO unconstrained sequence;**
 - **Internal transmission constraints are removed.**
 - **Operational Reserve constraints for all areas are removed.**
 - **Initial unit output is set to equal results from the previous simulation using a closed loop algorithm.**
- » **Adjustments are made to the demand used in the Real Time unconstrained sequence so that it is identical to the demand used in the Real Time constrained sequence.**
- » **Inputs to the pre-dispatch constrained sequences are adjusted to produce the same transactions as the pre-dispatch unconstrained sequence.**

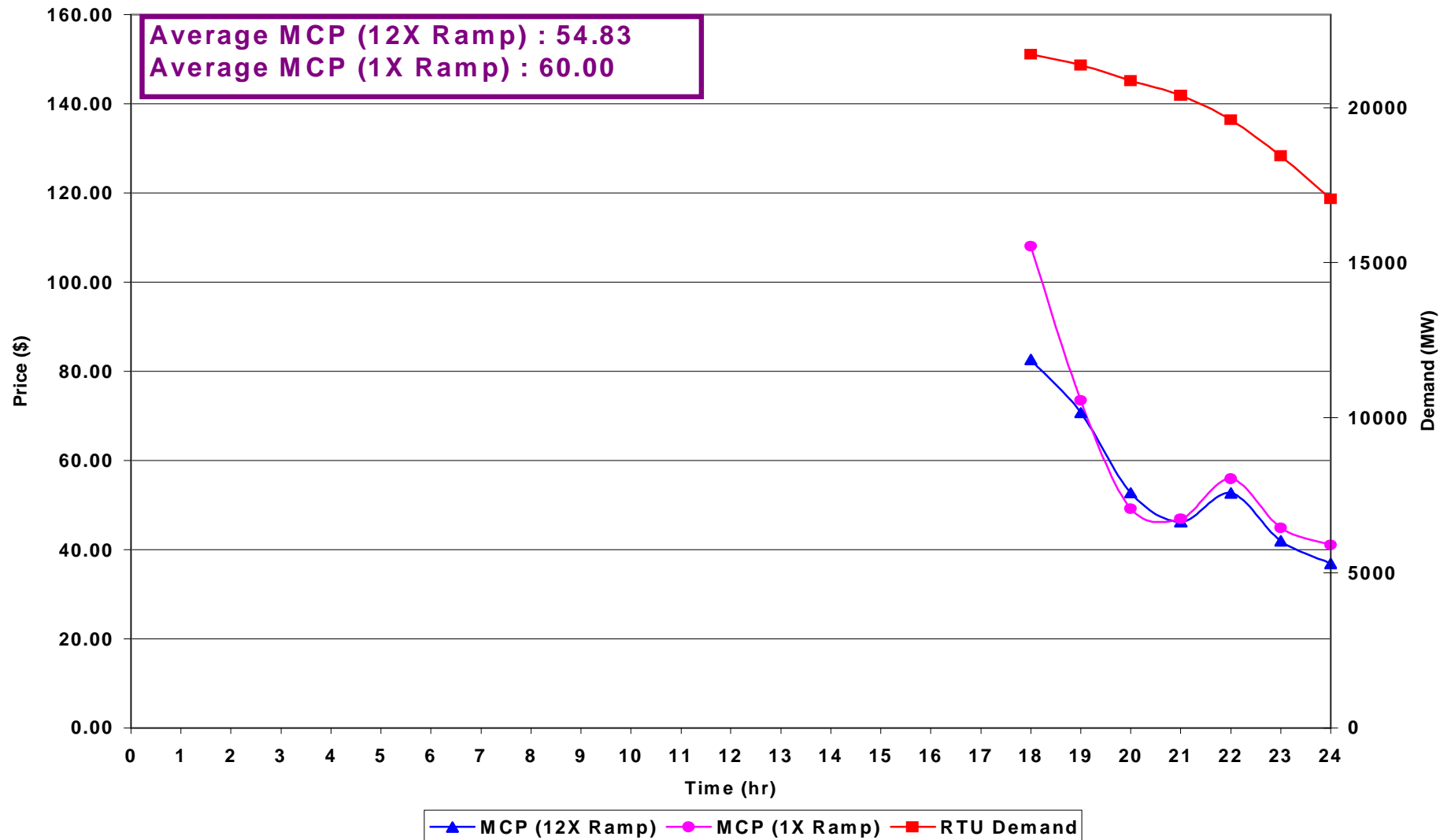
- » **Transactions in the constrained and unconstrained sequences are ramped starting at different times.**
 - **The ramp rate starts 5 minutes before the hour in the constrained sequence but in the unconstrained sequence, the ramp rate starts at the top of the hour.**
 - **Results in a demand difference of half the transaction change in interval 12.**
- » **A ramping lag for non-quick start units is included in the closed loop simulation.**
 - **Initial output and results from previous runs will be similar but not equal to each other.**

- » **Initial Conditions between the pre-dispatch constrained and unconstrained runs still differ slightly.**
 - The transactions produced by the two sequences will differ in some hours.
- » **Changes in system conditions (unit outage/de-rating) that occur in the 10 minute interval between time that the real time constrained and unconstrained sequences are run for the same interval.**
- » **There are differences between the demand used in the real time constrained and unconstrained sequences in intervals 1 and 2 of some hours.**
 - This is due to simulation setup.
 - The problem will be resolved for the next test.

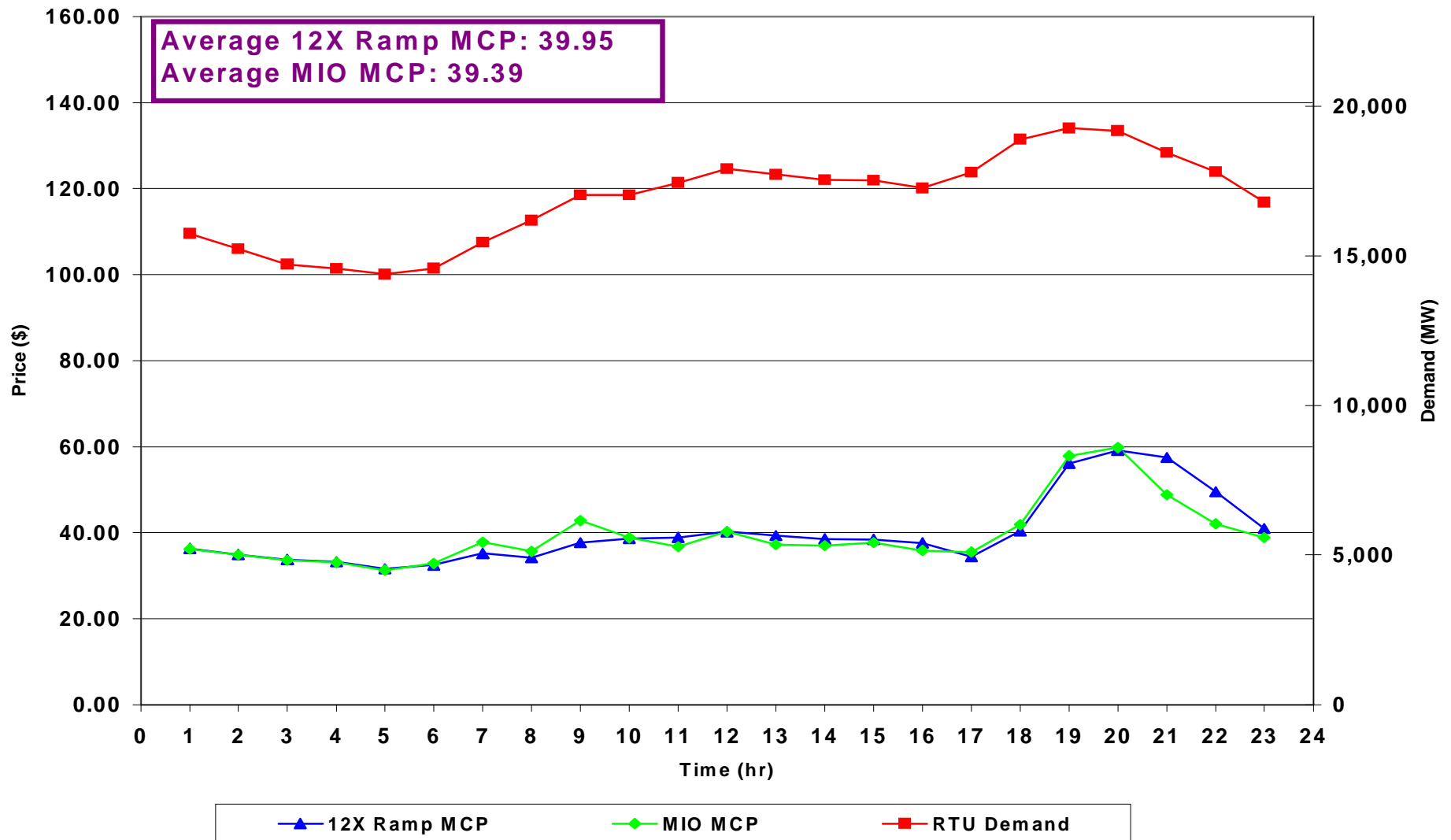
Graph 1. Demand, 12X Ramp MCP and MIO MCP for Dec.10, 2004



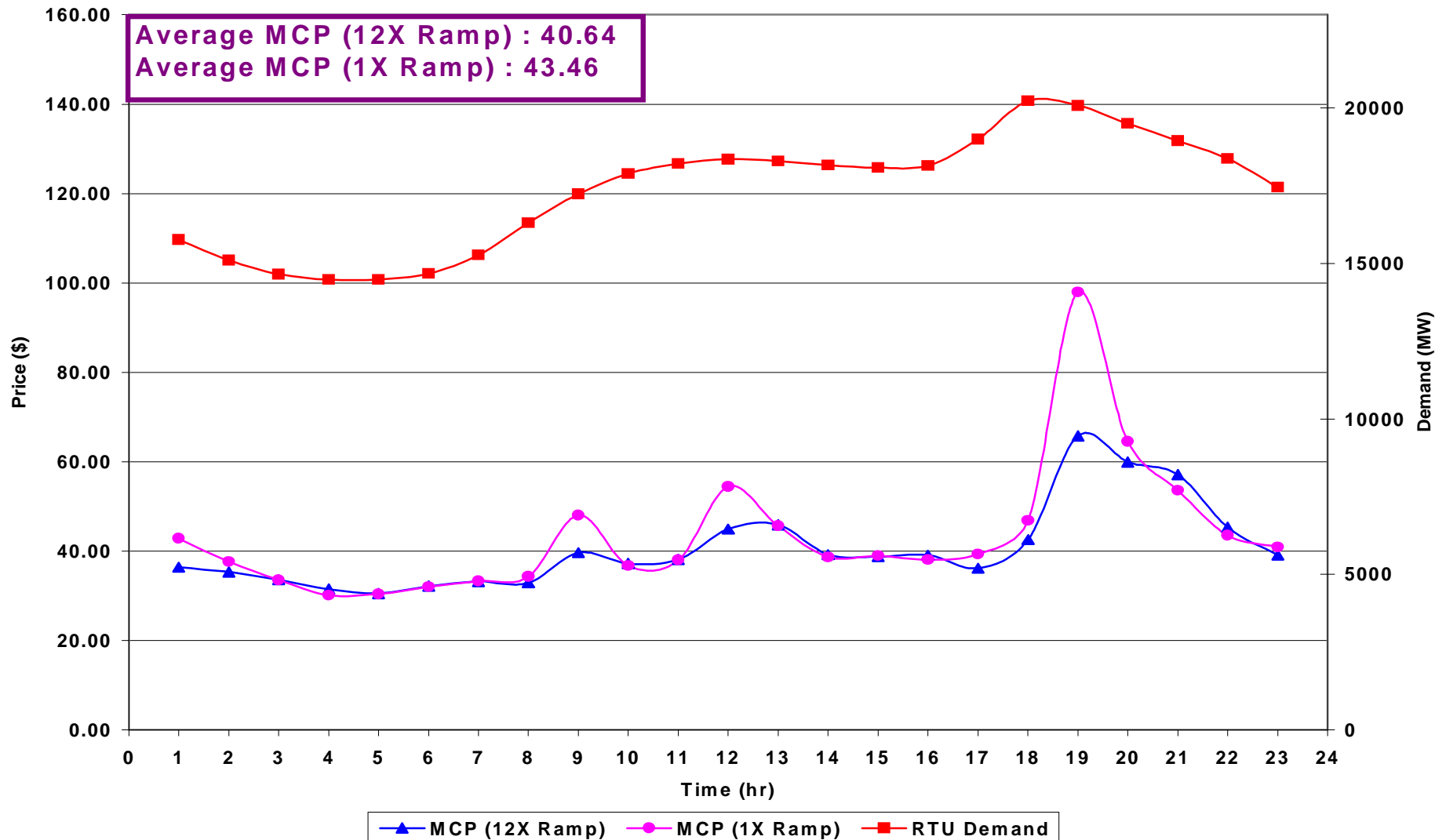
Graph 2. MCP (1X and 12X Ramp) and Demand for Dec.10, 2004



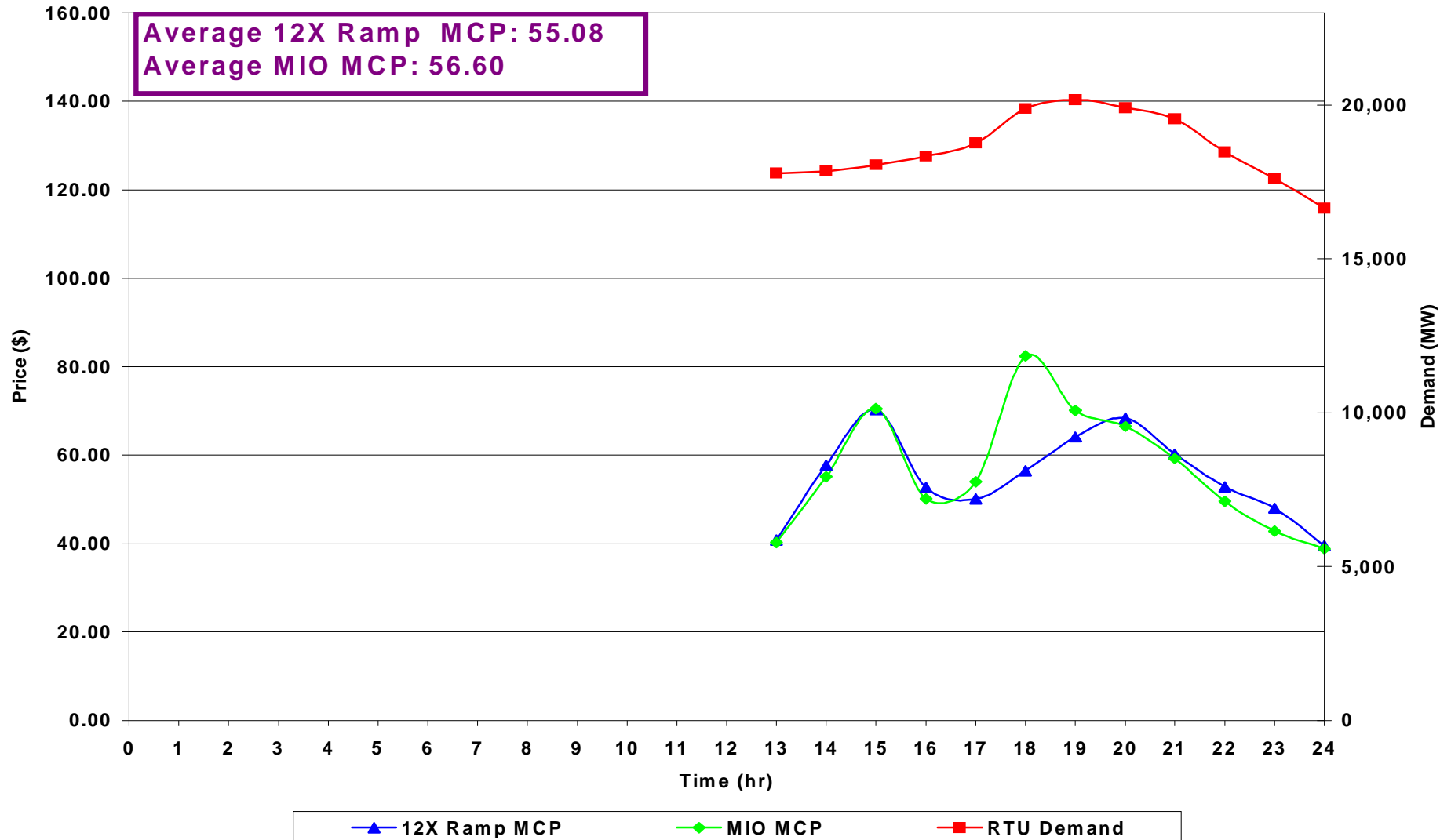
Graph 3. Demand, 12X Ramp MCP and MIO MCP for Dec.11, 2004



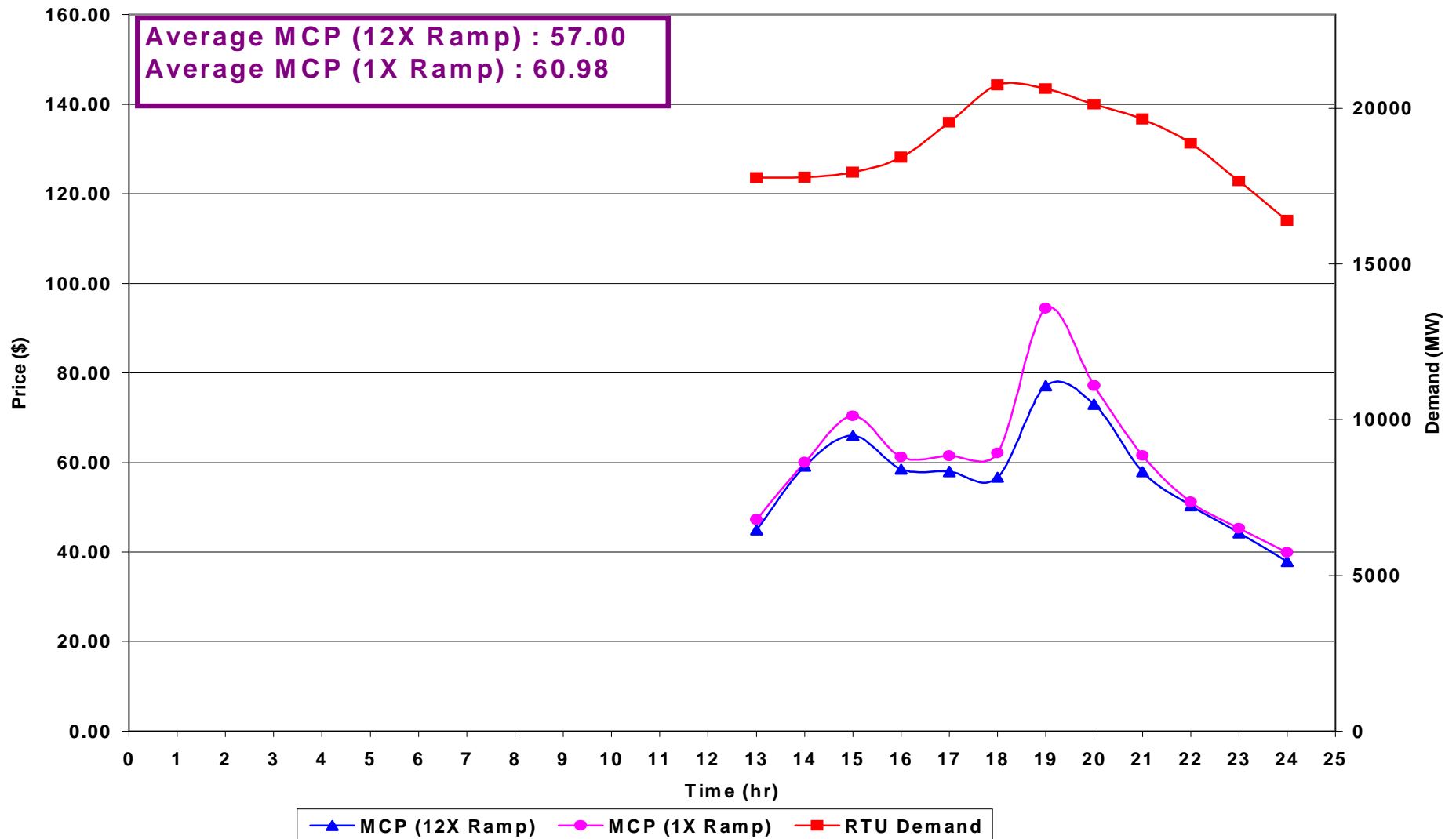
Graph 4. MCP (1X and 12X Ramp) and Demand for Dec.11, 2004



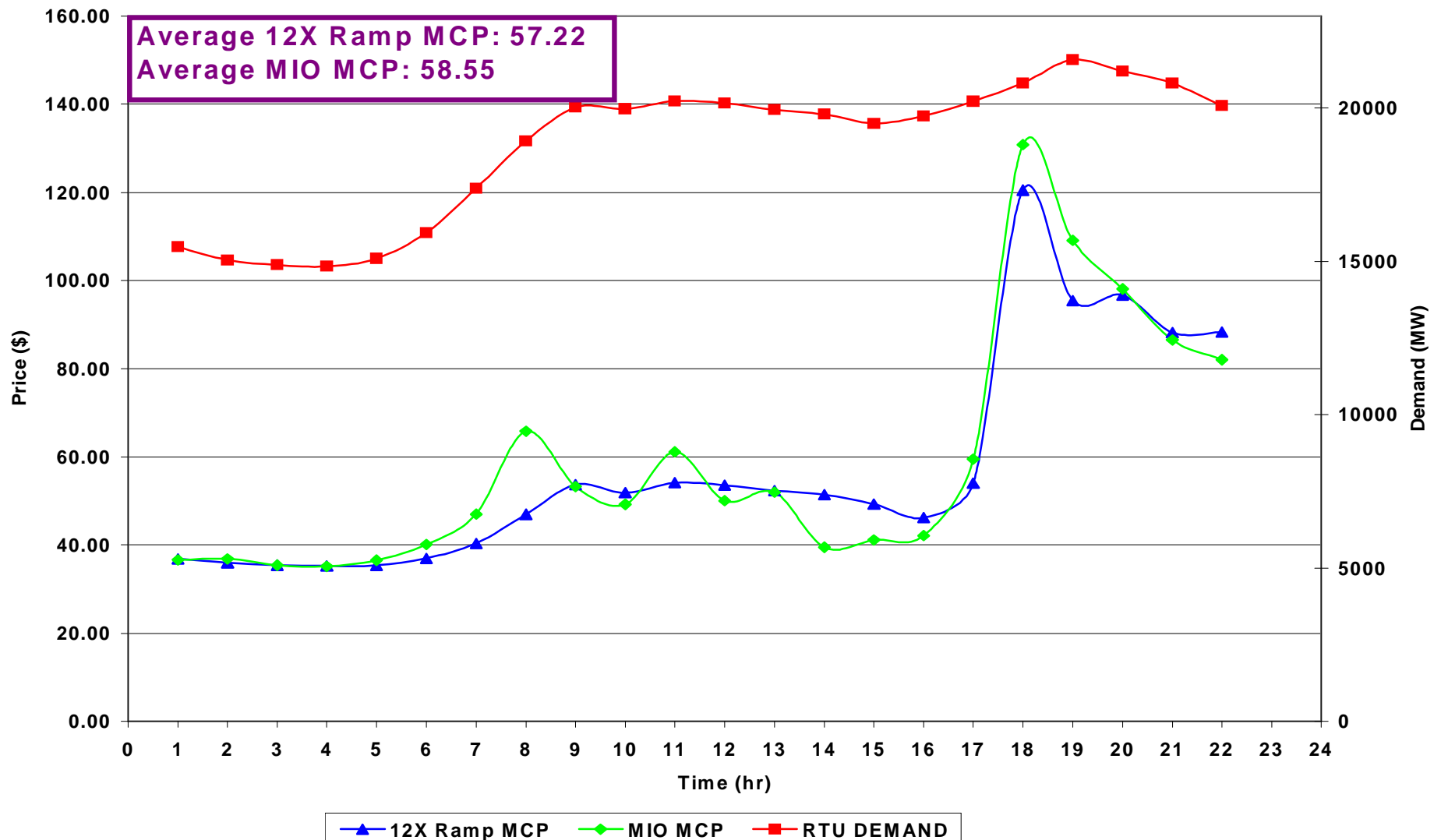
Graph 5. Demand, 12X Ramp MCP and MIO MCP for Dec.12, 2004



Graph 6. MCP (1X and 12X Ramp) and Demand for Dec.12, 2004



Graph 7. Demand, 12X Ramp MCP and MIO MCP for Dec.13, 2004



Graph 8. MCP (1X and 12X Ramp) and Demand for Dec.13, 2004

