

Further Review of April 7 Events

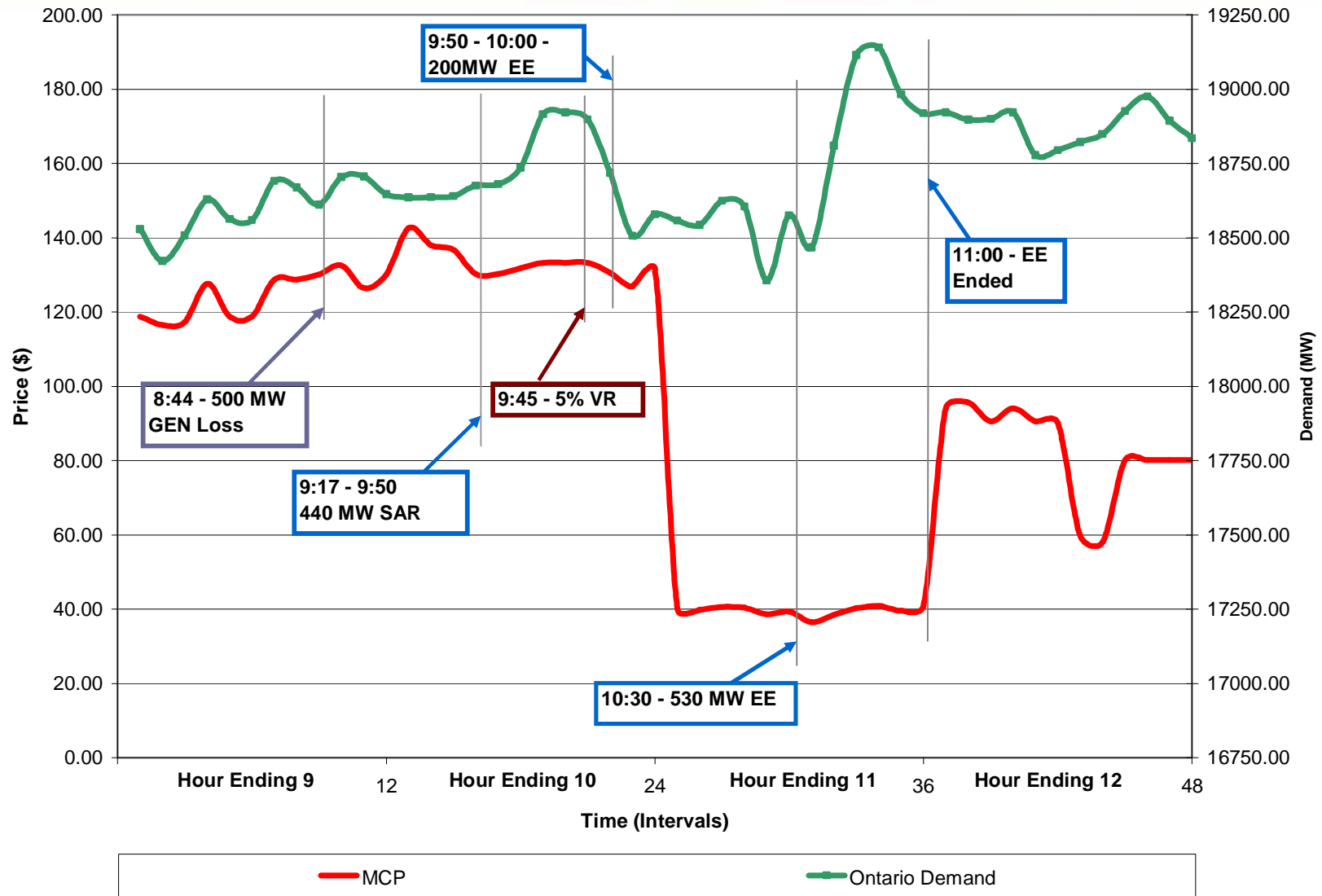
Market Pricing Working Group
May 13, 2005



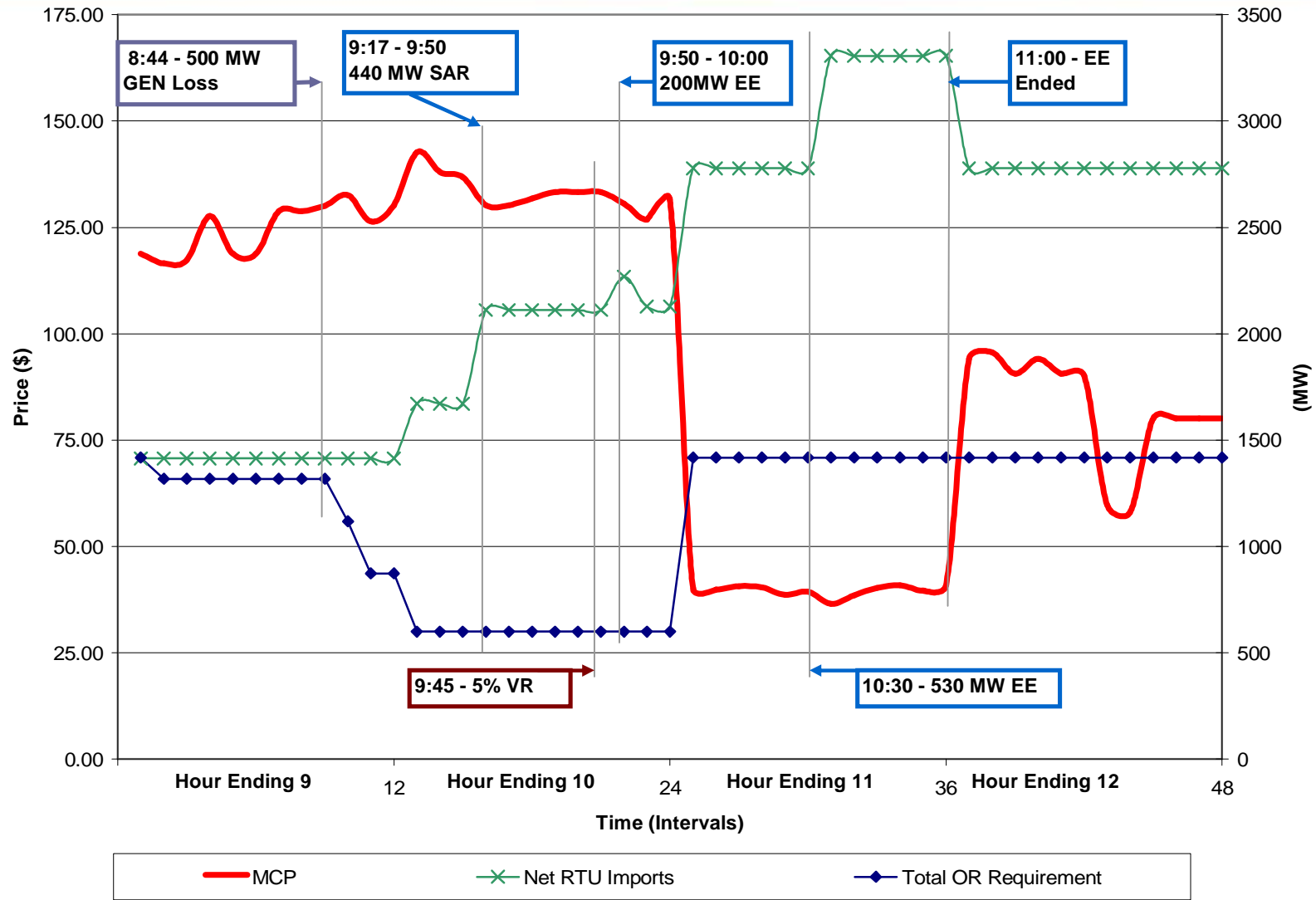
- **Several factors combined to create the situation.**
 - Expected loss of a large generator at 9:05-9:15
 - Demand about 400MW heavy (known at ~ 8:00)
 - 525 MW of failed imports (known at 8:40)
 - QFW constraint limits supply (and imports) from Niagara region
 - Loss of another generating unit at 8:44
- **Only the one large unit loss was expected**
 - This outage was reflected in predispatch schedules from midnight on.
 - No SSR issued in advance for this outage.
- **Past similar events have usually occurred on days that were expected to be supply constrained well in advance (summer 2002, Jan 15, 2004).**

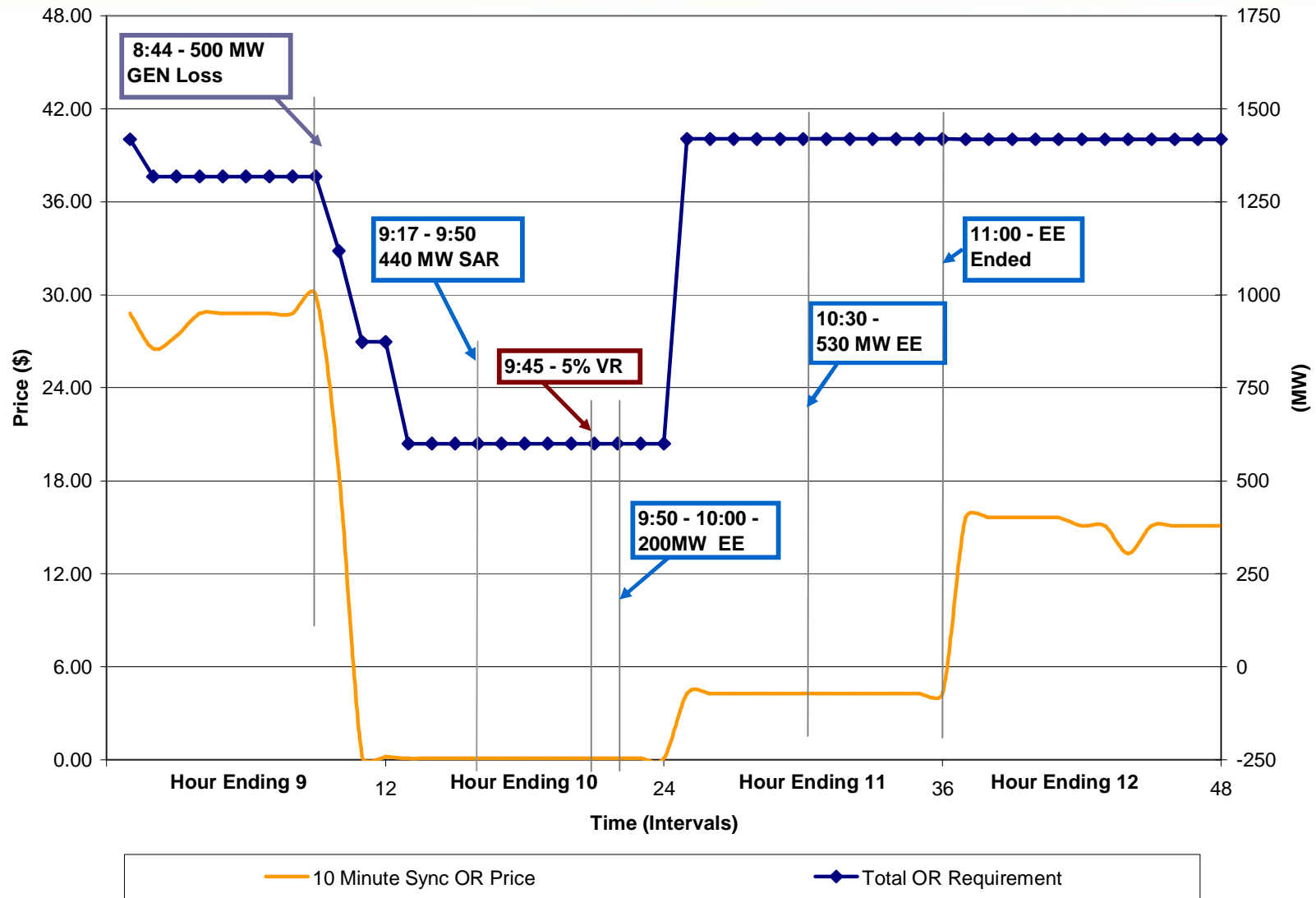
- **Operating Reserve requirement manually reduced by control room due to shortage**
 - Reduces MCP and OR price
- **Shared activation of reserve and emergency energy purchased**
 - Reduces MCP via a reduced demand
- **5% voltage reduction**
 - Reduces MCP via a reduced Ontario demand
- **Emergency operating state declared**
 - Reduces LMP via increased supply in the constrained schedule (higher Tx limits)

MCP and Ontario Demand



MCP, OR Requirement & Net Imports





- **Supplemental Slides**

- **On April 6 IESO was notified of a problem with a large generating unit (~900 MW) that would result in that unit's outage the next day at 9:00**
- **On April 7:**
 - **8:00 - Ontario demand trending 380 MW heavier than forecast**
 - **8:40 – 525 MW of import transaction failures identified**
 - **8:44 – a 500 MW generating unit failed**
 - **9:00 – IESO is deficient in 10 NS and 30 minute OR**
 - **9:05 – The forewarned large unit outage begins. Output to zero by 9:16.**

- **9:17 – 440 MW of SAR activated (ended at 9:50)**
- **9:20 – Recalling transmission outages to relieve interface restrictions**
- **9:45 – IESO respecting Emergency Condition Limits and 5% voltage reduction implemented**
- **9:50 – 200 MW emergency energy purchased to provide synchronized reserve (until 10:00)**
- **10:30 – 530 MW of EE purchased**
- **10:34 – Voltage restored**
- **11:00 – EE purchase ended**
- **13:00 – Emergency Operating State ended**

Richview LMP Prices – Hours 9-12

