

**DETERMINATION OF THE MARKET SURVEILLANCE AND COMPLIANCE PANEL
MSCP/2004/D10**

Market Surveillance and Compliance Panel (“MSCP”)

Mr Joseph Grimberg, Chair
Professor Lim Chin
Mr Lee Keh Sai
Mr TPB Menon

Date of Determination

14 September 2004

Party

Energy Market Company Pte Ltd (“EMC”)

Subject

Failure to determine and release schedules and publish information for period 25 on 14 July 2003

Applicable Rule(s) in the Singapore Electricity Market Rules

1. Section 9.2.1 of Chapter 6

“The EMC shall, prior to the commencement of each dispatch period and in accordance with the market operations timetable, use the market clearing engine to determine for that dispatch period:

- 9.2.1.1 a real-time dispatch schedule, containing schedules of energy, reserve and regulation for registered facilities, to be released to the PSO, which in accordance with section 9.1.2 of Chapter 5 shall be deemed to constitute the dispatch instructions issued by the PSO to the applicable dispatch coordinators unless and until further dispatch instructions are issued by the PSO to a given dispatch coordinator pursuant to section 9.1.3 of Chapter 5; and
- 9.2.1.2 a real-time pricing schedule determined by the market clearing engine...including:
- energy prices for each market network node;
 - the uniform Singapore electricity price;
 - reserve prices for each reserve class and for each reserve provider group; and
 - regulation prices.”

The market operations timetable under Appendix 6A of Chapter 6 provides for the EMC to begin computing a real-time dispatch schedule using the market clearing engine 5 minutes prior to the beginning of the dispatch period.

The market operations timetable under Appendix 6A of Chapter 6 provides for the EMC to release the real-time dispatch schedule to the PSO prior to the beginning of the dispatch period.

2. Section 9.2.3 of Chapter 6

“The EMC shall, in accordance with the market operations timetable, release to the dispatch coordinator for each registered facility a real-time dispatch schedule comprising that portion of the real-time dispatch schedule referred to in section 9.2.1.1 that describes the quantities of energy, reserve by reserve class and regulation scheduled in respect of that registered facility.”

The market operations timetable under Appendix 6A of Chapter 6 provides for the EMC to release the real-time dispatch schedule and real-time pricing schedule engine prior to the beginning of the dispatch period.

3. Section 9.2.4 of Chapter 6

“The EMC shall, in accordance with the market operations timetable, publish the following information as it pertains to each dispatch period:

- 9.2.4.1 total load;
- 9.2.4.2 total transmission losses;
- 9.2.4.3 total reserve requirements by reserve class;
- 9.2.4.4 total regulation requirements;
- 9.2.4.5 energy prices associated with each market network node at which a generation registered facility or generation settlement facility is located...;
- 9.2.4.6 the uniform Singapore energy price...;
- 9.2.4.7 reserve prices for each reserve class and reserve provider group...;
- 9.2.4.8 regulation prices...;
- 9.2.4.9 any system energy shortfalls reported by the market clearing engine;
- 9.2.4.10 any system reserve shortfalls, by reserve class, reported by the market clearing engine;
- 9.2.4.11 any system regulation shortfalls reported by the market clearing engine; and
- 9.2.4.12 a list of security constraints and generation fixing constraints applied.”

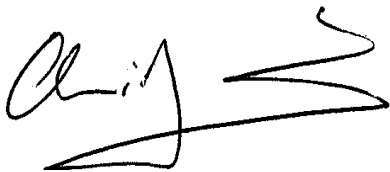
The market operations timetable under Appendix 6A of Chapter 6 provides that the EMC must publish the market information set out in section 9.2.4 of Chapter 6 prior to the beginning of the dispatch period.

Facts and Circumstances

4. There are 8 production market clearing engines in the EMC system (known as MC03 - MC10). At 1045 hrs on 14 July 2003, the IT team stopped the Market Clearing Engine ("MCE") application to allow the IT vendor, Hewlett-Packard ("HP") to carry out scheduled maintenance on 3 market clearing engines (known as MC05 - MC07). This was completed by 1055 hrs and the MCE application on MC05 - MC07 was started and verified to be running by 1058 hrs.
5. HP then requested access to another 3 market clearing engines (known as MC08 - MC10) at 1118 hrs to disable the HP maintenance applications residing on them as these were no longer needed. HP had performed system maintenance on these 3 market clearing engines previously but had not disabled the maintenance applications. The MCE application on these 3 market clearing engines was verified to be running by 1121 hrs after disabling the maintenance applications.
6. At 1157 hrs, the EMC's IT team received notice that the real-time dispatch run ("DPR") for period 25 and the pre-dispatch period run based on the high load forecast ("DAR High") had not started. Troubleshooting indicated that the MCE application was not functioning on 5 market clearing engines (known as MC05 - MC09). The MCE application was restarted for these 5 market clearing engines and both the DPR and DAR High runs were initiated.
7. The DAR High was completed and published on time. The DPR was completed at 12:00:20 hrs, ie late by 20 seconds.
8. The problem was investigated by HP and found to be caused by a bug in the system. The bug had apparently surfaced after completion of system maintenance in MC05 - MC07 and removal of the maintenance applications on MC08 - MC10 when the MCE application was verified to be running well.
9. According to the EMC, the following remedial actions were taken after the incident :
 - (a) the HP maintenance was immediately stopped after the incident and the maintenance procedure was revised.
 - (b) the MCE application was upgraded to a new version and the EMC scheduled a scenario test with the HP maintenance application. There were no errors observed.
 - (c) the IT team will apply any IT fixes recommended by HP that may be applicable to remove the bug.
10. There was no significant impact resulting from this incident.

Determination

11. On 2 April 2004, the MCSP issued a letter informing the EMC that it considered that the EMC had prima facie breached sections 9.2.1, 9.2.3 and 9.2.4 of Chapter 6 of the Singapore Electricity Market Rules (the "market rules") and invited the EMC to make written representations. No written representations were received by the deadline stipulated.
12. The MSCP determined on the basis of the facts referred to above that the EMC breached sections 9.2.1, 9.2.3 and 9.2.4 of Chapter 6 of the market rules.
13. However, the breach was self-reported and had no significant impact on the market. The EMC had taken remedial actions to prevent this incident from recurring. There was also no indication that the EMC had not made a reasonable attempt to comply with the market rules.
14. Therefore, the MSCP determined that the appropriate enforcement action to be taken is to issue a letter of non-compliance to the EMC and directs the EMC to pay costs, fixed at \$1,000.

A handwritten signature in black ink, appearing to read 'Lim Chin', with a stylized flourish extending to the right.

Lim Chin
for and on behalf of
Chair, Market Surveillance and Compliance Panel