

**DETERMINATION OF THE MARKET SURVEILLANCE AND COMPLIANCE PANEL
MSCP/2007/D1**

Market Surveillance and Compliance Panel (“MSCP”)

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

Date of Determination

15 January 2007

Party

Energy Market Company Pte Ltd (“EMC”)

Subject

Failure to determine and release short-term schedule and publish information for period 8 on 27 September 2005

Applicable Rule(s) in the Singapore Electricity Market Rules

1. Section 7.4A.1 of Chapter 6

“The EMC shall, in accordance with section 7.6 and Appendix 6A, determine a short-term schedule corresponding to the nodal load forecast described in section 7.2.1.1.”

According to the market operations timetable, the EMC is required to commence computing the short-term schedule 4 minutes prior to the beginning of the dispatch period.

2. Section 7.7.2A of Chapter 6

“Not later than 25 minutes prior to the commencement of the first dispatch period of the short-term schedule referred to in section 7.4A, the EMC shall, for each dispatch period included in the short-term schedule:

7.7.2A.1 release to the dispatch coordinator for each registered facility the projected schedules for energy, regulation and reserve, by reserve class, for that registered facility;

7.7.2A.2 publish the information described in section 7.7.3; and

7.7.2A.3 communicate to the PSO the projected schedules for energy, regulation and reserve, by reserve class, for each registered facility, together with the information described in section 7.7.3, in accordance with the system operation manual and any applicable market manual.”

3. Section 7.7.3 of Chapter 6

“In accordance with sections 7.7.1, 7.7.2 and 7.7.2A, the EMC shall publish the following information for each dispatch period and for each market outlook scenario, pre-dispatch schedule scenario and short-term schedule:

7.7.3.1 the projected total load;

7.7.3.2 the projected transmission losses;

7.7.3.3 total reserve requirements by reserve class;

7.7.3.4 total regulation requirements;

7.7.3.5 projected energy prices associated with each market network node at which a generation registered facility or generation settlement facility is located....;

7.7.3.6 the projected uniform Singapore energy price....;

7.7.3.7 projected reserve prices for each reserve class and reserve provider group....;

7.7.3.8 projected regulation prices....;

7.7.3.9 any predicted system energy shortfalls;

7.7.3.10 any predicted system reserve shortfalls, by reserve class;

7.7.3.11 any predicted system regulation shortfalls; and

7.7.3.12 a list of security constraints and generation fixing constraints applied.”

Facts and Circumstances

4. EMC made a self-report on 12 October 2005 that it failed to determine and release the short-term schedule and publish the relevant information for period 8 on 27 September 2005 within the deadlines required under the market rules.

5. According to EMC, the market clearing engine (“MCE”) which was responsible for producing the short-term schedule for period 8 terminated abnormally during the dispatch run due to a “COM Error in MCE run”.

6. The report by EMC only briefly alluded to the “COM Error in MCE run”. However, when the incidents were repeated on 2 and 26 December 2005, EMC was able to provide fuller explanations that the MCE was designed to solve the scenarios for the short-term schedule and pre-dispatch schedule runs by using a process of “multi-threading” which essentially reads with one thread, and writes with another thread multiple times using a “COM” component. This design feature is critical in ensuring that the schedules are processed within the time limit in the market operations timetable. EMC further said that the MCE used a programme called Visual Basic 6 (VB6) which did not directly support “multi-threading” and required an additional external “COM” component to function. The COM feature in the Microsoft Windows family of Operating Systems enables software components to communicate. It links components together to build applications.

7. EMC expressed that it strongly believed that the problem was in the communication between the two MCE “threads” that were created when solving short-term schedule and pre-dispatch schedule runs. In cases where a pre-dispatch schedule run failed, a manual run was able to be triggered within the required time frame, but when a short-term schedule failed, there was insufficient time to carry out a manual run. However, during the incident, because of the COM error, the short-term schedule run could not complete and resulted in the failure to determine the short-term schedule for period 8 on 27 September 2005. EMC was unable to determine the cause of the COM error.
8. EMC explained that the problem would be overcome when it changed the MCE platform from VB6 to .NET. .NET supports direct “multi-threading” and does not require the external “COM” component.
9. EMC had completed the implementation of the .NET release on 8 June 2006.
10. This incident did not have a significant impact on the wholesale electricity markets.

Determinations

11. On 1 August 2006, the MSCP issued a letter informing EMC that it considered that EMC had prima facie breached sections 7.4A.1 and 7.7.2A of Chapter 6 of the Singapore Electricity Market Rules (the ‘market rules’) and invited EMC to make written representations. No written representations were received by the deadline stipulated.
12. On the basis of the facts referred to above, the MSCP determined that EMC had breached sections 7.4A.1 and 7.7.2A of Chapter 6 of the market rules.
13. However, the breach was self-reported, inadvertent and without significant impact on the wholesale electricity markets. Remedial action had also been taken.
14. Therefore, the MSCP determined that it would issue a letter of non-compliance to EMC and direct EMC to pay costs, fixed at \$1,000.



Joseph Grimberg
Chair
Market Surveillance and Compliance Panel