

**DETERMINATION OF THE MARKET SURVEILLANCE AND COMPLIANCE PANEL  
MSCP/2008/D4**

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**Market Surveillance and Compliance Panel (“MSCP”)**

Professor Lim Chin  
Mr Lee Keh Sai  
Mr TPB Menon

**Date of Determination**

16 June 2008

**Party**

Energy Market Company Pte Ltd (“EMC”)

**Subject**

Failure to release real-time schedule for period 31 and to publish relevant information on 8 October 2007 on time

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**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:

- a. energy prices for each market network node;
- b. the uniform Singapore electricity price;
- c. reserve prices for each reserve class and for each reserve provider group; and
- d. regulation prices.”

The market operations timetable in 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 in Appendix 6A of Chapter 6 provides for the EMC to release the real-time dispatch schedule to the PSO prior to 30 seconds before 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 prior to 30 seconds before 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 in 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 30 seconds before the beginning of the dispatch period.

**Facts and Circumstances**

4. EMC made a self-report on 23 October 2007 that the real-time schedule for period 31 on 8 October 2007 was not released and the relevant information was not published on time in accordance with the Singapore Electricity Market Rules (“the market rules”).

5. According to EMC, on 8 October 2007, it performed an “authorized change release” to split database replication between its Production system and Disaster Recovery (DR) system as part of performance testing at its DR site.
6. The “split database replication” procedure had been conducted previously without any problem. The procedure requires specific steps (system commands) to be executed at both Production database server and DR database server. The system command was carried out at EMC’s office at Republic Plaza.
7. While executing the command, one of the system commands which should be executed on DR database server, was inadvertently executed on Production database server instead. This caused a disruption to the database file systems and unavailability of the National Electricity Market of Singapore’s (“NEMS”) IT systems.
8. During the recovery of the database file systems, which included the transition of database services, the processing of the real-time dispatch schedule for period 31 was delayed resulting in the real-time schedule for period 31 being sent to the PSO and published four seconds after the deadline specified in the market rules.
9. EMC said that it would review its IT NEMS Operational Manual to specifically break down the database replication split commands based on the Production and DR servers to ensure that commands are properly executed on the respective servers.
10. EMC further said that it would ensure that all system-related changes be executed during a “green zone” period (i.e. the time when no dispatch and pricing schedules are produced so as to avoid any disruption to the schedules).

#### **Determination**

11. On 11 December 2007, the MSCP issued a letter informing EMC that it considered that EMC had prima facie breached sections 9.2.1, 9.2.3 and 9.2.4 of Chapter 6 of the market rules and invited 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 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, rectified quickly and without significant impact on the wholesale electricity markets.
14. Therefore, the MSCP determined that the appropriate action to be taken was to issue a letter of non-compliance to EMC and to direct EMC to pay costs, fixed at \$1,000.00.



Lim Chin  
for Chair, Market Surveillance and Compliance Panel