**DETERMINATION OF THE MARKET SURVEILLANCE AND COMPLIANCE PANEL
MSCP/2008/D1**

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 the real-time schedule for period 27 and short-term schedule for period 28 and to publish relevant information on 10 May 2007 on time

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.

4.   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."

5.   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

6.   EMC made a self-report on 28 May 2007 regarding its failure to release the real-time schedule for period 27 and the short-term schedule for period 28 and to publish the relevant information on 10 May 2007 within the deadlines required under the Singapore Electricity Market Rules ("the market rules").

7.   According to EMC, it made preparation on 10 May 2007 for its Data Delivery Project Part 3 release. The planned release required about 5 hours of preparation for offer submission related tables to be loaded onto the Production database.

8.   These activities had been tested in the test environment. During the testing, the import process was fast (less than 10 minutes) and no impact was seen on the application components.

9.   While importing the data into the Production database, it was observed through the NEMS monitoring system that input/output ("I/O") had slowed down, thus causing the processing of real-time and short-term schedules to take longer than expected.

10.   The real-time schedule for period 27 and short-term schedule for period 28 were sent late at 13:00:28 hrs and 13:18:19 hrs respectively. EMC commenced immediate investigation and determined that the delay was directly attributable to the overall system I/O having slowed down during the import process.

11.   EMC said that it would work with its vendor to identify the root cause of the slow I/O and take steps to review the difference in I/O configuration between test and production systems.

12. As a result of the above incident, EMC failed to release the following schedules on 10 May 2007:

    (1)   the real-time schedule for period 27; and
    (2)   the short-term schedule for period 28
    and publish the relevant information within the deadlines required under the market rules.

13. For the purposes of dispatch, the PSO, in the absence of the real-time schedule, used the relevant short-term schedule in accordance with the system operation manual.

Determination

14. On 5 September 2007, the MSCP sent a letter to EMC informing EMC that it was of the view that EMC was prima facie in breach of the market rules for the incident on 10 May 2007 and invited EMC to make written representations.

15. On 19 September 2007, EMC submitted a letter with its written representations.

16. In its written representations, EMC said it had since concluded analysis and investigation into the slow I/O and observed that the utilization of the production disk group was above the recommended threshold. It said that its existing configuration of the disk group I/O would be reviewed in EMC's forthcoming projects in its financial year 2008/2009.

17. EMC further said that if there were any special requirement to import a large amount of data into the production database in the meantime, it would only do so during scheduled system outage to avoid risk and disruption to its production systems. EMC had also implemented pro-active monitoring since the incident to enable more active intervention in order to mitigate the impact of any future occurrences.

18. EMC said that it trusted that the MSCP would take into consideration that the incident had no impact on the market and EMC remained committed to continually updating and reviewing its processes to ensure the NEMS system remains robust and reliable and any faults or failures are quickly resolved for the benefit of the market.

19. The MSCP determined on the basis of the facts referred to above that EMC breached sections 9.2.1, 9.2.3, 9.2.4 and 7.7.2A of Chapter 6 of the market rules

20. However, the breach was self-reported, inadvertent, rectified quickly and did not have a significant impact on the wholesale electricity markets.

21. 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