

**DETERMINATION OF THE MARKET SURVEILLANCE AND COMPLIANCE PANEL  
MSCP/2006/D13**

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**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**

24 August 2006

**Party**

Power System Operator

**Subject**

Network status file for trading period 10 on 31 January 2006 not sent to market clearing engine

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**APPLICABLE MARKET RULES**

1. Section 8.1 of Chapter 6 provides that:

“8.1.1 The PSO shall, prior to each dispatch period and in accordance with the market operations time table, take the following actions so as to keep dispatch related data current and available for the EMC:

8.1.1.1 conduct such studies as may be necessary to determine the appropriate parameters to be used as inputs to the market clearing engine for the upcoming dispatch period;

8.1.1.2 determine or update, as the case may be, the dispatch related data referred to in Appendix 6G for the dispatch period; and

8.1.1.3 communicate the dispatch related data referred to in section 8.1.1.2 to the EMC.”

## Appendix 6A.2 of Chapter 6

According to the market operations timetable in Appendix 6A.2, for real-time dispatch, the latest time to complete updating of dispatch-related data to be provided by PSO to EMC for use in the real-time dispatch schedule is T-5 minutes (ie 5 minutes before the beginning of a dispatch period).

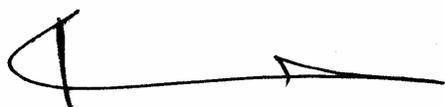
## Appendix 6G.1.1 of Chapter 6 provides that:

“The information listed in sections G.2 to G.7 of this Appendix describes the dispatch related data referred to in sections 6.1 and 8.1 of this Chapter which the PSO must produce, revise as required, and communicate to the EMC in accordance to those sections and the applicable market manuals. Except as otherwise specified in these market rules, the EMC shall utilize the latest dispatch related data received from the PSO. In the event that such latest dispatch related data is not uploaded in time for the imminent market clearing engine run, the EMC shall utilize the latest available and uploaded dispatch related data for the market clearing engine run.”

## **Investigation Findings**

2. According to the PSO, on 31 January 2006 at 04:20, the CPU of its server generating the network status file (NWStat file) had a hardware fault. The hardware failure occurred while the server was producing the NWStat file and the NWStat file generating process was thus aborted. As such, no NWStat file was sent to the market clearing engine (MCE) at Energy Market Company (EMC) for the trading period 04:30-05:00 (ie period 10).
3. In the absence of the updated NWStat file for uploading in time for the MCE run for period 10, EMC utilized the latest available dispatch related data in its system and uploaded it for the MCE run in accordance with section Appendix 6G.1.1 of Chapter 6 of the market rules.
4. The PSO reported that there was no major network switching (scheduled or unscheduled) and no network constraint during the time of the incident. Therefore, there was little impact in using the latest available NWStat file. Hence, the absence of the NWStat file for trading period 10 had no significant impact on the wholesale electricity markets.
5. The PSO reported that all its servers had undergone yearly maintenance. The server involved in this incident was last maintained on 19 August 2005.
6. The PSO also reported that when the online server failed, its backup server took over the online function within seconds as designed. However, this new online server did not re-generate the NWStat file as the scheduled generation time of 04:20 was already over. No recovery mechanism was built into the server, as the probability of the server failing at the same time that it was generating the NWStat file was very small. This was the first time it had happened in the 3 years of operation of the NEMS.

7. On 27 March 2006, the PSO implemented a programme in the backup server to automatically generate a NWStat file every time it booted up as the online server. This is in addition to the scheduled NWStat files to be generated at every 20<sup>th</sup> minute and 50<sup>th</sup> minute of the hour. This process will ensure that should a similar incident happen again, an NWStat file will be produced.
8. This incident did not have a significant impact on the wholesale electricity markets.
9. Based on the facts of the incident, it would appear that the PSO had breached section 8.1.1 of chapter 6 of the market rules when it failed to send the NWStat file to the EMC for period 10 on 31 January 2006.
10. On 15 May 2006 the MSCP wrote to the PSO inviting written representations on allegations of potential rule breach of section 8.1.1 of chapter 6 of the market rules by the PSO.
11. On 29 May 2006, the PSO submitted written representations to the MSCP. The PSO reiterated that since the incident on 31 January 2006, it had programmed the backup server to automatically generate NWStat files every time it booted up as the online server. This measure is in addition to the already scheduled generation of NWStat files at every 20<sup>th</sup> and 50<sup>th</sup> minute of the hour. By increasing the frequency at which NWStat files were generated, the possibility of a loss of an NWStat file and its consequential effect on the NEMS would be significantly reduced. The PSO said that it did not have any record of committing similar alleged breaches of the Market Rules in the 3 years since the commencement of operation of the NEMS. The PSO also mentioned that the incident had negligible impact on the wholesale electricity markets and the PSO had promptly implemented remedial action to minimize the re-occurrence of such incidents.
12. The MSCP determined on the basis of the facts referred to above that the PSO breached section 8.1.1 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 the appropriate enforcement action was to issue a letter of non-compliance to the PSO and to direct the PSO to pay costs, fixed at \$1,000.
15. Following the issue of a report by the MSCP recording the facts and circumstances of the breach, section 7.2.17 of the market rules also requires the PSO to provide a report to the MSCP setting out its explanation for the breach, and a plan detailing how it intends to reduce the likelihood of, or prevent, such breaches in the futures. We note that in this case, the PSO has already done so.



Joseph Grimberg  
Chair  
Market Surveillance and Compliance Panel