

**DETERMINATION OF THE MARKET SURVEILLANCE AND COMPLIANCE PANEL
MSCP/2008/D10**

Market Surveillance and Compliance Panel (“MSCP”)

Mr Thean Lip Ping, Chair
Professor Lim Chin
Mr Lee Keh Sai
Mr TPB Menon

Date of Determination

15 July 2008

Party

Energy Market Company Pte Ltd (“EMC”)

Subject

Delay in validating offer variations on 30 March 2008

Applicable Rule(s) in the Singapore Electricity Market Rules

1. Section 5.6.1 of Chapter 6

“Where the EMC receives any offer, it shall:

- 5.6.1.1 stamp the offer with the time that it was received;
- 5.6.1.2 within five minutes, confirm receipt of the offer; and
- 5.6.1.3 within five minutes, validate the offer in accordance with section 5.7.1 and release information indicating that the offer has been:
 - a. accepted as valid; or
 - b. rejected, with reasons for the rejection.”

Facts and Circumstances

- 2. Energy Market Company (“EMC”) submitted a self-report on 16 April 2008 that two offer variation batches received on 30 March 2008 were not validated on time. An offer variation batch (batch no: 172826) from a market participant received by EMC at 1:54 pm was validated only at 2:02 pm and another offer validation batch (batch no:172827) from the same market participant received at 2:01 pm was validated by EMC at 2:10 pm. Under the market rules, EMC is required to validate all offers received from market participants within 5 minutes of receipt.
- 3. EMC said that at the time of the incident, the offer validation processes were affected by the backend automated job for Audit Monitoring Scripts for the Oracle database.
- 4. The Audit Monitoring Scripts run every 5 minutes to check high privilege account logons. It typically takes an average of 2 minutes to complete a script run. However one of the scripts which ran at about 1:30 pm took more than 5 minutes to complete. EMC said that at that time, there was heavy Input/Output (I/O) activity due to a “Database Gather Statistic” job.

5. EMC further revealed that another script run started at around 1:35 pm overlapped with the ongoing script run at 1:30 pm. By 1:55 pm, 5 script runs had accumulated and overlapped with each other. These, together with the ongoing market clearing engine processing, slowed down the offer validation process.
6. To relieve the overlapping issue, EMC said it immediately performed urgent releases to house-keep the Audit Table so as to speed up the script runs.
7. On 31 March 2008, EMC implemented another urgent change in the Audit Monitoring Scripts design to ensure that only one active script run took place at any one time. This was to ensure that there were no multiple script runs so as to avoid unnecessary load to the database.
8. On 1 April 2008, EMC also increased the memory size from 6 GB to 7.2 GB for the Oracle database to ensure that it had more room to manage resource contention issues of this kind.
9. To ensure that the problem did not recur, EMC said that it had implemented or would be implementing a few projects to enhance the overall database performance. The projects were:
 - (a) Replace "Gather Statistics Method" to enhance I/O performance;
 - (b) Application tuning exercise;
 - (c) Real-time "Audit Table Monitoring Script" Review;
 - (d) Reorganize database physical architecture to enhance I/O performance.
10. EMC said that the two offer variation batches from the market participant were submitted for the following day. Therefore, the delay in validation had no material impact on the market participant or the wholesale electricity markets.

Determination

11. On 30 June 2008, the MSCP issued a letter informing EMC that it considered that EMC had prima facie breached section 5.6.1.3 of Chapter 6 of the Singapore Electricity Market Rules (the 'market rules') and invited EMC to make written representations. EMC replied that it would not be making representations.
12. The MSCP determined on the basis of the facts referred to above that EMC breached section 5.6.1.3 of Chapter 6 of the market rules.
13. However, the breach was self-reported, inadvertent, rectified quickly and without material 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.



Thean Lip Ping
Chair, Market Surveillance and Compliance Panel