DETERMINATION OF THE MARKET SURVEILLANCE AND COMPLIANCE PANEL
MSCP/2016/D3

Market Surveillance and Compliance Panel ("MSCP")
Mr T P B Menon, Chair
Mr Lee Keh Sai
Mr Philip Chua
Professor Euston Quah
Professor Walter Woon

Date of Determination
26 May 2016

Party
Energy Market Company Pte Ltd ("EMC")

Subject
Failure of Energy Market Company Pte Ltd to release real-time dispatch schedule and short-term schedule to the Power System Operator on 25 January 2016

FACTS AND CIRCUMSTANCES

1. EMC submitted a self-report on 22 February 2016 that it did not release the following schedules to the Power System Operator ("PSO") on 25 January 2016, as required under the Singapore Electricity Market Rules ("market rules"):

    a. real-time dispatch schedule ("RTS") for period 24; and
    b. short-term schedule ("STS") for period 25.

2. On 25 January 2016, EMC received an SMS alert at 11:29hrs regarding the RTS for period 24 and another SMS alert at 11:34hrs regarding the STS for period 25. EMC started investigation immediately – its initial investigation revealed that the RTS and the STS were determined but not released successfully to the PSO via the four file transfer protocol ("FTP") servers located at the PSO site.

3. EMC said further investigation showed that the dispatch programme responsible for sending the RTS and the STS to the PSO was not in running state.

4. The issues were resolved at 11:50hrs – the dispatch programme was restarted manually and subsequent RTS and STS were sent to the PSO successfully.

5.	EMC said the dispatch programme is monitored constantly by the system for any abnormal behaviour. If any of the four FTP servers to the PSO does not respond within 4.5 minutes, the dispatch programme will be terminated automatically. Upon detecting such termination, the system will restart the dispatch programme.

6.	On 25 January 2016, when the STS for period 25 was due to be released to the PSO, one of the FTP servers to the PSO did not respond within 4.5 minutes. The dispatch programme was terminated; the system detected the termination but failed to restart the dispatch programme.

7.	EMC discovered that the system failed to restart the dispatch programme because the system cluster containing the dispatch programme was in an unstable state. The instability was due to multiple failed attempts by the system to restart another programme within the same system cluster. Those multiple failed attempts were caused by a misspelt parameter setting in the system configuration.

8.	The misspelling in the parameter was "LISTENER_DG" instead of "LISTENER_DG2".

9.	The parameter is a back-up database listener process which may be used by the system to establish connections within the system if required. EMC's investigations revealed that the misspelling had existed in the system for so long that it was impossible to ascertain what or who had caused the error. Prior to 25 January 2016, however, the misspelt parameter did not cause any problem to EMC's operations as far as it could recall because it was a back-up process and not known to have been activated before.

10.	An alert is triggered to EMC if any programme has an "offline" status. In this instance, however, the instability in the system cluster caused the relevant programmes to unexpectedly display their statuses as "online monitoring failed". Since no alert was triggered for such a status, the issues could not be rectified earlier.

11.	As the RTS for period 24 on 25 January 2016 was not released to the PSO in accordance with the market rules, the PSO dispatched the generation facilities for the affected period based on the latest available STS (i.e. STS issued at period 23 on 25 January 2016).

12.	To prevent similar occurrences, EMC implemented an automated monitoring job to alert whenever the system cluster status is not in stable mode. The current monitoring job will also be enhanced to include status checking of other failure conditions, on top of the "offline" status.

13.	On 5 April 2016, the MSCP wrote to inform EMC that EMC had prima facie breached sections 7.7.2A.3 and 9.2.1.1 of Chapter 6 of the market rules and invited EMC to make written representations.

14.	EMC replied on 25 April 2016 that it had implemented the preventive measures mentioned in paragraph 12 on 25 February 2016.

APPLICABLE MARKET RULES

15.   Section 7.7.2A.3 of Chapter 6 provides that

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*:

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*.

16.   Section 9.2.1.1 of Chapter 6 provides that

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*:

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.

ENFORCEMENT

17.   The MSCP determined on the basis of the facts referred to above that EMC had breached sections 7.7.2A.3 and 9.2.1.1 of Chapter 6 of the market rules.

18.   This incident was self-reported and did not have any significant impact on the wholesale electricity market. EMC has also taken remedial actions to rectify the problem.

19.   The MSCP hereby issues a letter of non-compliance to EMC and directs EMC to pay costs, fixed at $1,500.

T P B Menon
Chair, Market Surveillance and Compliance Panel