DETERMINATION OF THE MARKET SURVEILLANCE AND COMPLIANCE PANEL
MSCP/2017/D3

Market Surveillance and Compliance Panel
Professor Walter Woon
Mr Lee Keh Sai
Mr Philip Chua
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Date of Determination
15 November 2017

Party
Energy Market Company Pte Ltd

Subject
Incorrect offer submission from Energy Market Company Pte Ltd on 9 June 2017

FACTS AND CIRCUMSTANCES


2. From 1 June 2017 to 9 June 2017, EMC conducted a system test at its Labrador data centre. The test was to prepare for a Disaster Recovery Preparedness exercise scheduled on 14 June 2017. The production environment operated from EMC’s Ayer Rajah data centre.

3. On 7 June 2017, EMC carried out a test on the offer submission web service module via a test programme.

4. At 10:00hrs on 9 June 2017, a MP encountered an urgent production issue with its web service access. To solve the issue, EMC made a configuration change to the test programme to link it to the production environment. However, the configuration change was not reverted after troubleshooting.

5. At 16:06hrs on 9 June 2017, EMC resumed the test on the offer submission web service module. As the test programme was still linked to the production environment, test offers were sent to the production environment. The test offers were then accepted by the production environment and overrode the standing offers originally submitted by the MP.
6. Three standing secondary reserve offers for the MP's generation registered facility ("GRF") were found to be submitted erroneously to the production environment. The offers were submitted for 15 June 2017, periods 45 to 47.

7. The incorrect offers submitted by EMC for the affected GRF were in breach of section 7.5.1 of Chapter 6 of the Singapore Electricity Market Rules ("Market Rules").

8. EMC halted the test immediately after the incorrect offers were detected.

9. At 18:00hrs on 9 June 2017, EMC requested the MP to resubmit standing offers for the affected periods.

10. At 10:20hrs on 12 June 2017, the MP resubmitted its standing offers.

11. To avoid a reoccurrence of the incident, EMC made the following changes to its system test:

   a. **User and access rights control**

      i. Two sets of test user IDs with distinct naming conventions are created for the two data centres, i.e. AY_PRD_TEST_TPU is valid only for tests at Ayer Rajah; LB_PRD_TEST_TPU is valid only for tests at Labrador.

      ii. Prior to a test, a service request is required to enable test user IDs and access rights in the test environment.

      iii. A set of test user IDs will be enabled according to the test location and the corresponding access rights will be set up in the test environment only. This ensures test offers cannot be submitted and accepted into the production environment, unless explicit access rights are granted.

      iv. When the system test is completed, the set of test user IDs will be disabled and the access rights will be deleted from the test environment.

      v. These changes were implemented on 16 June 2017.

   b. **Web service test programme**

      i. Instead of relying on the configuration setup in the system, the tester shall manually enter information into the test environment.

      ii. There will be additional system prompts to seek confirmation before submitting information.

      iii. These changes were implemented on 20 June 2017.

12. On 4 October 2017, the Market Surveillance and Compliance Panel ("MSCP") wrote to inform EMC that it considered EMC to be in prima facie breach of section 7.5.1 of Chapter 6 of the Market Rules on 9 June 2017, and invited EMC to make written representations, before the MSCP made a determination.
13. On 16 October 2017, EMC submitted the following points in its written representations to the MSCP:

a. Prior to the test, testers were reminded via e-mail to make configuration changes to point to the correct test environment. The test coordinator also checked all of the testers' computers and did not observe any discrepancy.

b. At the time of the incident, the test user IDs were enabled during the system test and disabled immediately after the test to minimise accidental links from the test programme to the production environment. Only one designated personnel was allowed to enable and disable the test user IDs; testers were not granted access to perform such a task.

c. The MP’s urgent production issue was unique and coincidental; it was the first time such an issue had arisen during a test. There was no prior indication which alerted EMC to the possibility that a configuration change would occur during the test.

d. EMC contacted the MP within two hours from knowledge of the incident. This was to ensure that the offers for the affected periods were resubmitted so that the correct schedules could be used for dispatch.

e. As the MP resubmitted its standing offers on 12 June 2017, before the trading date of 15 June 2017, there was no impact on the market.

f. After the incident, EMC held a sharing session with all testers to go through its remedial actions and would make all reasonable efforts to prevent future reoccurrences.

**APPLICABLE MARKET RULES**

14. **Section 7.5.1 of Chapter 6 of the Market Rules provides that**

7.5.1 The *EMC* shall use the most current valid information on the following to determine and revise each of the scenarios referred to in sections 7.3, 7.4 and 7.4A:

7.5.1.1 *Offers and bids* for the relevant *dispatch period* held by the *EMC*; or

7.5.1.2 *Standing capability data* as applicable to each *dispatch period* represented within the *short-term horizon*, *pre-dispatch horizon* and the *market outlook horizon*, as the case may be, held by the *EMC*;

7.5.1.3 the applicable *nodal load forecasts* referred to in section 7.3.1, 7.4.1 or 7.4A.1, as the case may be;

7.5.1.4 the *dispatch related data* referred to in section 6.1.1.3 received from the *PSO*;

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1 Sections 7.3, 7.4 and 7.4A refer to the determination of market outlook scenarios, pre-dispatch schedule scenarios and the short-term schedule respectively.
7.5.1.5 the initial loading of each generation facility, determined:

a. in the case of each market outlook scenario, on the basis of the end of the last dispatch period represented in the most recently published pre-dispatch schedule which was determined using the same nodal load forecast and that contains the applicable dispatch period; and

b. in the case of each pre-dispatch schedule scenario, on the basis of the later of the real-time dispatch schedule for the period after the current dispatch period (if available) and the real-time dispatch schedule for the current dispatch period;

7.5.1.6 the import limit and export limit;

7.5.1.7 the applicable price limits from Appendix 6J; and

7.5.1.8 such other parameters or data as may be required to enable the market clearing engine to determine the required outputs.

ENFORCEMENT

15. The MSCP determined on the basis of the facts referred to above that EMC breached section 7.5.1 of Chapter 6 of the Market Rules for incorrect offer submission on 9 June 2017.

16. The test offers accepted into the production environment on 9 June 2017 were meant for 15 June 2017. Since trading in the Singapore Wholesale Electricity Market ("SWEM") only takes place in real time, offers for a future trading date serve as an indication and do not have any financial impact on the SWEM. The affected MP resubmitted its standing offers on 12 June 2017, before the trading date of 15 June 2017.

17. The incident was self-reported and did not have a significant impact on the SWEM. EMC had also taken remedial actions to prevent such an error from reoccurring. Nevertheless, this incident was due to a human error and could have been avoided if EMC had implemented an appropriate level of access control.

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

19. The MSCP reminds EMC of its responsibility as the market operator in ensuring market integrity. Under different circumstances, such an error could create a substantial impact on market dispatch. The MSCP takes a serious view of any behaviour that undermines the effective functioning of the National Electricity Market of Singapore.

[Signature]
Professor Walter Woon
For Chair, Market Surveillance and Compliance Panel