MINUTES OF THE RULES CHANGE PANEL
78th MEETING
HELD ON TUESDAY, 10 MARCH 2015 AT 10.00AM
AT ENERGY MARKET CO. PTE LTD
238A THOMSON ROAD #11-01
NOVENA SQUARE, SINGAPORE 307684

Present: Paul Poh (Chairman) Lawrence Lee
Soh Yap Choon Lim Han Kwang
Daniel Lee Phillip Tan
Luke Peacocke Sean Chan
Dallon Kay Toh Seong Wah
Frances Chang Grace Chiam
Priscilla Chua Marcus Tan

Absent with apologies: Dr. Toh Mun Heng

In Attendance: Tan Liang Ching Lucia Loh
(EMC) Serena Ho Wang Jing
Jo Ong

1.0 Notice of Meeting

The Chairman called the meeting to order at 10.00am. The Notice and Agenda of the meeting were taken as read.

2.0 Confirmation of Minutes of the 77th RCP Meeting

The Minutes of the 77th RCP meeting held on 6 January 2015 were tabled.

As there are no amendments to the Minutes, the RCP approved the Minutes.

2.1 Matters Arising

The Panel noted that all matters arising from the 77th RCP Meeting were completed.

2.1.1 Item 3 – Rules Change Work Plan Status Update: EMA’s decision on the outstanding rule change proposal “Publication of Total Available Offer Capacity”

Mr. Tan Liang Ching informed the Panel that EMA has decided not to approve the rule change proposal.
Minutes of 78th RCP Meeting – 10 March 2015

3.0 Monitoring List

The Panel noted the contents of the paper.

4.0 Summary of Outstanding Rule Changes

The RCP noted the summary of outstanding rule changes.

5.0 Handling of Fictional Busbars
(Paper No. EMC/RCP/78/2015/CP54)

Mr. Tan Liang Ching informed that at the 77th RCP Meeting in January 2015, the Panel unanimously supported Option 2 and tasked EMC to draft the changes to the Market Manual.

5.1 EMC drafted changes to the Market Operations Market Manual (MOMM) and sent it for legal review. However, the view of EMC’s external legal counsel was that the dispatch network simplification process was not detailed in the MOMM and hence, inserting the changes there may lead to confusion. It was thus suggested that the concept paper be used to inform the public of the proposed changes, with EMC ensuring that its internal documentation is updated to reflect the change to notionally designate fictional buses as real buses.

5.2 In view of the lawyer’s comments, EMC recommended that the RCP note that the implementation of Option 2 will entail changes to EMC’s internal documents rather than to the Market Rules or Market Manual; and to note that the proposal will be implemented on 1 April 2015.

5.2.1 Mr. Dallon Kay sought clarification on whether the scope of audits of the MCE includes the review of EMC’s internal documents and processes. The Chairman replied that audits are carried out only on the settlement processes and when implementing new formula changes in the MCE.

5.2.2 Mr. Luke Peacocke asked if this particular concept paper was given to TWG for consideration prior to submission to the RCP. The Chairman replied that it was not, and added that concept papers will be sent to the TWG when it involves a formula change in the MCE. However, if the Panel in reviewing any paper feels that the views of the TWG should be sought, they can task EMC to send it to the TWG at any time.
5.3  At 77th RCP meeting, a Panel member enquired on the estimated cost and lead time to implement Option 3 for completeness.

Resource Estimate (Option 3)

<table>
<thead>
<tr>
<th>Time Estimates</th>
<th>Man week(s)</th>
<th>Calendar week(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Change Requirement Scoping and Analysis</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2. Standing Data/MCE/Settlement Engine Development/Testing</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>3. User Acceptance Testing (UAT)</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>4. Audit</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. Parallel MCE/Settlement runs</td>
<td>0.5</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Effort Required</strong></td>
<td><strong>10.5</strong></td>
<td><strong>10</strong></td>
</tr>
<tr>
<td><strong>Total Project Time</strong></td>
<td><strong>N.A</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Internal Power Systems Consultant Resource/EMC Manpower</td>
<td>$9,290</td>
</tr>
<tr>
<td>2. External resource to change Settlement Engine/SD</td>
<td>$0</td>
</tr>
<tr>
<td>3. Audit</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Additional Cost Required</strong></td>
<td><strong>$49,290</strong></td>
</tr>
</tbody>
</table>

5.3.1 In reply to Mr. Kay’s query on whether the costs stated are budgeted by EMC (e.g. the PSC cost) or are additional costs, Mr. Toh Seong Wah said that the PSC cost was budgeted.

5.4 The Panel unanimously noted that the implementation of Option 2 will entail changes to EMC’s internal documents rather than to the Market Rules or Market Manual; and also noted that the proposal will be implemented on 1 April 2015.
### 6.0 Increase in Transparency of Market Information on Transmission Congestion and Price Separation

(Paper No. EMC/RCP/78/2015/CP55)

Ms. Wang Jing presented the concept paper to assess the proposal to increase the transparency of the information related to transmission congestions.

#### 6.1.1 Ms. Wang Jing presented the analysis on the transparency of the cause of transmission constraints in SWEM and a comparison of information released in other electricity markets.

With transmission congestion becoming more prominent in SWEM and potentially having a significant impact on MPs, more information that can help market participants understand the cause of the price separation events and assess the impact of the transmission constraint should be released.

#### 6.1.2 EMC’s Proposal 1 is as follows:

- Publish information to help MPs understand the cause of price separation events that is caused by transmission congestion
  - a) Forecast of transmission congestion
  - b) Report of transmission congestion
  - c) Details of security constraints to be provided by PSO

#### 6.1.3 EMC also proposed Proposal 2:

A simulation study to be carried out for all transmission congestion cases so as to estimate the economic cost with the following potential benefit.

- Pool prices and schedules – for generators and consumers to quantify the cost and benefit.
- Comparison of net benefit – facilitate PSO and Transmission Licensee in their decision making
6.1.3.1 Simulation study to be carried out for the following types of cases

1. price separation cases due to binding security constraint
2. price separation cases due to binding transmission constraints that are caused by outage of transmission equipment

Following simulation outcomes are to be released to MPs:
- Changes in the net benefit
- Nodal energy prices and (USEP+HEUC)
- Reserve prices and regulation price
- Schedules for GRF and LRF (released to respective MPs only)

Such information will be able to help MPs to estimate the economic cost associated with transmission constraints.

6.1.4 The estimated Implementation efforts are as follows:

<table>
<thead>
<tr>
<th>Effort Estimation</th>
<th>Proposal 1</th>
<th>Proposal 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>32 calendar-weeks</td>
<td>64 calendar-weeks</td>
</tr>
<tr>
<td>Cost</td>
<td>$86,214 (one-off)</td>
<td>$158,070 (one-off)</td>
</tr>
<tr>
<td></td>
<td>$650 (per trading period simulated)</td>
<td></td>
</tr>
</tbody>
</table>

6.1.5 After consultation with the industry, EMC could not establish that the information proposed to be released would bring additional benefit to the market participants. Therefore, EMC recommended that the Panel **do not support** the proposal.

6.2 Referring to PSO’s comments in Annex 2 of the paper, where it states that whenever there is a need to impose security constraints, PSO would engage affected MPs and provide background information to inform them the situation. Mr. Daniel Lee raised the concern that MPs who are not directly affected can be commercially affected if they sign the Contracts-for-Differences (“CFDs”) without knowing the security constraint situation.
6.2.1 Mr. Soh Yap Choon clarified that all MPs will be informed of the security constraints at the same time when the ASA report is updated or when an advisory is issued. PSO’s engagement with affected MP is only for generation outage coordination purposes. Mr. Daniel Lee pointed out that information on security constraints should be provided to MPs at the same time given that CFDs are signed in advance and if there is a difference in the time of provision of security constraint information between MPs, an MP without the information at the time of signing of a CfD would be at a commercial disadvantage as compared to an MP with the information.

6.2.2 Mr. Sean Chan commented that when MPs sign a CFD, usually there is no need to disclose the reasons to the other contractual party. Therefore it is not clear how those MPs’ commercial impact could be different from the situation where the CFD is procured to cover for plant maintenance.

6.2.3 Mr. Daniel Lee stated that these MPs would be commercially affected as security constraints can have impact on pool prices with MPs pricing differently if security constraints are known.

6.2.4 The Chairman indicated that Mr. Daniel Lee’s concerns did not relate to the proposals in the concept paper. Mr. Daniel Lee concurred, indicating that the concerns raised were in response to PSO’s comments.

6.3 The Chairman called for a vote on the Panel’s support for Proposals 1 and 2.

6.3.1 For Proposal 1 (Publication of information)

The following Panel members voted not to support the proposal:

- Soh Yap Choon (Representative of the PSO)
- Lawrence Lee (Representative of the Market Support Services Licensees)
- Lim Han Kwang (Representative of the Transmission Licensee class of market participant)
- Marcus Tan (Representative of the Generation Licensee class of market participant)
- Priscilla Chua (Representative of the Generation Licensee class of market participant)
- Sean Chan (Representative of the Retail Electricity Licensee class of market participant)
- Phillip Tan (Person experienced in financial matters in Singapore)
- Frances Chang (Representative of consumers of electricity in Singapore)
Minutes of 78th RCP Meeting – 10 March 2015

The following Panel members voted to support the proposal:

- Daniel Lee (Representative of the Retail Electricity Licensee class of market participant)
- Luke Peacocke (Representative of the Retail Electricity Licensee class of market participant)

The following Panel members abstained from voting:

- Toh Seong Wah (Employee of EMC)
- Grace Chiam (Representative of the Generation Licensee class of market participant)
- Dallon Kay (Representative of the wholesaler electricity market trader class of market participant)

6.3.2 For Proposal 2 (Simulation study)

The following Panel members voted not to support the proposal:

- Soh Yap Choon (Representative of the PSO)
- Lawrence Lee (Representative of the Market Support Services Licensees)
- Lim Han Kwang (Representative of the Transmission Licensee class of market participant)
- Marcus Tan (Representative of the Generation Licensee class of market participant)
- Priscilla Chua (Representative of the Generation Licensee class of market participant)
- Grace Chiam (Representative of the Generation Licensee class of market participant)
- Sean Chan (Representative of the Retail Electricity Licensee class of market participant)
- Daniel Lee (Representative of the Retail Electricity Licensee class of market participant)
- Luke Peacocke (Representative of the Retail Electricity Licensee class of market participant)
- Phillip Tan (Person experienced in financial matters in Singapore)
- Frances Chang (Representative of consumers of electricity in Singapore)

The following Panel members abstained from voting:

- Toh Seong Wah (Employee of EMC)
- Dallon Kay (Representative of the wholesaler electricity market trader class of market participant)

Thus, the Panel, by majority vote, did not support the proposal.
7.0 Rules Change Panel Work Plan 2015/16
(Paper No. EMC/RCP/78/2015/08)

Ms. Loh Lucia updated the Panel on the progress made in the previous work plan approved in March 2014. Out of the 11 issues scheduled to commence within the first 12 months, 7 issues have been completed and significant progress were made on the 4 remaining issues.

She then presented a list of 30 issues, comprising 16 new issues that were raised by stakeholders for inclusion and 14 carried over from the previous work plan, together with stakeholders’ rankings and preference for any issues to be removed.

She informed the Panel that EMC recommended that 12 issues (4 of which are in-progress) be shortlisted for commencement within the next 12 months.

7.1 The Panel considered and discussed all issues on the list where at least one stakeholder has proposed to remove it, and agreed to remove the following issues from the Work Plan:

<table>
<thead>
<tr>
<th>Issue No.</th>
<th>Issue Title</th>
<th>Discussion</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Load restoration command from PSO to be in sync with the periods for which loads offered to provide reserve</td>
<td>Mr. Daniel Lee felt that the issue could be removed given that generators could similarly be called on to provide reserve even if they did not have reserve offers. Moreover, he felt that adhering to the load restoration command is a stipulated requirement for participation in the reserve market, and not doing so could affect system security. The Panel agreed to remove the issue.</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Publication of total offer capacity for energy</td>
<td>Mr. Kay, the proposer of these two issues, noted that the EMA has already made a decision on rules change paper RC316 (Publication of Total Available Offer Capacity) and is agreeable with removing the issue. The Panel thus agreed to remove this issue.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Enhancement to the Rule Modification Approval Process</td>
<td>(Publication of Total Available Offer Capacity) and is agreeable with removing the issue. The Panel thus agreed to remove this issue.</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Extend planning horizon of the AGOP and AEOP from 1 year to 3 years</td>
<td>Mr. Soh Yap Choon clarified that the EMA, in its Decision Paper on “Review of market information to facilitate efficient electricity spot and futures trading”, had decided for outage plans to cover 3 years. This proposal is therefore meant to update the rules to reflect the EMA’s decision.</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Decision</td>
<td></td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td>12</td>
<td>Introduction of a Penalty Gap</td>
<td>The Panel agreed to remove this issue given that the proposer has requested to remove the issue.</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Publication of Annual Electricity Statement of Opportunities (SOO)</td>
<td>The Chairman informed the Panel that the SOO was previously published by the EMA, with the latest version published in 2012. Mr. Daniel Lee felt that EMC would not be able to produce a comprehensive SOO given its lack of access to relevant information. Mr. Soh concurred and said that since the SOO was published by the EMA, interested parties who would like updated information should contact EMA; EMC and the RCP are not appropriate parties. The Panel agreed to remove this issue.</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Paying renewable generation at the energy cost component of the tariff</td>
<td>The Panel noted the high number of stakeholders who have voted to remove the issue, and agreed to remove the issue.</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Alternative method of sending invoices via normal email instead of secured email</td>
<td>Mr. Toh informed the Panel that EMC intends to implement a system enhancement to post settlement invoices online, such that MPs can access their respective invoices by logging into EMC’s private trading website. The system change is expected to take effect in the later part of 2015. The Panel noted that this will remove the need for secured emails, and thus agreed to remove the issue.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Enhancements to the Abnormal Condition Advisory</td>
<td>The Panel agreed to remove this issue given that the proposer has proposed to remove the issue.</td>
<td></td>
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</table>

7.2 Issue 21 – Publication of supply bidding behavior in real-time

Mr. Dallon Kay suggested refining the scope of Issue 21 to examine the publication of reserve and regulation supply curves with a four-week lag, rather than in real-time. The title of Issue 21 is hence updated to “Publication of supply bidding behaviour (for reserve and regulation)”.
### Minutes of 78th RCP Meeting – 10 March 2015

7.3 **Issue 27 - Review of classification of market participants; Issue 28 - Review of composition of the Rules Change Panel to better reflect diversity of market participants**

Mr. Kay noted that the Panel examined a similar issue a few years ago, in 2011. Mr. Daniel Lee commented there was merit in retaining the issue, but it could be placed with lower priority and tackled a few years later. The Panel thus agreed to place the issue for commencement in the ‘within 13-24 months’ category.

7.4 **Mr. Sean Chan felt that for issues where work has commenced, stakeholders should not need to rank them during the prioritisation exercise. The Panel agreed that ongoing issues need not be ranked by stakeholders in the prioritisation exercise from next year onwards.**

7.5 **The RCP thus agreed on the following Rules Change Work Plan for 2015/16 and tasked EMC to monitor its progress.**

<table>
<thead>
<tr>
<th>Expected Commencement / Completion</th>
<th>Issue No.</th>
<th>Issue Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within next 12 months (by March 16)</td>
<td>1</td>
<td>Demand side bidding in the Energy Market</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Extension of Step-wise Approach to other Constraint Violation Penalties (CVP)</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Eligibility of energy and reserve offers</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Provision of Regulation by Storage Batteries</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>Requirement for service provider representatives on the RCP to send an alternative in their absence</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>Rectification of formula for net participant settlement credit (NPSC) in Chapter 7 section 3.7.2 of the market rules</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>Setting the expiry date of registration of commissioning generation facilities in EMC’s Market System</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>Removal of Section 4.3.10 of Chapter 3</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>Price assignment for an islanded GRF/ GSF</td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>Clarifying the usage of ‘connect’ and ‘generating unit’ in the Market Rules</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>Publication of supply bidding behaviour (for reserve and regulation)</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>Combining Primary Reserve and Secondary Reserve into a single class of Reserve</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>Review of classification of market participants &amp; Review composition of the Rules Change Panel to better reflect diversity of market participants</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>Differentiation in probability of failure computation for multi-shaft plants and single-shaft plants</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Proposed Amendment to Sample Bankers’ Guarantee Format</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Removal of the first-approach of Constraint Violation Penalties (CVP) rerun</td>
</tr>
</tbody>
</table>

**Action**
### 8.0 Any Other Matters

#### Letter from EMA on Revised Guidelines for Compensation

The Chairman informed that EMC received a letter from PSO on the revised guidelines for compensation under Section 3.11 of Chapter 3 of the Market Rules. In the letter, the PSO informed that they will continue assessing compensation based on their current compensation framework, and will issue a formal circular to all MPs.

8.1 To Mr. Daniel Lee’s question on what the “current compensation framework” referred to in the letter was, Mr. Soh replied that it refers to the framework that was used by EMA/PSO in the past three compensation claims (not the compensation guidelines adopted by the RCP previously).

Mr. Soh added that EMA, as a whole, is examining the compensation framework. Once it is finalised, they will publish it for the industry’s comments.

8.2 Mr. Daniel Lee said that while the respective MPs which were involved in past compensation claims may have agreed on the compensation amount, it does not imply that they agreed that the methodology applied was robust and fair. He wishes to clarify that the view of a “robust and fair” methodology is the view of EMA/PSO, and not necessarily that of the parties involved.

8.3 Mr. Daniel Lee further noted that the paper reviewing the compensation guidelines comprises two parts: (i) a set of proposed compensation guidelines, and (ii) a rules change to disallow offer changes by MPs which are under the PSO’s direction. Given that PSO had indicated that they will not be using the proposed compensation guidelines, he was of the view that EMA should not approve the related rules change, otherwise there may be an inconsistency should the rules change be approved.
9.0 Date of Next Meeting

The Panel was informed that the 79th RCP Meeting will be on 9 April 2015.

There being no other matters, the meeting ended at 12.20pm.

Paul Poh
Chairman

Minutes taken by:
Eunice Koh
Senior Executive - Corporate Secretariat