The Panel welcomed Mr. Paul Poh as its new Chairman of the Rules Change Panel. They would like to thank Mr. Dave Carlson for his great contributions and support over the previous years.

1.0 Notice of Meeting

The Chairman called the meeting to order at 9.43am. The Notice and Agenda of the meeting were taken as read.

2.0 Confirmation of Minutes of the 72nd Rules Change Panel Meeting

The Minutes of the 72nd Rules Change Panel meeting held on 11 March 2014 were tabled.

2.1 Mr. P J Koe requested to amend under Item 6.3.4 Issue 11 on Page 6, where he was recorded as having both 'Voted to Remove' and 'Abstained'. It should be recorded as 'Abstained' only.

2.2 Under Item 6.3, Mr. Lawrence Lee commented that the Panel had discussed the 3 items to be removed as the Panel had suggested and agreed that issues with 5 or more representation under the ‘Propose to Remove’ column be removed from the RCP’s work plan. He had previously made an amendment to Item 6.3.4 of the minutes to be read as “The Panel suggested that issues with 5 or more representation under the ‘Propose to Remove’ column be removed from the RCP’s work plan since the issue can be raised again if the original proposer feels that it is subsequently still an issue.” He requested for this to be retained as the first sentence under Item 6.3.4.
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Subject to the two amendments being made to the Minutes, the Rules Change Panel approved the Minutes.

2.3 Mr. Lawrence Lee said that there may be subsequent edits to the draft minutes after the Panel provides their comments. Moving forward, he suggested that if there are subsequent changes to the Panel’s comments on the draft minutes, EMC could circulate the finalised draft minutes for the Panel to review.

3.0 Monitoring List
(Paper No. EMC/RCP/2014/73/03)

3.1 Mr. Tan Liang Ching suggested to the Panel to remove Item 1 – “Maximum Offer of Energy at Price Floor of -$4500/MWh” as there is no further need to monitor this with the incorporation of a tie-breaking formulation in April 2013.

The Panel unanimously agreed to remove this item.

3.2 Item 2 – Number of MCE Re-runs

Mr. Tan informed that there were 122 reruns in February-March 2014, caused by 2 incidents on March 7 and March 25.

In reply to Mr. Michael Wong’s query if these reruns are unavoidable, Mr. Toh Seong Wah explained that the first incident was due to network and standing data inconsistencies. The standing data update involved an upcoming connection, which was provided to EMC way ahead of its actual effective date. Under the market rules, EMC is bound to effect this standing data update within 10 man-days upon receipt from PSO. After the standing data was updated, the actual network status file was still based on the prior existing connection, and as such, resulted in the discrepancy.

Mr. Wong asked if the data input into the MCE was verified by PSO. Mr. Toh said that the PSO does not have access to the standing data module, but if an unclear form was received, EMC will check with PSO to ensure that the input data is correct. In this case, the data provided by PSO was correctly entered into the market system, but the EMS which produces the network status file may not have correspondingly reflected the same update as the physical network had not changed. EMC and PSO discussed and agreed that changes in standing data should be provided nearer to the actual effective date, rather than way in advance.

For the second incident, Mr. Toh said that it involved a GRF’s main and alternate default bus bar being islanded or physically disconnected. When that happens, EMC will consult the PSO on which bus bar the GRF should be assigned to, and conduct a rerun in order to finalise the prices. In this particular incident, it took 1 - 1.5 days to resolve on which busbar should be assigned.
4.0 Summary of Outstanding Rule Changes
(Paper No. EMC/RCP/2014/73/04)

The Panel noted the summary of outstanding rules change proposals.

5.0 Rules Change Workplan Status Update
(Paper No. EMC/RCP/2014/73/05)

Mr. Tan said that under Item 3, Introduction of Regulation Effectiveness Factor, EMC is still working with the PSO and will revert later.

6.0 Remodelling of Multi-Unit Facilities
(Paper No. EMC/RCP/73/2014/CP50)

Ms. Serena Ho presented the concept paper proposal to refine the modelling of Multi-Unit Facilities in the Market Clearing Engine to better account for situations when any of the Combined-Cycle Gas Turbines’ Constituent Generating Units (“CGUs”) is not represented as synchronized in the dispatch network data. It addressed the primary problem and identified and discussed the secondary problem.

Ms. Ho provided the breakdown of implementation time and cost estimates as follows:

<table>
<thead>
<tr>
<th>Time Required (Calendar days)</th>
<th>Option A: Primary</th>
<th>Option B: Primary &amp; Secondary Option 1</th>
<th>Option C: Primary &amp; Secondary Option 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>22.5</td>
<td>36.5</td>
<td>55</td>
</tr>
<tr>
<td>Total Additional Cost Required</td>
<td>$20,000</td>
<td>$20,000</td>
<td>$87,392</td>
</tr>
</tbody>
</table>

The Panel was informed that the concept paper was published for industry consultation and EMC received comments from the PSO and Senoko Energy.

With reference to comments from PSO, Mr. Kay asked if the system risk is restricted to the facility in question or to the system as a whole. Ms. Ho said that it is to the system as a whole.

Mr. Kay also asked how many of such facilities with exhibited issues were highlighted in the system. Mr. Kng said that the unit which was originally scheduled may disappear in the next period entirely if the multi-unit facility is not scheduled because of the primary problem.
Ms. Ho informed that the TWG met on 25 February and again on 27 March 2014. The TWG, by majority of vote, recommended that the RCP do not support implementing the changes to the modelling of MUF to address the primary and secondary problems.

Mr. Michael Wong commented that the benefit of the primary problem was not quantified, and queried how the TWG made their assessment not to support addressing the primary problem. Ms. Ho replied that the TWG’s decision was largely based on the infrequency of the primary problem as it had only happened once to date.

Mr. Lawrence Lee commented that based on the TWG’s deliberation, he noted that both PSO and EMC gave support to address the primary problem because of the improvements to system security, market efficiency and accuracy of the MCE modelling. In view that the concept paper centred around the modelling of the MCE which could potentially affect system security and that both PSO and EMC supported the paper, he suggested giving consideration to implement the solution to address the primary problem instead of simply accepting the TWG’s recommendation based on the TWG’s majority vote.

Mr. Chan Hung Kwan asked if the system risk mentioned by the PSO was based on an actual system security issue that had happened due to the primary problem, or based on potential security issues. Mr. Kng clarified that the PSO was referring to potential risks to system security.

The Chairman called for a vote on the Panel's support to implement changes to the modelling of Multi-Unit Facilities.

The following Panel members **unanimously voted to support** solving the primary problem with implementation time and cost estimates as provided under Option A in the paper:

- Mr. Luke Peacocke (Representative of Generation Licensee)
- Mr. Phillip Tan (Person experienced in Financial Matters)
- Mr. Kng Meng Hwee (Representative of the PSO)
- Mr. Toh Seong Wah (Representative of the EMC)
- Mr. Dallon Kay (Representative of the Wholesale Electricity Market Trader)
- Mr. Lawrence Lee (Representative of Market Support Services Licensee)
- Mr. Michael Wong (Representative of Retail Electricity Licensee)
- Mr. Sean Chan (Representative of Retail Electricity Licensee)
- Mr. Daniel Lee (Representative of Retail Electricity Licensee)
- Ms. Frances Chang (Representative of consumers of electricity in Singapore)
- Mr. Chan Hung Kwan (Representative of Transmission Licensee)
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The following Panel members unanimously voted not to support solving the secondary problem:

- Mr. Luke Peacocke (Representative of Generation Licensee)
- Mr. Phillip Tan (Person experienced in Financial Matters)
- Mr. Kng Meng Hwee (Representative of the PSO)
- Mr. Toh Seong Wah (Representative of the EMC)
- Mr. Dallon Kay (Representative of the Wholesale Electricity Market Trader)
- Mr. Lawrence Lee (Representative of Market Support Services Licensee)
- Mr. Michael Wong (Representative of Retail Electricity Licensee)
- Mr. Sean Chan (Representative of Retail Electricity Licensee)
- Mr. Daniel Lee (Representative of Retail Electricity Licensee)
- Ms. Frances Chang (Representative of consumers of electricity in Singapore)
- Mr. Chan Hung Kwan (Representative of Transmission Licensee)

7.0 Increasing the Transparency of Energy Uplift Charges
(Paper No. EMC/RCP/73/2014/CP51)

Ms. Jo Ong presented the proposal for EMC to increase the transparency on monthly and hourly energy uplift charges (MEUC and HEUC). EMC’s review concluded that MEUC is adequately transparent since the breakdown of MEUC is published in the monthly MEUC statements and also verifiable using other information required to be published on the EMC’s website by the Market Rules. HEUC, on the other hand, is inadequately transparent because only its final values are published without any explanation.

Ms. Ong explained the proposed framework for EMC to identify and analyze settlement intervals with outlier HEUC values which can be explained by metering errors, transmission constraints and metering adjustments.

With regards to intertie imbalances as one of the causes of outlier HEUC values, Mr. Kay asked if intertie flows are known in advance or only after dispatch schedules reflect so. Ms. Ong replied that all intertie flows are not settled in the SWEM, whether they were known in advance or not. For Intertie flows to be reflected in dispatch schedules, it would have to be known in advance and to be scheduled by the PSO.

Mr. Peacocke acknowledged the confidentiality of intertie quantities numbers, but commented that such confidentiality should not necessarily extend to the identification of abnormal HEUC values caused by intertie imbalances. Chairman clarified that the RCP has previously decided that intertie information should be confidential given the sensitivity surrounding the intertie. Mr. Kay commented that since the decision was made in 2003, the RCP should revisit the issue. Chairman replied that the RCP could do so if the issue were to be raised and prioritized as a separate rule modification proposal.
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Mr. Kay queried why the implementation cost of the proposal requires EMA’s approval. Mr. Toh responded that EMA’s approval is necessary because implementation of the proposal by EMC incurs operating costs which has not been budgeted.

Mr. Kay further queried whether available information on MEUC on the private website can be also made available on the public website. Chairman explained that EMC is not proposing any changes to information relating to MEUC and additional information relating to HEUC will also be available only on the private website, accessible by only MPs.

The Chairman informed the Panel that this proposal would not require a rule change.

The Chairman called for a vote on the proposal to increase the transparency of the HEUC and its implementation cost.

The following Panel members voted to support the proposal:
- Mr. Luke Peacocke (Representative of Generation Licensee)
- Mr. Phillip Tan (Person experienced in Financial Matters)
- Mr. Kng Meng Hwee (Representative of the PSO)
- Mr. Toh Seong Wah (Representative of the EMC)
- Mr. Dallon Kay (Representative of the Wholesale Electricity Market Trader)
- Mr. Michael Wong (Representative of Retail Electricity Licensee)
- Mr. Daniel Lee (Representative of Retail Electricity Licensee)

The following Panel member voted not to support the proposal:
- Mr. Sean Chan (Representative of Retail Electricity Licensee)

The following Panel members abstained from voting:
- Mr. Lawrence Lee (Representative of Market Support Services Licensee)
- Ms. Frances Chang (Representative of consumers of electricity in Singapore)
- Mr. Chan Hung Kwan (Representative of Transmission Licensee)

Thus, the Panel, by majority vote, supported the proposal to increase the transparency of the HEUC and its implementation cost, and tasked EMC to seek EMA’s approval of the cost.

8.0 Mr. Peacocke expressed his concern on the transparency of the MEUC and HEUC when new items are included in their computation in future. The Chairman agreed with Mr. Peacocke that where necessary, EMC should seek the RCP’s opinion on whether new information relating to the new items should be included in the analysis of abnormal HEUC values in monthly trading reports.
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Mr. Daniel Lee was concerned with spikes in the Uniform Singapore Electricity Price (USEP) causing outlier HEUC values and suggested adjusting for USEP before analyzing the HEUC values. Mr. Wong commented that Mr. Lee’s concern would have already been addressed by averaging the HEUC values across all settlement intervals in a day for analysis, as described in the proposal.

There being no other matters, the meeting ended at 11.35am.

Paul Poh  
Chairman

Minutes taken by:  
Eunice Koh  
Sr. Executive, Corporate Secretariat