MINUTES OF THE RULES CHANGE PANEL
90th MEETING
HELD ON TUESDAY, 8 NOVEMBER 2016 AT 10.00AM
AT ENERGY MARKET CO. PTE LTD
4 SHENTON WAY #03-01
SGX CENTRE 2, SINGAPORE 068807

Present: Paul Poh (Chairman) Priscilla Chua
Dr. Toh Mun Heng Grace Chiam
Daniel Lee Henry Gan
Luke Peacocke Lawrence Lee
Phillip Tan Lim Han Kwang
Sean Chan

Absent with apologies: Dallon Kay Marcus Tan
Soh Yap Choon

In Attendance: Wang Jing Jo Ong
(Yap Yun Ben Lucia Loh
(EMC)

1.0 Notice of Meeting
The Chairman called the meeting to order at 10 am. The Notice and Agenda of the meeting were taken as read.

2.0 Confirmation of Minutes of the 89th RCP Meeting
The Minutes of the 89th RCP meeting held on 6 September 2016 were noted and the RCP approved the Minutes.

3.0 Matters Arising from 89th RCP Meeting held on 6 September 2016
3.1 Mid-year Review of Rules Change Work Plan 2016/17
3.1.1 At the 89th RCP meeting held on 6 September 2016, Dr Toh Mun Heng requested for information regarding the Demand Response scheme.

Ms Wang Jing informed that the web links to EMA’s Determination Paper on “Implementing Demand Response in the National Electricity Market of Singapore” and the corresponding EMA-directed rule change was sent to Dr. Toh on 6 September 2016.

3.1.2 At the 89th RCP meeting, the Panel by majority vote supported the suggestion for the Panel to write to the EMA to request that the EMA provide more information and regular updates on when prevailing transmission constraints will be alleviated and convey the Panel’s view that there is still concern from the industry regarding the potential exercise of locational market power.

Ms Wang Jing updated that a draft letter had been circulated to the Panel on 7 September 2016 for their comments and there were none received. It was noted that the RCP Chairman, on behalf of the Panel, had written to the EMA on 13 September 2016.
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3.2 Publication of Half-Hourly Total Solar Export

3.2.1 Ms Jo Ong recapped the 5 proposals to improve the transparency of solar-related information. At the 89th RCP meeting, the Panel unanimously supported Proposal 2, subject to the PSO's implementation details and costs, and Proposal 3. Ms Jo Ong informed the Panel that the proposed rule modifications to implement Proposal 3 will be tabled for the 91st RCP meeting.

The Panel had tasked EMC to seek the inputs of EMA, PSO and SPS on various proposals, and their respective responses are as follows:

- Inputs of EMA on the proposal to publish the solar photovoltaic (“PV”) registry

  **EMA’s Response:**
  EMA had noted the request but do not intend to publish information at the individual installation level as EMA already publishes information on the aggregated solar capacity, with the breakdown by region.

- Inputs of PSO on the implementation details and costs of Proposal 2

  **PSO’s Response:**
  PSO responded that it is not meaningful to implement Proposal 2 as the capacity of monitored PV makes up less than half of the total PV capacity. The current monitoring requirement is in place for periodic calibration of correlation between solar irradiance and PV output for improved system-wide PV output estimation for Proposal 1.

- Inputs of SPS on Proposal 5 to publish the aggregate metered net generation of intermittent generation facilities (IGFs) in Category 3

  **SPS’s Response:**
  SPS shared that their assessment revealed that the proposal is not feasible as energy injection/withdrawal for such IGFs is metered by cumulative meters, and computed and invoiced based on varying billing cycles.

3.2.2 The Panel had also tasked EMC to update on the PSO’s progress in implementing Proposal 1 and the PSO’s consideration of Proposal 4 to publish the half-hourly aggregate forecasted generation of all solar GFs in the 14 days Adequacy and Security Assessment (“ASA”) Report in March 2017.
3.2.2.1 Ms Jo Ong informed that the PSO had updated that Proposal 1 was implemented by EMA on 24 October 2016 during the recent SIEW 2016 event.

Ms Ong added that the estimated PV output at each minute is derived using the following formula:

\[
\text{Est. PV Output} = K \times \text{Average Solar Irradiance} \times \text{Total PV Capacity}
\]

where K is a constant derived from correlation analysis of historical PV output from monitored sites and solar irradiance from 29 weather stations of SERIS and NEA.

3.2.2.2 With regards to Proposal 4, PSO responded that solar forecasting is still work-in-progress and once implemented in future, PSO will consider incorporating it in the ASA Report.

The Chairman informed that EMC will update the panel on PSO’s implementation of Proposal 4.

With regards to Mr Henry Gan’s query on the timeline for the said implementation by PSO, the Chairman replied that there was no timeline given.

4.0 Monitoring List

The RCP noted the contents of the Monitoring List.

5.0 Summary of Outstanding Rule Changes

The RCP noted the summary of outstanding rule changes.

6.0 Rules Change Work Plan Status Update

The RCP noted the update on the Rules Change Work Plan.

7.0 Appointment of Technical Working Group 2017 – 2018

(Paper No. EMC/RCP/90/2016/05)

Ms Jo Ong informed the Panel that the Technical Working Group (“TWG”) is an industry-resourced group, appointed by the RCP for a 2-year term, that assists the RCP in examining technical market rule changes (typically relating to Market Clearing Engine (“MCE”) formulation). The TWG comprises eight members as follows:

- Four experts based on nominations from Market Participants (“MPs”)
- One person nominated by the PSO
- One person nominated by the Transmission Licensee
- One MCE expert nominated by EMC
- Chairperson nominated by EMC
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It was noted that the term of the current TWG will end on 31 December 2016 and EMC had issued a call for nominations from MPs to form the next TWG. Seven nominations for experts nominated by MPs were received.

Based on the standardised CVs received, EMC evaluated the extent to which the nominees possess each of the competencies / experience in the TWG Selection Criteria. Greater weight was given to components that directly relate to dispatch and price discovery processes, as well as the MCE.

EMC recommended that the Panel appoint the following nominees of MPs to the next TWG:

Four experts based on nominations from MPs
- Mr Calvin Tan
- Mr Liu Jidong
- Mr Tan Jun Jie
- Ms Tini Mulyawati

7.1 Ms Priscilla Chua queried on the scoring for the selection criterion “Bidding and Offering Processes”. Ms Ong replied that for this particular criterion, the Market Administration team had evaluated the nominees based on their job title and scope. The trading experience and other capabilities of the nominees were recognised under the other components to reflect an appropriate score for each of the nominees.

7.2 In response to Mr Lawrence Lee’s query on who had evaluated and ranked the nominees, the Chairman clarified that the nominees were evaluated by the Market Administration team for the RCP’s consideration. The RCP will make the final decision.

7.3 The Chairman asked if the Panel would like to change the proposed four nominees from MPs to be appointed. Mr Philip Tan suggested that the Panel should take a vote on the said appointment and the Panel agreed.

7.4 The Panel by majority vote supported the recommendation to appoint the following nominees of MPs to the next TWG:

Four experts based on nominations from MPs
- Mr Calvin Tan (nominated by PacificLight Power)
- Mr Liu Jidong (nominated by YTL PowerSeraya)
- Mr Tan Jun Jie (nominated by Senoko Energy)
- Ms Tini Mulyawati (nominated by Keppel Infrastructure Holdings)
The Panel members who voted in support of EMC’s recommendation are:

- Mr Henry Gan (Representative of the EMC)
- Mr Lim Han Kwang (Representative of the Transmission Licensee)
- Mr Sean Chan (Representative of the Retail Electricity Licensee class of market participant)
- Mr Daniel Lee (Representative of the Retail Electricity Licensee class of market participant)
- Mr Luke Peacocke (Representative of the Retail Electricity Licensee class of market participant)
- Mr Lawrence Lee (Representative of the Market Support Services Licensee)
- Dr Toh Mun Heng (Representative for the interests of consumers of electricity in Singapore)
- Mr Philip Tan (Person experienced in financial matters in Singapore)
- Ms Grace Chiam (Representative of the Generation Licensee class of market participant)

The following Panel member voted against EMC’s recommendation:

- Ms. Priscilla Chua (Representative of the Generation Licensee class of market participant)

7.5 The Panel then considered the appointment of the following nominees of the PSO, the Transmission Licensee and EMC to the next TWG:

- **One Person nominated by the PSO**
  - Mr Loh Poh Soon

- **One Person nominated by the Transmission Licensee**
  - Ms Quek Swee Xian

- **One MCE Expert nominated by EMC**
  - Ms Cherie Chen

- **Chairperson nominated by EMC**
  - Mr Paul Poh (as Chairperson)

The Panel **unanimously** appointed the above nominees to the TWG.

7.6 In conclusion, the Panel appointed the following nominees to be members of the TWG, for the period from 1 January 2017 to 31 December 2018:

- **Four expert based on nominations from MPs**
  - Mr Calvin Tan
  - Mr Liu Jidong
  - Mr Tan Jun Jie
  - Ms Tini Mulyawati

- **One Person nominated by the PSO**
  - Mr Loh Poh Soon
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One Person nominated by the Transmission Licensee
Ms Quek Swee Xian

One MCE Expert nominated by EMC
Ms Cherie Chen

Chairperson nominated by EMC
Mr Paul Poh

8.0 Lead Time for Extension of Commissioning Generation Facility (“CGF”) Registration
(Paper No. EMC/RCP/90/2016/338)

Ms Wang Jing recapped the Panel’s discussions held during the previous RCP meetings regarding registration issues relating to CGFs. It was noted that currently there are no clear guidelines on how much lead time would be required for the PSO to review and approve requests for extension of a CGF’s registration.

Ms Wang informed that at the 88th RCP meeting, the Panel had agreed to the PSO’s suggestion for a timeline to be included in the market manual to inform MPs that a minimum lead time of five business days would be required for the extension of its CGF registration.

Ms Wang presented the proposed rule modifications to give effect to the RCP’s decision to make clear in the market manual the lead time required for an MP to request for an extension of the registration of its CGF.

The proposed rule modifications were published for industry consultation, and comments were received from PacificLight Power (“PLP”). PLP recommended that the rules also explicitly state the timeline when EMC/PSO would feedback to the applicant regarding the result of their requested extension, no later than 24 hrs before the existing completion date in the final commissioning schedule. The Panel was informed that EMC agreed with PLP’s recommendation and the proposed rules have been amended to include the timeline for EMC/PSO to respond to an MP’s request.

8.1 Dr Toh Mun Heng asked if the registration of CGF is a regular or frequent activity. The Chairman explained that such registration applies to every new generation facility that would like to join the market. PSO will have to conduct tests to ensure that the facility can perform in accordance with the technical parameters as provided in its registration form.
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### 8.2
Ms Wang Jing informed the Panel that additional comments to the proposed rules were received from the PSO on 7 November 2016, summarised as follows:

- Instead of an extension of the CGF registration, the PSO queried whether it was possible for MPs to bring forward the CGF registration expiry date; and
- The PSO opined that the current market rules are not clear whether a generation facility can be registered as both a CGF and Generation Registered Facility (GRF) at the same time.

As the PSO representative was not present at the meeting, EMC recommended that the RCP task EMC to clarify with the PSO after the meeting to address the concerns that PSO may have, and to circulate the revised proposed rule modifications to the Panel for approval. The Panel unanimously agreed to EMC’s suggestion.

(Paper No. EMC/RCP/90/2016/339)

Mr Yap Yun Ben informed the Panel that the Market Operations Market Manual – Settlement (Chapter 7 Market Rules) (“Settlement Market Manual”) had not been fully reviewed since market start. A review was thus conducted to ensure that the Settlement Market Manual reflects improvements and modifications made to the EMC’s systems and operating procedures, for better readability and simplicity and also to align it with the current market rules.

Mr Yap presented a summary of the changes made to the Settlement Market Manual, together with the consequential amendments to the market rules and other market manuals arising from the review.

It was noted that the proposed rule modifications were published on 29 September 2016 for industry consultation and comments received from PSO, ExxonMobil Asia Pacific, PacificLight Power and SP Services were duly noted and acted on accordingly.

### 9.1
Referring to section 8.3 of the Settlement Market Manual, which requires an MP to inform EMC if the MP fails to receive a settlement statement, Mr Lawrence Lee commented that if EMC is aware in advance that MPs will not be able to receive/access settlement statements, EMC should immediately inform MPs of such incidents, instead of relying on the MPs to raise the issue. Chairman clarified that when EMC is unable to issue the statements on time due to some technical problems, EMC will inform MPs. Section 8.3 is to cater to the scenario where selected MPs are unable to retrieve the statements due to reasons EMC may not be aware of, such as technical issues faced by such MPs in their systems. In those cases, the MPs should inform EMC.
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9.2 Mr Luke Peacocke concurred with PacificLight Power’s comment on their support for periodic updates to the market manuals to ensure consistency with the market rules. He noted that only the Prudential Requirements Market Manual has not been fully reviewed in recent years.

9.3 The Panel **unanimously supported** the proposed revised Settlement Market Manual and the proposed modifications to the market manuals and market rules.

10.0 **Date of Next Meeting**

The 91st RCP Meeting will be held on Tuesday, 10 January 2017.

There being no other matters, the meeting ended at 11.15 am.

**Paul Poh**
**Chairman**

**Minutes taken by:**
Angeline Tan
Corporate Secretarial Executive