MINUTES OF THE RULES CHANGE PANEL
62nd MEETING
HELD ON TUESDAY, 10 JULY 2012 AT 9.35AM
AT ENERGY MARKET CO. PTE LTD
238A THOMSON ROAD #11-01
NOVENA SQUARE, SINGAPORE 307684

Present: Dave Carlson  Toh Seong Wah
Chan Hung Kwan  Michael Wong
Luke Peacocke  Sean Chan
Dallon Kay  Lawrence Lee
Phillip Tan  Pak-Juan Koe
Kng Meng Hwee  Daniel Lee
Loh Chin Seng  Low Cheong Kee

Absent with apologies: Dr. Toh Mun Heng

In Attendance: Paul Poh  Tan Liang Ching
(EMC) Wang Jing  Nerine Teo
Lucia Loh  Serena Ho

1.0 Notice of Meeting

The Chairman called the meeting to order at 9.35am. The Notice and Agenda of the meeting were taken as read.

2.0 Confirmation of Minutes of the 61st Rules Change Panel Meeting

The Minutes of the 61st Rules Change Panel meeting held on 15 May 2012 were tabled.

As there are no amendments to the Minutes, the Rules Change Panel approved the Minutes.

2.1 Matters Arising

The Panel noted, as outlined, the follow-up actions for the matter arising have been completed.

3.0 Summary of Outstanding Rule Changes

The Panel was informed that there are 2 outstanding issues in the rules change proposals.
4.0 Monitoring List

The Panel noted that the formula used in calculating the Herfindahl-Hirschman Index (“HHI”) has been detailed in the list in Section 5.

5.0 Rules Change Workplan Status Update

5.1 The Panel noted the contents of the paper.

5.2 Under Item 3, Mr. Kay suggested reflecting that “IL was already a form of demand response implemented in the SWEM.

6.0 Tie-Breaking of Offers
(Paper No. EMC/RCP/62/2012/CP39)

Ms. Nerine Teo presented a proposed tie-breaking option that could help resolve the issue of observed tied offers for the five different types of products (energy, regulation, primary reserve, secondary reserve and contingency reserve). Ms. Teo added that there is ground to resolve ties for dispatch stability, but not from a fairness perspective. The proposed method attaches a tie-breaking constraint with a penalty factor of $10^{-6}$ to the objective function. Any ties between a pair of units that are not addressed will reduce net benefit insignificantly (in the order of between $10^{-4}$ and $10^{-6}$) for a dispatch period.

6.1 Mr. Peacocke commented that another potential method to resolve ties could be to increase the number of decimal places for offer submissions.

6.1.1 Mr. Paul Poh informed that this solution will not work when facilities submit offers at the price floor e.g. $0 offers for reserve.

6.2 Ms. Teo then presented the simulation results, which indicate that the constraints are able to resolve ties and produce consistent results.

6.3 Mr. Michael Wong commented that he trusts that the TWG would have reviewed the feasibility of the proposal from a technical perspective. As such, the relevant discussion for the RCP should center on whether the proposed constraints meet the objective as set out as well as weigh the costs and benefits to the market.

6.3.1 Ms. Teo went on to explain the TWG’s deliberations held on 25 June 2012, where 4 TWG members supported the proposal and 3 members were not in support. By majority, the TWG recommended that the Panel support the proposal to implement tie-breaking in the SWEM.
6.4 Mr. Peacocke commented that dispatch stability should be distinguished between energy, reserve and regulation rather than used interchangeably. He added that dispatch stability for scheduled reserve is less of a concern given that these are standby capacity that is called upon when the units are already running. As such, the focus of assessment should center on whether the proposal addresses dispatch stability and predictability for energy.

6.4.1 Ms. Teo highlighted that the same code applies for all products and all facilities. Thus, from an implementation perspective, if the constraints are applied to only some products and/or some facilities at this juncture, more effort and costs will be incurred in the future to extend the application of these constraints to more products and/or facilities.

6.5 Mr. Wong queried on the impact of the constraints on net benefit. Mr. Poh explained to evaluate the potential dispatch instability the change in MW schedule with and without tie-breaking constraints were determined. For the period of study, the maximum change in MW schedule range from 3.47MW to 31.74 MW. Some TWG members felt that the changes were not significant. The Chairman said that the potential benefits will be to look at potential revenue shifts and future proofing the system. On the cost aspect, there is an incremental cost of $20k.

6.6 Mr. Koe asked whether the Power Systems Consultant resource which is funded from EMC’s budget implies that this cost will not be incurred if the proposal is not implemented. He was informed that these are in-house resources with fixed costs and if the rule change is not implemented, the resource will be used on other projects.

6.7 Mr. Kng Meng Hwee asked if the proposal would help address ties if all the non-frequency responsive units are offering zero prices. Mr. Poh said that it is unlikely given the use of nodal pricing in the market. It will only help if the NFRs are connected to the same bus bar.

6.8 Mr. Kng also asked if the proposal can address dispatch stability in a scenario where there is a concentration of generators in one particular area because of transmission congestion. Ms. Teo replied that they will not be tied if offers are not the same.
6.9 The Panel unanimously voted to support the proposal to implement tie-breaking in the SWEM:

- Daniel Lee (Representative of Generation Licensee Class)
- Luke Peacocke (Representative of Generation Licensee Class)
- Pak-Juan Koe (Representative of Generation Licensee Class)
- Loh Chin Seng (Representative of Retail Licensee Class)
- Sean Chan (Representative Retail Licensee Class)
- Michael Wong (Representative Retail Licensee Class)
- Dallon Kay (Representative of the Wholesale Electricity Market Trader Class)
- Lawrence Lee (Representative of Market Support Services Licensee)
- Chan Hung Kwan (Representative of Transmission Licensee Class)
- Kng Meng Hwee (Representative of the PSO)
- Loh Choon Kee (Representative of Consumers)
- Phillip Tan (Representative experienced in Financial Matters)
- Toh Seong Wah (Representative of the EMC)

7.0 Management of Transmission Congestion

(Concept Paper No. EMC/RCP/62/2012/40)

Mr. Tan Liang Ching presented a proposal to 1) identify the presence of transmission constraints ex-ante and 2) compensate generation units that are given “must run” obligations due to congestion causes. The paper examined the extent of transmission constraints in Singapore, and holistically examined the proposal's suggestions and other congestion management initiatives.

7.1 Mr. Peacocke said while he agreed that “must run” units should be compensated, he felt that conditions when “must run” units are required to run and their dispatch quantities could be considered included as part of the market clearing process in the market rules. In general, the Market Rules describe in detail how contracted ancillary services payments will be recovered from the market, so “must-run” contract payment recovery could be similarly put into the market rules. Mr. Poh explained that as it is unknown how the “must run” units are required to be run since this information is confidential between EMA and the genco(s) and likely differ from genco to genco, it is too early to decide on Mr. Peacocke’s suggestion. Gencos with “must run” requirements should first seek EMA’s agreement on compensation and if EMA agrees then a subsequent evaluation can be made on Mr. Peacocke’s suggestion.
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<td>7.2</td>
<td>On the issue EMA providing updates on the status of the transmission network on a regular basis the Chairman recalled that at the EMA's CEO forum held on 5 April 2011 this was discussed in conjunction with the issue on the “Developments in the Singapore Electricity Transmission Network”. EMC was requested to circulate the minutes of the forum to the Panel.</td>
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<td>7.3</td>
<td>Mr. Kay suggested that transmission developments could be included in the Statement of Opportunities “SOO”. Mr. Daniel Lee added that current transmission coverage in the SOO is not comprehensive.</td>
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| 7.4 | The Panel unanimously agreed on the following:  

   **A) Identification of Transmission Constraints Ex-Ante**  
   If transmission congestion exists, the forecast MNN prices should be sufficient to incentives gencos to relieve the congestion and thus there is no need to identify transmission constraints ex-ante.  

   **B) Compensation for Must-Run Obligations**  
   If must-run obligations are imposed onto any genco for locational market power, then the genco should be compensated such that its costs of running generation potentially more expensive than their locational marginal price are made whole.  
   Such gencos under must-run obligations should seek compensation from the EMA. If EMA agrees in principle to compensate these gencos, then the RCP would propose amendments to the market rules to enable EMC to pay the genco and recover the payments from load using the MEUC mechanism. The compensation amount will be determined by the EMA in relation to the nature of the specific must-run arrangement.  

   **C) Financial Transmission Rights(FTRs)**  
   FTRs do not address the root cause of transmission congestion and their significant implementation costs are unlikely to be justifiable given that foreseeable network constraint issues are expected to be alleviated tentatively by 2017/2018. There is thus no value in considering FTRs at this juncture.  

   **D) Regular Updates of Transmission Developments**  
   Under the principle of Open Access in the Transmission Code, there are no capacity obligations on Singapore Power PowerAssets (SPPA) beyond its substation, whereby the generating unit will have to compete with other units for network resources. |
To allow investors to make informed decisions and factor the financial impact of potential localised transmission congestion in their investment decisions, the RCP requests EMA and SPPA to provide updates regarding transmission developments and potential constraints. The sharing of such information during the CEO Industry forum held on 05 April 2011 was very useful, and the RCP requests that such information be communicated on a regular and recurring basis. In addition, more detailed information on status of developments in the transmission system could be provided in EMA’s annual Statement of Opportunities publication.

7.4.1 The Chairman requested EMC to write a letter to the EMA to summarize the Panel’s views as follows:

A) Generation units with must-run obligations arising from localised market power should be compensated

B) Investors should be given regular updates of transmission developments to assist them in assessing the financial impact of potential transmission constraints

The draft letter will be circulated to the Panel for their comments before dissemination to the EMA.

There being no other matters, the meeting ended at 11.50am.

Dave E Carlson
Chairman

Minutes taken by:
Eunice Koh
Senior Executive – Corp. Secretariat