MINUTES OF THE RULES CHANGE PANEL
53rd MEETING
HELD ON TUESDAY, 4 JANUARY 2011 AT 9.40AM
AT ENERGY MARKET CO. PTE LTD
238A THOMSON ROAD #11-01
NOVENA SQUARE, SINGAPORE 307684

Present: Dave Carlson, Kenneth Lim
           Daniel Lee, Philip Tan
           Luke Peacocke, Dr. Goh Bee Hua
           Dallon Kay, Lawrence Lee
           Sean Chan

Absent with
            Kng Meng Hwee, Robin Langdale
            Chan Hung Kwan, Michael Lim
            Ng Meng Poh

In Attendance: Paul Poh, Tan Liang Ching
               (EMC), Wang Jing, Henry Wee

1.0 Notice of Meeting

The Chairman called the meeting to order at 9.40am. The Notice and
Agenda of the meeting were taken as read.

2.0 Replacement of Retail Electricity Licensee Class of Market Participant Representative on the Rules Change Panel (“RCP”)

The Panel was informed that the EMC Board, at their 16 November 2010
meeting, approved the appointment of Mr. Sean Chan Sik Lung, General
Manager (Regulation & Risk Management) of Keppel Electric Pte Ltd to
the Rules Change Panel, with effect from 22 November 2010 to 31
December 2011.

The Chairman welcomed Mr. Sean Chan to the 53rd RCP Meeting.

3.0 Confirmation of Minutes of the 52nd Rules Change Panel Meeting

The Minutes of the 52nd Rules Change Panel meeting held on Tuesday, 2
November 2010 were tabled.

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

The Panel noted, as outlined, the follow-up actions for the matters arising.

3.1 Item 1.0 – Extension of Exemption to allow affiliates of Temasek Holdings to be represented on the RCP (Paper No. EMC/RCP/52/2010/299)

Mr. Paul Poh informed that, at the last RCP meeting, the Panel supported the extension of exemption and there was a request from one of the Panel if EMC should propose exemption for the service providers MSSL and the Transmission Licensee, even if they are affiliated to Temasek Holdings Pte Ltd, but not for other classes of Market Participants. EMC will consider this suggestion when they bring this issue back in September and make a recommendation to the RCP.

3.2 Item 2 - Recovery and Refund of Reserve and Regulation Payments (Paper No. EMC/RCP/52/2010/300)

EMC is currently working on some operational issues with the PSO, and will table the proposed rule changes at the next RCP meeting.

4.0 Summary of Outstanding Rule Changes

The Panel noted the contents of the paper.

5.0 Monitoring List

The Panel noted the contents of the paper.

5.1 Mr. Sean Chan enquired on why there would be energy offers of 37MWh to 39MWh offered at the price floor of -$4500/MWH. Mr. Paul Poh informed that EMC cannot disclose the identity of MPs making the offers, but noted that there are some MP(s) who do so as they want to ensure that they always generate regardless of energy prices.

5.2 Mr. Chan also noted that for the issue on “Payments to Reserve/Regulation Providers that Failed to Provide”, there is a threshold of $600K beyond which the RCP would take action, and this threshold was crossed in the month of January 2010.

5.2.1 Mr. Poh replied that the threshold was raised in early 2010 to 1% of the reserve/regulation total amount. The RCP had decided that these non-providers should not receive payment for the services that they failed to provide, and EMC will table the draft rules to effect this rule change.
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6.0 Rules Change Workplan Status Update

Mr. Poh informed that most of the projects/initiatives have been completed or started except for Item 7 – Redefine MCE methodology for determining regulation offers’ eligibility. EMC targets to present the concept paper to the RCP in March 2011.

The Panel noted the contents of the paper.

6.1 Mr. Kay queried on the EG Policy Review. Mr. Poh replied that the consultation paper circulated on 18 November 2009 by the EMA proposed to:

1. Extend net treatment of non-reserve charges to all EGs;
2. EG-GRF are only required to bid for ‘export’ quantities;
3. Impose an Automatic Penalty Scheme ("APS") on all GRFs;
4. Replace the current 500MW cap on NRF generation capacity with a suitable market mechanism.

EMA decided it would not introduce item 4 until further study. In response to industry feedback on item 3, the EMA informed that there would be further amendments to the APS but the details are yet to be confirmed. The EMA informed EMC to proceed with the modification of market rules and system changes for items 1 and 2 first.

{The Panel invited Ms. Coco Choo, CFO and Ms. Joan Koh, VP (Finance) to the meeting}

7.0 EMC’s Proposed Budget for FY2011/12

Mr. Dave Carlson, Chairman of RCP informed the Panel that he and Mr. Kenneth Lim of EMC declared a conflict of interest in the discussion on EMC’s Budget and Proposed Fees and would not take part directly in the discussion except to answer any questions directed at them.

7.1 Ms. Coco Choo presented the Budget and Proposed Fees for FY2010/2011.

7.2 The Panel was informed that under the Market Rules and EMC’s Market Licence, EMC is obliged to consult the Rules Change Panel on its Proposed Budget and Fees for the financial year 1 April 2011 to 31 March 2012, prior to submitting to the EMC Board for consideration and subsequently to the EMA for approval.
7.3 Revenue

The Panel was informed that EMC's revenue is set by the EMA in accordance to approved revenue regulatory regime of a 5 year period from FY2008/09 to FY2012/13. FY2011/12 is the 4th year of the regulatory regime period.

<table>
<thead>
<tr>
<th>Year</th>
<th>FY 08/09</th>
<th>FY 09/10</th>
<th>FY 10/11</th>
<th>FY 11/12</th>
<th>FY 12/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMC's Allowed Revenue ($)</td>
<td>28,450,033</td>
<td>28,641,108</td>
<td>28,833,466</td>
<td>29,027,116</td>
<td>29,222,066</td>
</tr>
</tbody>
</table>

Mr. Peacocke queried the increase in projected opex from FY09/10 to FY10/11. Ms. Choo informed that these are projected numbers and predominantly the increase is due to office rentals and depreciation.
7.4 The table below summarised EMC’s Budget for FY2011/12:

<table>
<thead>
<tr>
<th></th>
<th>FY 11/12</th>
<th>FY 10/11</th>
<th>FY 10/11</th>
<th>FY 11/12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$'000</td>
<td>$'000</td>
<td>$'000</td>
<td>$'000</td>
</tr>
<tr>
<td><strong>NEMS Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin Fees</td>
<td>29,027</td>
<td>28,833</td>
<td>28,833</td>
<td>29,027</td>
</tr>
<tr>
<td>Revenue adjustment/PIMS bonus*</td>
<td>(133)</td>
<td>(16)</td>
<td>239</td>
<td>440</td>
</tr>
<tr>
<td><strong>Total NEMS Revenue</strong></td>
<td>28,895</td>
<td>28,818</td>
<td>29,072</td>
<td>29,467</td>
</tr>
<tr>
<td><strong>NEMS Operating Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manpower</td>
<td>8,369</td>
<td>7,771</td>
<td>8,059</td>
<td>8,967</td>
</tr>
<tr>
<td>Other operating expenses</td>
<td>16,736</td>
<td>17,230</td>
<td>17,808</td>
<td>18,499</td>
</tr>
<tr>
<td><strong>Total NEMS Operating Expenses</strong></td>
<td>25,105</td>
<td>25,001</td>
<td>25,866</td>
<td>27,467</td>
</tr>
<tr>
<td><strong>NEMS Operating Profit (before interest and tax)</strong></td>
<td>3,789</td>
<td>3,816</td>
<td>3,206</td>
<td>2,000</td>
</tr>
</tbody>
</table>

Mr. Kay asked if EMC had done any comparison on how the budget relates to other markets of similar size. Mr. Carlson replied that EMC does the market benchmark survey with foreign operators and EMC has been transparent on its operations to the market. Mr. Poh added that it is difficult to find an operator comparable to EMC in terms of similar size logistics and market services.
7.5 EMC Market Fees and electricity quantities

<table>
<thead>
<tr>
<th>Year</th>
<th>NEMS volumes (GWh)</th>
<th>EMC Admin Fee ($000s)</th>
<th>Cents/MWH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003 (actual)</td>
<td>32,578</td>
<td>25,710</td>
<td>39.5</td>
</tr>
<tr>
<td>2004 (actual)</td>
<td>34,218</td>
<td>28,466</td>
<td>41.6</td>
</tr>
<tr>
<td>2005 (actual)</td>
<td>35,628</td>
<td>27,637</td>
<td>38.8</td>
</tr>
<tr>
<td>2006 (actual)</td>
<td>36,724</td>
<td>27,945</td>
<td>38.0</td>
</tr>
<tr>
<td>2007 (actual)</td>
<td>38,311</td>
<td>27,749</td>
<td>36.2</td>
</tr>
<tr>
<td>2008 (actual)</td>
<td>38,839</td>
<td>27,662</td>
<td>35.6</td>
</tr>
<tr>
<td>2009 (actual)</td>
<td>40,145</td>
<td>28,413</td>
<td>35.4</td>
</tr>
<tr>
<td>2010 (reforecast)</td>
<td>42,692</td>
<td>28,818</td>
<td>33.8</td>
</tr>
<tr>
<td><strong>2011 (budget)</strong></td>
<td><strong>44,272</strong></td>
<td><strong>28,895</strong></td>
<td><strong>32.6</strong></td>
</tr>
<tr>
<td>2012 (projection)</td>
<td>45,910</td>
<td>28,689</td>
<td>31.2</td>
</tr>
<tr>
<td>2013 (projection)</td>
<td>47,609</td>
<td>27,799</td>
<td>29.2</td>
</tr>
<tr>
<td>2014 (projection)</td>
<td>49,370</td>
<td>28,077</td>
<td>28.4</td>
</tr>
<tr>
<td>2015 (projection)</td>
<td>51,197</td>
<td>28,358</td>
<td>27.7</td>
</tr>
</tbody>
</table>

1. The actual volume is based on metered quantities from MSSL.
2. The reforecast for 2010 is based on actual volumes up to September 2010 being annualized.
3. The projections from 2011 to 2015 are based on the average growth rate of past 3 years at 3.7%.
4. EMC Admin Fee refers to the gross revenue approved by EMA offset by the revenue adjustment items.
5. The impact assessed on each class of Market Participant, and Market Support Services Licensees as a class is expressed as a percentage to the USEP as follows:
   \[\text{EMC admin fee budgeted 32.6 cents/WH} \times \text{Actual YTD Sep 2010 USEP $161/MWH} = 0.2\%\]

Market fees are used to fund EMC’s NEMS services. For non-NEMS activities, such as business development, EMC uses funds from its Shareholders. These non-NEMS activities do not form part of EMC’s NEMS budget or Market Fees.
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7.6 Detailed Expenses

Ms. Choo informed that under Salaries, a general salary increment of 6.5\% has been budgeted for FY2011/12 and the increment will be reviewed in May 2011 by the EMC Board for approval.

Depreciation had a decrease of 13.3\% due to the Novena Square office renovation and Business Intelligent Management System project being fully depreciated in FY10/11.

7.6.1 Dr. Goh Bee Hua noted that the Rules Change Panel costs (section 3.2.14) have been increased by $2,000 in the FY2011/12 budget compared to the FY10/11 reforecast without stating the basis. The Panel asked for information on the historical budget utilization for comparison.

7.7 On system demand, Mr. Philip Tan said that the projection of GWh demands (section 3.1) for FY2010/11 is based on actual up to September 2010 and noted that it is a 6.4\% increase from the previous year. He requested that, in order to avoid any potential for misunderstanding, EMC should clearly note that these are prepared on a financial year basis as opposed to the calendar year. As the figures for the October 2010 to December 2010 are now available, he requested an updated projection for the FY2010/11 year.

7.8 Capex

Mr. Philip Tan asked if EMC has historical numbers for the RCP contingency provision of $500,000. Mr. Kenneth Lim said that the spending of the RCP budget depends on the nature of the RCP work items and directed rule changes e.g. the embedded generation policy directed rule change by the EMA. The project will span across both years for FY2010/11 and FY2011/12 and the external cost is about $400,000. Therefore this provision has to be budgeted to meet the cost.

Mr. Philip Tan requested that contingency capital budget (section 4) should be linked to specific items rather than assuming a flat $500,000 each year. Mr. Tan then asked EMC to provide the Panel with information on past years’ usage of the contingency capital budget for trend purposes.

Mr. Peacocke agreed with Mr. Tan and said that the RCP budget should be prepared on a forward looking basis. Mr. Lim said that the challenge faced by EMC is that the RCP workplan for FY 10/11 is not ready when the budget exercise began and EMC was not aware of the projects that RCP will be working on in FY2011/12 and hence was not able to provide the estimates for the cost unless the workplan process is brought forward before the budget starts.
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7.9 Mr. Kay asked if EMC is planning any specific demand side management initiatives or cost savings initiatives. Mr. Carlson said that there are no specific initiatives being planned in the next financial year and EMC will take note that all projects being undertaken would look to maximize value and minimize costs.

7.10 NEMS Infrastructure for system initiatives.

Mr. Peacocke noted that the capital budget relating to the intended server platform replacement of $3.5m and asked for the basis for budgeting and how that is compared to the last server replacement project done by EMC.

Mr. Lim replied that this $3.5 million is based on budgetary quote provided by vendors and this server replatform would also involve the upgrading of the NEMS database. He said tenders will be called in June/July 2011 and EMC will be asking vendors for the various options to implement the project.

Mr. Peacocke requested EMC to be mindful of benefits derived from previous projects so that such experience can be incorporated into new project implementation.

Mr. Lim informed that for every project EMC will do a post project review to learn from the past and implement them in subsequent projects.

Mr. Lim also informed the Panel to note that at some point in October/November 2011, EMC will need to freeze the changes to the NEMS systems and put on hold the rule changes until the re-platform project is complete. EMC will advise the Panel accordingly on the freeze to the NEMS systems.

7.11 Under FF&E/Office Renovation (section 4), Mr. Daniel Lee noted that for FY2011/12, the $125,000 was mainly for smoke and water detection systems in Novena Square, Ayer Rajah & Labrador. The budget figure remained at the same level for future years, except for FY2013/2014 even though it would not be expected that smoke and water detection systems would keep on being installed in future years. It was also noted that the figure for FY2013/14 was higher at S$155,000. EMC was asked to identify what initiatives were planned in future years to support the budget amounts.
Mr. Kay sought EMC’s clarification on the consulting and training activities under EMC’s Vision.

Mr. Carlson informed that EMC’s licence does not allow EMC to operate other non-NEMS activities but it is clearly hoped that EMC would want to be involved in the gas market, derivatives market in electricity, other electricity activities evolving in Singapore and the ASEAN countries which may involve cooperation exchanges in the future. EMC’s main vision and aspiration is in the market operations area in order to profile and to develop capabilities and do consulting and training engagements within the region to provide services to interested parties, as well as its own core business. Consulting is under business development and the training of NEMS will be more related to its core business.

Mr. Kay recommended that the PSO Budget estimated per MWh fees be computed on the same GWh demand projections as used by EMC for consistency. If the PSO has a different view on the GWh demand projections the Panel requested that PSO identify the reasons for any differences for ease of comparison.

In reply to Mr. Kay’s query about the review of the PSO Budget, Mr. Poh informed that a recent rule change modification state that the RCP does not review the PSO Budget and the Budget is open for public comments.

A Panel member commented by email that EMC’s comment in Section 1.2.2 that Grid congestion is unlikely to be seen in next 5 years may not be valid as many new generators are expected to be connected to certain part of the Grid in the next few years. Grid congestion is expected if the new generation plantings all materialised. As generation connection to the Grid is based on “Open Access”, i.e. Generators compete for Grid capacity for transmission of electricity produced to the load centres, there is a need for EMC to seriously consider implementation of Financial Transmission Rights (FTR) or Tie-Breaking mechanism to address issue of localised Grid congestion expected in the near future.

EMC was asked to amend the footnote on page 15 to read as “As this business plan is written in October 2010, the actual results for FY2010/11 are not known till April 2011” and to amend “September 2009” to “September 2010”.

EMC was asked to insert the $’000s in the first column of the EMC Allowed/Approved Revenue (page 21)
3. Under Item 3.2.12 – Communications & Public Relations. In the last row of the table referring to PR Agency, EMC was asked to delete the reference to “BD” after noting EMC’s response that only NEMS related activities were included in the budget.

4. Under Item 3.2.14, EMC was asked to amend the headings in the table from “Budget FY10/11” to “Budget FY11/12” and “Reforecast FY09/10” to “Reforecast FY10/11”.

5. Under Item 4.3, EMC was asked to remove sub-point 1 “Modelling of Multi-Unit Risk” given that the Panel had recently concluded deliberations on this matter.

7.16 Mr. Kay acknowledged the time spent by EMC in preparing a comprehensive and detailed Budget for the Panel’s review. This enabled an enriching discussion and dialogue amongst the Panel members and EMC.

Mr. Robin Langdale indicated by email prior to the meeting that it was pleasing to note that EMC has been able to continue to reduce the cost per MWh to the NEMS market.

The Panel agreed with this.

7.17 RCP Comments

The Panel made the following comments:

1. The Panel noted the projection of GWh demands (section 3.1) and to avoid any potential for misunderstanding requested that EMC clearly note that these are prepared on a financial year basis as opposed to the calendar year. As the figures for the October 2010 to December 2010 are now available, the RCP requested an updated projection for the FY2010/11 year.

2. The Panel recommended that the PSO Budget estimated per MWh fees be computed on the same GWh demand projections as used by EMC for consistency. If the PSO has a different view on the GWh demand projections the Panel requested that PSO identify the reasons for any differences for ease of comparison.

3. The Panel noted the Rules Change Panel contingency capital budget (section 4) and requested that this be linked to specific items rather than assuming a flat $500,000 each year. This should be prepared on a forward looking basis with EMC providing information on past years’ usage of the contingency capital budget for trend purposes.
4. The Panel noted that the Rules Change Panel costs (section 3.2.14) have been increased by $2,000 in the FY2011/12 budget compared to the FY10/11 reforecast without stating the basis. The Panel asked for information on the historical budget utilization for comparison.

5. The Panel noted the capital budget relating to the intended server platform replacement (page 36) and asked for the actual costs incurred for the last replacement. The Panel also asked EMC to be mindful of benefits derived from previous projects so such experience can be incorporated into new project implementation.

6. The Panel asked if EMC is planning any specific demand side management initiatives or cost savings initiatives. The Panel noted EMC’s response that no specific initiatives were planned in the next financial year although EMC responded that all projects being undertaken would look to maximize value and minimise costs.

7. FF&E/Office Renovation (section 4). The Panel noted that for FY2011/12, the $125,000 was mainly for smoke and water detection systems in Novena Square, Ayer Rajah & Labrador. The budget figure remained at the same level for future years, except for FY2013/2014 even though it would not be expected that smoke and water detection systems would keep on being installed in future years. It was also noted that the figure for FY2013/14 was higher at S$155,000. EMC was asked to identify what initiatives were planned in future years to support the budget amounts.

8. EMC was asked to amend the footnote on page 15 to read as “As this business plan is written in October 2010, the actual results for FY2010/11 are not known till April 2011” and to amend “September 2009” to “September 2010”.

9. EMC was asked to insert the $’000s in the first column of the EMC Allowed/Approved Revenue (page 21)

10. Under Item 3.2.12 – Communications & Public Relations. For PR Agency EMC was asked to delete the reference to “BD” after noting EMC’s response that only NEMS related activities were included in the budget.

11. Under Item 3.2.14, EMC was asked to amend the headings in the table from “Budget FY10/11” to “Budget FY11/12” and “Reforecast FY09/10” to “Reforecast FY10/11”
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12. Under Item 4.3, EMC was asked to remove sub-point 1 “Modelling of Multi-Unit Risk” given that the Panel had recently concluded deliberations on this matter.

13. A Panel member commented that EMC’s comment in Section 1.2.2, that Grid congestion unlikely to be seen in next 5 years” may not be valid as many new generators are expected to be connected to certain part of the Grid in the next few years, Grid congestion is expected if the new generation plantings all materialised. As generation connection to the Grid is based on “Open Access”, i.e. Generators compete for Grid capacity for transmission of electricity produced to the load centres, there is a need for EMC to seriously consider implementation of Financial Transmission Rights (FTR) or Tie-Breaking mechanism to address issue of localised Grid congestion expected in the near future.

14. The Rules Change Panel acknowledged EMC’s efforts in preparing a comprehensive and detailed Budget for the Panel’s review. This enabled an enriching discussion and dialogue amongst the Panel members and EMC. And a Panel member indicated that it was pleasing to note that EMC has been able to continue to reduce the cost per MWh to the NEMS market.

7.18 EMC stated that it would circulate the RCP Report on EMC’s Budget and Proposed Fees for FY2010/11 to the Panel for confirmation before issuing to the EMC Board and the EMA.

The Panel thanked Ms. Choo and Ms. Koh for their attendance and they both left the meeting.

8.0 Appointment of Technical Working Group 2011-2013
(Paper No. EMC/RCP/52/2010/07)

Mr. Tan Liang Ching informed that the TWG comprise eight members with the following breakdown:

a) 4 experts based on nominations from market participants
b) 1 person nominated by the PSO
c) 1 person nominated by the Transmission Licensee
d) 1 MCE expert nominated by EMC
e) Chairperson nominated by EMC

EMC had called for nominations from market participants and the PSO to form the next TWG.
EMC recommended that the Panel appoint the following persons to the Technical Working Group:

Four persons nominated by Market Participants
Mr Chua Gwen Heng
Mr Tony Tan Kia Shuan
Mr Tan Cheng Teck
Ms Tini Mulyawati

One person nominated by the PSO
Mr Loh Poh Soon

One person nominated by the Transmission Licensee
Mr Yong Kong Kiong

One MCE expert nominated by EMC
Mr Chen Jianhong

Chairperson nominated by EMC
Mr Paul Poh

Mr. Tan informed that the TWG members should come from a broad mix of MPs where possible. Notwithstanding EMC’s recommendation of Mr. Tan Cheng Teck from Senoko Energy, Mr. Kng Meng Hwee stated in his email that he supported the appointment of Mr. Eu Pui Sun from Senoko Energy Supply.

Mr. Peacocke stated that both candidates are strong and have a mix of skills and experience, although there should be some continuity between the previous TWG and the current one.

Mr. Kay enquired, given Mr. Eu’s retail experience, on the merits of having representation from experts with background in the retail market versus those with background in the generation market. Mr. Tan replied that the TWG called for experts with knowledge in the bidding/offering process and cost structures faced by the Gencos, and someone with generation background would have intimate knowledge on these.

Dr. Goh Bee Hua noted that more important than which company the candidate comes from, he or she should have in-depth technical experience and be available to attend TWG meetings.
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The Chairman said that the role of the TWG is to advise the RCP and asked if the RCP in the past had felt that the advice was balanced between the generation and retail issues. Mr. Poh said that the TWG usually discuss the more technical MCE issues, such as the recent rule change on “Mixed Integer Programming (MIP)-Based Modeling of Reserve Constraints”.

8.1 Mr. Philip Tan noted that there is a provision in the Governance Arrangement, for a TWG member to send an alternate if he cannot attend a TWG meeting. He commented that all TWG members undergo a rigorous selection process by the RCP but when an alternate is sent to a meeting, the alternate may not have the qualifications or be in the best position to contribute to the TWG. He was also concerned if the TWG does not have a quorum and end up with unsuitable alternates.

The Chairman enquired on the extent to which people have relied on alternates in the past, given concerns that the RCP have no visibility of their qualifications. Mr. Poh said that there had been a few times to date.

The Chairman asked if the Panel felt that it is appropriate to remove the provision for alternates to attend TWG meetings. Mr. Kay added that doing so would ensure that when nominations are made, the commitment level of the TWG member would be higher.

The following Panel members who VOTED to remove the provision for alternates to attend TWG meetings in the Governance Arrangement are:

- Kenneth Lim (Employee of EMC)
- Lawrence Lee (Representative of Market Support Services Licensee)
- Dallon Kay (Representative of Wholesale Electricity Market Trader Class)
- Dr. Goh Bee Hua (Representative of Consumers)
- Daniel Lee (Representative of Generation Licensee Class)
- Philip Tan (Representative of Generation Licensee Class)
- Luke Peacocke (Representative of Generation Licensee Class)

The following Panel member who abstained from the move to remove the provision for alternates to attend TWG meetings in the Governance Arrangement is:

- Sean Chan (Representative of Retail Licensee Class)
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8.1 The following Panel members who VOTED to approve the appointments of the nominees as recommended by EMC to the Technical Working Group are:

- Kenneth Lim (Employee of EMC)
- Lawrence Lee (Representative of Market Support Services Licensee)
- Dallon Kay (Representative of Wholesale Electricity Market Trader Class)
- Dr. Goh Bee Hua (Representative of Consumers)
- Philip Tan (Representative of Generation Licensee Class)
- Sean Chan (Representative of Retail Licensee Class)
- Luke Peacocke (Representative of Generation Licensee Class)

The following Panel member who abstained to support EMC’s recommendation is:

- Daniel Lee (Representative of Generation Licensee Class)

The following nominees are thus appointed to the Technical Working Group for the period 21 January 2011 to 20 January 2013:

Mr Chua Gwen Heng of Sembcorp Cogen Pte Ltd
Mr Tony Tan Kia Shuan of Tuas Power Generation Pte Ltd
Mr Tan Cheng Teck of Senoko Energy Pte Ltd
Ms Tini Mulyawati of Keppel Energy Pte Ltd

Mr Loh Poh Soon of the PSO

Mr Yong Kong Kiong of SP PowerGrid Ltd

Mr Chen Jianhong of EMC

Mr Paul Poh of EMC, as Chairperson

9.0 Obligation to revise offers in the event of complete system outage at EMC (Concept Paper No. 28)

Mr. Poh informed that following the 52nd RCP Meeting in November 2010, EMC had contacted Mr. Philip Tan and requested him to submit suggestions on the areas in the market rules or market manual which he thought required clarifications or changes. As Mr. Philip Tan did not submit any proposal, EMC re-tabled Concept Paper 28 and sought the Panel’s endorsement that the rule change proposal does not require changes to the market rules or market manual.
Mr. Philip Tan commented that he will not recommend making any changes. He felt that this is to keep to the requirement to minimize the outage window to have a robust system.

Mr. Kay asked if there had been any instances where EMC received an offer variation through an alternative mechanism when EMC system was in outage and the impact of it.

Mr. Lim said that there were no such instances but there had been occasions where EMC had received offer variations through alternative mechanism when MP systems are down.

In reply to the Chairman’s question on whether EMC reports to the market on planned/unplanned outages, Mr. Lim said that EMC updates the market through the MSUG forum (once every 2 months) on planned and unplanned outages. This is in addition to the notifications EMC sends to the market whenever planned outages are planned.

The Panel supported EMC’s recommendation not to make any changes to the Market Rules and Market Manual for cases where a DC is obliged to submit offer revisions but the EMC’s NEMS systems are unavailable.

{The Panel invited Mr. Henry Gan of EMC to the meeting}

10.0 Load Shed Automation

Mr. Kenneth Lim said that a Panel member asked during FY2010/11 budget review session for more information on the load shed automation project and hence this paper is for the Panel’s information. As stated in the paper, since market started, EMC does not have cases of load shed requirement and this paper is to talk about the requirement and process.

The main motivation is to make sure that EMC fulfill its obligation to the market to immediately adjust the nodal load forecast when EMC receives the load shed file from PSO. EMC intend to automate that part when PSO sends EMC the file so that the file could automatically be put into the MCE for processing. The estimated cost to develop and implement this change is $33,600.
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Mr. Lim added that the key benefits to the market are as follows.

- Compliance to market rules when such event takes place
- Provide certainty to the market in terms of real-time prices and units’ generation schedule if such event were to occur.

In addition, there are some costs saving (i.e. avoid the need to perform rerun) each time such event were to occur, it is estimated to be $3,500 for each occurrence. It is worthwhile to also note that the cost of $33,600 is a one-off cost while the cost savings of $3,500 will be an on-going one together with the key benefits highlighted above.

Mr. Peacocke asked, under the current process, how long it would take to upload the load shed file when received during office hours. Mr. Henry Gan said that it would take within 2 hours after receipt during office hours to upload and after office hours it is not immediate.

Mr. Kay queried if there is a need to modify immediately or as reasonably possible given the manual nature of the process and would it meet the concern of compliance with the market rules. Mr. Poh said that would require a rule change and analysis on the impact of the change. The main issue is the benefits to the market to immediately revise the nodal load forecast.

Mr. Philip Tan was concerned about uploading the wrong load shed file unintentionally into the system and the impact to the whole MCE and whether it will end up where all the generators come in or be taken offline.

Mr. Gan replied that the files should be in the agreed format with PSO and if not, it will be rejected and treated as corrupted.

Mr. Philip Tan said that EMC receives email from PSO and he asked if EMC have done the necessary authentication with PSO. Mr. Lim replied that if the market obligation is to respond immediately, then the verification has to be with PSO in the upfront process.

Mr. Daniel Lee said that the cost to implement the automation does not justify the benefits. Mr. Lim said that for operations this is to make sure that EMC would fulfill what the market needs based on the market rules and that the system must work to fulfill this need.
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Mr. Philip Tan said that the PSO may not be aware of the 2 hours required to load the file. After office hours it can even take longer. This information should be communicated to the PSO and given this context they may have concerns over this. The Panel will subsequently look at the concerns and address the matter later.

Mr. Lim replied that the duration of the process is not the issue. Both PSO and EMC have to fulfill their obligations because of market rules.

The Chairman said that EMC has to determine with the PSO if there is system security related issues and how important it is for this rule to be complied with.

11.0 Any Other Business

Mr. Kay asked if there is a process to address modifications of market rules with typographical errors. He felt that EMC should be empowered to rectify these.

The Chairman replied that EMC is not empowered to make any changes to the market rules. All typographical errors for market rules and market manuals go through the formal rule change process and these are usually done as part of the redrafting when rule change modifications are done.

There being no other matters, the meeting ended at 11.55am.

Dave E Carlson
Chairman

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