MINUTES OF THE RULES CHANGE PANEL
59th MEETING
HELD ON MONDAY, 9 JANUARY 2012 AT 9.40AM
AT ENERGY MARKET CO. PTE LTD
238A THOMSON ROAD #11-01
NOVENA SQUARE, SINGAPORE 307684

Present:
Dave Carlson
Chan Hung Kwan
Luke Peacocke
Dallon Kay
Sean Chan
Phillip Tan

Toh Seong Wah
Michael Wong
Dr. Toh Mun Heng
Lawrence Lee
Low Cheong Kee
Pak-Juan Koe

Absent with apologies:
Kng Meng Hwee
Loh Chin Seng

Daniel Lee

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

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.

1.1 The Chairman welcomed both the re-appointed and newly appointed members of the Rule Change Panel to the 59th RCP Meeting.

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

2.0 EMC’s Proposed Budget and Schedule of Fees for FY2012/13

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

2.1 Ms. Coco Choo presented the Budget and Proposed Fees for FY2012/2013.

2.1.1 The Panel was informed that under the Market Rules and EMC’s Market Licence, EMC was obliged to consult the Rules Change Panel on its Proposed Budget and Fees for the financial year 1 April 2012 to 31 March 2013, prior to submitting to the EMC Board for consideration and subsequently to the EMA for approval.
2.2 The Panel was informed that EMC’s revenue was set by the EMA in accordance to approved revenue regulatory regime of a 5 year period from FY2008/09 to FY2012/13. FY2012/13 is the final year of the regulatory regime period. The Panel was also informed that revenue is recovered from the market participants subject to yearly adjustments which will be made for:
- Exogenous items
- Depreciation adjustments

2.2.1 Mr. Michael Wong asked if the revenue was fixed and if there was a variable component. Ms. Choo replied that the revenue was fixed subject to the named adjustment items and the variable was the PIMS bonus to the Company.

2.3 The Key Budget Parameters

1. FY2012/13 is the last year of the 5-year regulatory regime period
2. Revenues are largely fixed
3. Expenses contained within EMA regulated amounts
4. Budgeted expenses supported by specific functions, initiatives and projects
5. Industry consultations used as input to setting company priorities
6. Over the long term, $/MWh cost of operating the market falls

2.3.1 The table below summarised EMC’s Budget for FY2012/13:

<table>
<thead>
<tr>
<th>FY 12/13</th>
<th>FY 11/12</th>
<th>FY 11/12</th>
<th>FY 12/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget</td>
<td>Reforecast</td>
<td>Budget</td>
<td>EMA Regulated Sums *</td>
</tr>
<tr>
<td>$'000</td>
<td>$'000</td>
<td>$'000</td>
<td>$'000</td>
</tr>
<tr>
<td>NEMS Revenue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admin Fees</td>
<td>29,222</td>
<td>29,027</td>
<td>29,027</td>
</tr>
<tr>
<td>Revenue adjustment/PIMS bonus*</td>
<td>(1,185)</td>
<td>(301)</td>
<td>(133)</td>
</tr>
<tr>
<td>Total NEMS Revenue</td>
<td>28,037</td>
<td>28,726</td>
<td>28,895</td>
</tr>
<tr>
<td>NEMS Operating Expenses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manpower</td>
<td>8,787</td>
<td>8,251</td>
<td>8,419</td>
</tr>
<tr>
<td>Other operating expenses</td>
<td>14,791</td>
<td>15,990</td>
<td>16,736</td>
</tr>
<tr>
<td>Total NEMS Operating Expenses</td>
<td>23,577</td>
<td>24,241</td>
<td>25,155</td>
</tr>
<tr>
<td>NEMS Operating Profit (before interest and tax)</td>
<td>4,459</td>
<td>4,485</td>
<td>3,739</td>
</tr>
</tbody>
</table>
2.3.2 Mr. Phillip Tan queried on the difference between the Reforecast and Budget figures on the operating expenses. Ms. Choo informed that the difference was mainly due to depreciation.

2.3.3 In reply to Mr. Tan’s query on the difference between the regulated sum and the budget for FY12/13, Ms. Choo said that this arose from efficiency savings over the years from FY08/09 to current year in manpower costs, depreciation and office rentals. The regulated sum was set effectively at the start of the revenue period i.e. FY2008/09.

2.3.4 Mr. Wong sought clarification on the revenue adjustments which showed a positive regulated sum. Ms. Choo explained that it was net of PIMS bonus and refund for panel costs and depreciation.

2.3.5 In reference to the earlier query by Mr. Philip Tan who also mentioned that the operating expenses have actually increased but offset by savings in depreciation, Mr. Luke Peacocke said that the depreciation savings was given back to the market by way of revenue refund. Ms. Choo affirmed that it was therefore profit neutral at the bottom line for EMC where the depreciation savings was refunded to the market when a project was unspent or deferred.

2.4 EMC Market Fees and electricity quantities

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>NEMS Volumes</th>
<th>EMC Admin Fees ($000s)</th>
<th>Cents/MWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2003/04 (actual)</td>
<td>32,578</td>
<td>25,710</td>
<td>39.5</td>
</tr>
<tr>
<td>FY 2004/05 (actual)</td>
<td>34,218</td>
<td>28,466</td>
<td>41.6</td>
</tr>
<tr>
<td>FY 2005/06 (actual)</td>
<td>35,628</td>
<td>27,637</td>
<td>38.8</td>
</tr>
<tr>
<td>FY 2006/07 (actual)</td>
<td>36,724</td>
<td>27,940</td>
<td>38.0</td>
</tr>
<tr>
<td>FY 2007/08 (actual)</td>
<td>38,311</td>
<td>27,994</td>
<td>36.5</td>
</tr>
<tr>
<td>FY 2008/09 (actual)</td>
<td>38,839</td>
<td>28,022</td>
<td>36.1</td>
</tr>
<tr>
<td>FY 2009/10 (actual)</td>
<td>40,145</td>
<td>28,413</td>
<td>35.4</td>
</tr>
<tr>
<td>FY 2010/11 (actual)</td>
<td>42,573</td>
<td>28,713</td>
<td>33.7</td>
</tr>
<tr>
<td>FY 2011/12 (reforecast)</td>
<td>44,325</td>
<td>28,726</td>
<td>32.4</td>
</tr>
<tr>
<td>FY 2012/13 (budget)</td>
<td>46,320</td>
<td>28,037</td>
<td>30.3</td>
</tr>
<tr>
<td>FY 2013/14 (projection)</td>
<td>48,404</td>
<td>27,849</td>
<td>28.8</td>
</tr>
<tr>
<td>FY 2014/15 (projection)</td>
<td>50,582</td>
<td>28,128</td>
<td>27.8</td>
</tr>
<tr>
<td>FY 2015/16 (projection)</td>
<td>52,858</td>
<td>28,409</td>
<td>26.9</td>
</tr>
<tr>
<td>FY 2016/17 (projection)</td>
<td>55,237</td>
<td>28,693</td>
<td>26.0</td>
</tr>
</tbody>
</table>
2.4.1 The Panel was informed that EMC was projecting the admin fee at 30.3 cents per MWh. The projected volumes from FY2012/13 to FY2016/17 are based on the average growth rate of past 3 years at 4.5% per annum.

2.4.2 Mr. Dallon Kay noted that the projections were based on previous GDP yield. He said that the MTI has recently adjusted the yield. He asked if EMC would consider this and it was perhaps better to adopt a lower rate of quantity growth in MWh expectation. Ms. Choo said that the admin fee projected was largely based on the existing revenue regime and yet to be determined by the Regulator. Given that the revenue was to be reset for the new regime period, the volume growth projected at 4.5% per annum should offer some buffer.

2.4.3 In reply to Mr. Tan’s query on why the fee for FY13/14 is materially lower, Ms. Choo said that this is normal upon entering into a new regime period where the regulated sum allowed by the Regulator is being reset by taking into consideration the latest efficiency gains. The Chairman informed that previously the regime has been on the basis that EMC was allowed to keep operational efficiency for the remainder of the regulatory period. At the end of that period the returns of the efficiencies will be factored into the next regime setting.

2.5 Capital Expenditure

Ms. Choo informed that the capex provision for RCP requests for rule changes has been budgeted at $0.5m per annum. For IT capex, EMC has drawn up an IT workplan for the next 5 years. Office capex are for minor alterations or repairs to the main office furniture and other regular replacement of office equipment.

2.5.1 Mr. Kay asked if the provision for directed rule changes by the Regulator is included in the sum of $0.5m and where there are specific projects to support the sum of provisions. The Chairman said that EMC has highlighted the likely system changes required to implement rule changes arising from the RCP or Regulatory directives. Firm project costings can only be derived once the precise nature of the rule change has been scoped. Specific project costs will be advised to the RCP or EMA during the cost benefit analysis phase of each rule change.

2.5.2 In reply to Mr. Sean Chan’s query on whether less spending on capex will be considered as efficiency gains, the Chairman said that the expense recovery was through the depreciation adjustment and it was therefore a conversion of capex to opex. Under the current regime which will expire at the end of 2013, the capex and depreciation forecast positions have been the same in regime for the projection years as the current regime. EMC is not certain of what the next revenue regime will be after 2013.
2.5.3 Mr. Wong noted that the replacement of old PCs and laptops was indicated at $124k and with 51 staff it meant that each laptop or PC will cost $6k. Mr. Toh Seong Wah explained that the figure was to cover for 16 PCs, 8 laptops and 8 printers plus installation costs because of the need to incur manpower for replacement and moving from Windows XP to Windows 7. The cost also includes software licencing and the imaging of the hardware.

2.6 Manpower Costs

Mr. Peacocke asked if the conversion of two IT applications contract staff to permanent staff will reduce the corresponding IT operating expenses. The Chairman replied that there will be an offset between professional fees and salaries as far as opex goes. A proportion of such staff time has also been capitalized as manpower costs in projects.

2.6.1 Mr. Wong queried if that explained why the manpower costs have increased by 12% whereas the explanatory notes mentioned an assumption of 5.5%. Ms. Choo said EMC did not budget for attrition and in the budget it was assumed for full headcount whereas in reality there was attrition gap in replacing staff and hence “savings” derived from these gaps.

2.6.2 Mr. Kay queried if EMC was looking for productivity gains and if asked to cut its budget to what extent can it be done and for EMC to still maintain the level of service. The Chairman said that in respect of the new regulated revenue period, the Regulator has asked EMC to look at specific efficiency projects to help reduce costs and it is always, as in the past, expecting EMC to constrain costs.

2.6.3 Mr. Kay wanted to know if there has been any case where the Regulator has asked EMC to adjust its budget and how interactive are they with EMC. The Chairman said that within the regulatory period there has been a lot of tensioning and the Regulator wants to ensure that EMC’s budget has gone through industry consultation and the RCP process. This is to ensure that EMC spends its funds in the right area on getting the right type of projects and initiatives. The Regulator is also mindful that the industry is paying for EMC’s fees and for the industry to comment on how the fees are used.

2.7 The Chairman stated that when EMC’s Budget was published on the website for consultation, specific details at the project level for capital expenditure were not disclosed. The reason was that EMC currently use contestable processes and do not want vendors to know in advance of EMC’s budgets at each project level. The Chairman sought the Panel’s cooperation to keep the budget information in confidence.
2.8  **RCP Comments**

The Panel made no comments on EMC’s Budget and Schedule of Fees for FY2012/13.

2.9  EMC stated that it would circulate the RCP Report on EMC’s Budget and Schedule of Fees for FY2012/13 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.

3.0  **Confirmation of Minutes of the 58th Rules Change Panel Meeting**

The Minutes of the 58th Rules Change Panel meeting held on 13 November 2011 were tabled.

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

4.0  **Summary of Outstanding Rule Changes**

The Panel was informed that the EMA has directed 6 rule changes since 2007.

4.1  Mr. Wong sought clarification as to why the EMA do not consult the RCP on their directive rule changes. The Chairman replied that unlike rule changes that go through the RCP process, the Electricity Act was amended to allow the EMA to make directives bypassing the RCP process in support of government policies. In this case, the EMA will consult the industry directly over the directed rule changes, and the EMC Market Admin team will subsequently update the RCP on EMA directives.

4.1.2  The Panel requested EMC to flag out the EMA directives from the rule change proposals in future reports.

**EMC**
### 5.0 Monitoring List

The Panel noted the contents of the Monitoring List.

#### 5.1 Mr. Kay requested EMC to include an Attendance Log of each RCP member for each meeting.  
**EMC**

### 6.0 Rules Change Workplan Status Update

Mr. Poh informed that the Rules Change Work Plan was agreed by the Panel in March 2011. EMC has embarked on a new round of rule change prioritization for the 2012/13 Work Plan, and the Panel will decide on the prioritized work plan issues at the March 2012 meeting.

#### 6.1 Mr. Koe asked if there should be more frequent reviews of the work plan priorities (e.g. twice a year). Mr. Poh replied that even after the Panel has set the work plan for the year, the Panel could always review and decide on the work plan priorities over the year. In any case, market participants can always submit rule change proposals throughout the year and if an issue is urgent, the Panel can always decide to prioritize it above the existing issues. It should however be noted that since the Panel only meets once every 2 months, it may not be able to finish the prioritized issues if there is a frequent change in issue prioritization.

##### 6.1.1 The RCP will discuss the idea of a midyear review of the RCP Workplan at the next meeting.  
**RCP**

#### 6.2 EMA Directed Rule Changes

Under Item 2 – Option Fee under the Vesting Relief Scheme.

Mr. Peacocke noted that Minister (MTI) has validated EMA’s policy on the Vesting Relief Scheme.

#### 6.3 Under Item 3 – CERA’s Proposal to Mitigate Market Power.

Mr. Poh informed the Panel that EMA has not indicated any firm time line for response to CERA’s proposal.
Minutes of 59th RCP Meeting – 9 January 2012

7.0 Review of Suspension Order Hearing Process
(Paper No. EMC/RCP/59/2012/RC309)

Ms. Lucia Loh informed that this paper presents the rule changes required to implement the Panel's decision at the 58th RCP Meeting. At that meeting, the Panel in principle supported the following:

- **Counterproposal A**: To extend suspension order hearing process from 2 business days (BD) to 4BD, while shortening the deadline to remedy default from 2BD to 1BD.
- **Proposal B**: Clarify drafting to reflect the intent that the Market Surveillance and Compliance Panel (MSCP) should seek the Authority's approval before suspending a Generation, Transmission or Market Support Services Licensee.
- **Proposal C**: To modify the rules to give the MSCP flexibility in issuing suspension order and/or other orders, upon conclusion of suspension order hearing.

Ms. Loh then presented the rule modification proposal.

Mr. Kay asked if 2BD to conduct and conclude a hearing would be sufficient. If so, then the hearing could be concluded earlier than for the revised 4BD. Mr. Poh replied that the MSCP has indicated that as is, 4BD may already not be sufficient. The Chairman added that there is a need to give the MSCP discretion to conduct the process fairly and thoroughly.

The following Panel member voted not to support Counterproposal A, but supports Proposals B and C:
- **Mr. Lawrence Lee** (Representative of Market Support Services Licensee)

The following members voted to support all three proposals:
- **Dr. Toh Mun Heng** (Representative of Consumers)
- **Mr. Luke Peacocke** (Representative of Generation Licensee Class)
- **Mr. Michael Wong** (Representative of Generation Licensee Class)
- **Mr. Phillip Tan** (Representative experienced in Financial Matters)
- **Mr. Sean Chan** (Representative of Retail Licensee Class)
- **Mr. Dallon Kay** (Representative of the Wholesale Electricity Market Trader Class)
- **Mr. Low Cheong Kee** (Representative of Consumers)
- **Mr. Toh Seong Wah** (Representative of the EMC)

The following members abstained from voting:
- **Mr. Chan Hung Kwan** (Representative of Transmission Licensee Class)
- **Mr. Koe Pak-Juan** (Representative of Generation Licensee Class)
Thus, the Panel by majority vote supported the rule modifications to implement Counterproposal A, and unanimously supported that for Proposals B and C.

8.0 **Apply Cap on Reserve and Regulation Charges imposed on Embedded Generators** (Paper Concept No. 36)

Ms. Wang Jing presented the concept paper to apply a cap on the regulation and reserve charges imposed on Embedded Generators (EG).

Currently, all the EGs participating in the market are not qualified to provide reserve/regulation and thus not able to self hedge against reserve and regulation price hikes. It was proposed to cap the reserve and regulation charges paid by EGs.

To assess the proposal, two key principles used to determine cost allocation are used:

- Those that cause costs must face the costs they cause
- Risk will be allocated to the party best able to manage it

One of the key aspects to examine is if EGs contribute to the need for reserve. There is no technical proof that EGs, compared with commercial generators of the same capacity and probability of failure, would pose less risk to the system during a forced outage. This means that EGs cause the same need for reserve as any other generator. Thus, it is economically efficient and fair to charge EGs reserve and regulation costs in the same manner as other commercial generators.

EGs are also best able to manage the risks of their own forced outage because:-

- Investment decision are made by the EG participants themselves, thus they would have considered the cost and benefits of building non frequency responsive plants.
- There are mitigation measures available e.g.:-
  - EGs can build Frequency-Responsive features in their facilities
  - EGs can enter into financial hedge contract
  - EGs can improve reliability

Overall, the existing cost allocation method was considered equitable and based on sound market design principles.
Should the reserve/regulation charges be capped?

Some non-EG generators are also NFR (non-frequency responsive generators). If cap to apply to EGs, then should also apply to all NFR generators. A cap would artificially lowering the costs charged to NFR generators. This would send wrong investment signal to encourage participation of NFR generators. Over time, system may face a tight supply of reserve and regulation and could impact system security.

EMC do not consider there to be any justification to apply a cap on reserve and regulation charges paid by EGs.

8.1 Mr. Koe also enquired if financial hedge contracts for reserve and regulation are available to EGs. He said that Shell Eastern Petroleum tried to secure such an arrangement but failed to receive any offers from Gencos. Ms Wang Jing replied that such contract should be purely a commercial arrangement between Genco and EG and thus, EMC was not in a position to advise if Genco can offer such contract to EGs.

8.2 Mr. Koe asked if EGs are allowed to operate in an islanded-mode so that no reserve charge would be incurred.

8.2.1 Mr. Kay said that in this case, the load served by the EG would also have to be in an islanded-mode.

8.2.2 Mr. Chan Hung Kwan said that EGs are TL’s consumers. There are three supply schemes for EGs, depending on whether they require full or partial back up.

8.2.3 Mr. Peacocke said that there was already an implicit cap on regulation and reserve charges to EGs as the reserve and regulation price are capped.

8.3 Mr. Kay sought clarification on the statement “There is no technical proof that EGs, compared with commercial generators of the same capacity and probability of failure, would pose less risks to the system during a forced outage”. He enquired if EGs were smaller than commercial generators would they contribute a smaller risk to the system. Ms. Wang replied that a smaller generator as compared with a bigger generator will have less risk. This was already taken into account in the reserve allocation methodology where bigger generators are allotted a bigger share of reserve cost.

8.3.1 Mr. Kay noted that the analysis assumes that both the EG and generator are of equal size and equal probability of failure. However, in reality, existing EGs on the system are all smaller sized and he enquired if the basis of comparison is still reasonable.
8.3.2 The Chairman said that what has been suggested was that as far as reserves are concerned, the potential risk on system is proportional to the size of the generator and failure probability, and regardless of whether it is embedded or not. Regulation on the other hand is not proportional to size, which is why only the first 10MW is charged.

8.3.3 Mr. Kay also queried if the current regime for regulation is fair and equitable, if the cost allocation across units is the same so long as their output is more than 10MW. He enquired if there is technical evidence to verify if larger plants are more variable than smaller plants. Ms. Wang replied that such an assessment will have to be made by the PSO.

8.3.4 Mr. Kay added that he was not convinced that smaller EGs pose the same system risks and hence should be allocated the same regulation costs as larger units.

8.3.5.1 Mr. Peacocke said that the proposer was suggesting that the integrated nature of EGs has a separate risk profile but he has not seen evidence to treat the EGs differently. He opined that there should not be any rule changes.

8.3.5.2 The Chairman requested EMC to seek clarification from the PSO specifically whether a bigger generator is more volatile in output and thus requires more regulation.

8.3.5.3 Mr. Poh informed the Panel that in 2007, the EMA directed a rule change to apply “Net Treatment” on non-reserve charges for Non-Injecting EGs (i.e. for EMC/PSO fee, MEUC, MSS charges will be based on net withdrawal quantity). The directive explicitly stated that the reserve and regulation charges are not entitled to “net treatment”. The Panel requested EMC to ask the EMA if any assessment was conducted to conclude that the EG (when integrated with its associated load) does not pose less risk to the system compared with a commercial generator and a normal load.

There being no other matters, the meeting ended at 12pm.

Dave E Carlson
Chairman

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

Approved at the 60th RCP Meeting
held on 13 March 2012