MINUTES OF THE RULES CHANGE PANEL
52nd MEETING
HELD ON TUESDAY, 2 NOVEMBER 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
         Kng Meng Hwee Robin Langdale
         Chan Hung Kwan Dallon Kay
         Lawrence Lee

Absent with
apologies Annie Tan Michael Lim
         Ng Meng Poh

In Attendance: Paul Poh Tan Liang Ching
(EMC) Wang Jing Nerine Teo
         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 Confirmation of Minutes of the 51st Rules Change Panel Meeting

The Minutes of the 51st Rules Change Panel meeting held on Friday 3
September 2010 was tabled.

Mr. Philip Tan requested amending the first paragraph on page 10 of the
Minutes to read as follows:

“Mr. Philip Tan also proposed to consider other situations to be included,
such as a running unit being unable to provide ancillary services or units
backing-off loads during a gas curtailment”.

Subject to the above amendment to the Minutes, the Rules Change
Panel approved the Minutes.

3.0 Matters Arising

The Panel noted that, as outlined, the follow-up actions for the matters
arising were completed.
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3.1 Item 4.0 – Review of Economic Incentives for Generator Reliability (Paper No. EMC/RCP/51/2010/298)

Mr. Paul Poh informed that EMC’s Market Assessment Unit will revert to the Panel at the January 2011 meeting on whether EMC should report to the Market Surveillance and Compliance Panel (MSCP) if an MP does not submit an offer variation after a trip or failure to synchronise.

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.

6.0 Rules Change Workplan Status Update

The Panel noted the contents of the paper.

7.0 Amendment to PSO Budget and Fees Review Process (Paper No. EMC/RCP/52/2010/293)

Mr. Tan Liang Ching informed that the proposed rule change paper was a follow-up to the Panel’s decision at the 51st RCP Meeting. At that meeting, the Panel supported in principle the draft rules that removed the requirement for the RCP to review PSO’s proposed revenue/schedule of fees, subject to the PSO’s schedule of fees being open to public consultation, and taking into account the over/under recovery of the previous year’s expenditure. Mr. Tan informed that the rules were published for comments following the 51st RCP meeting and no comments were received.

The Panel unanimously endorsed EMC’s rule change proposal and will support its recommendation to the EMC Board for adoption.
8.0 Extension of Exemption to allow affiliates of Temasek to be represented on the Rules Change Panel  
(Paper No. EMC/RCP/52/2010/299)

Ms. Wang Jing presented the paper to extend the time period of a current exemption to allow a market participant or a market support services licensee, and its affiliates to be concurrently represented on the Rules Change Panel, if such a market participant or market support services licensee is an affiliate of Temasek Holdings (Pte) Limited.

EMC proposed to extend the exemption period for one more year i.e. until the end of 31 December 2011.

Mr. Luke Peacocke queried as to why the exemption period of only for one year as opposed to a longer period. The Chairman informed that the EMA requested for the extension to be for only one year.

Mr. Kng Meng Hwee queried if it is feasible to consider only allowing the exemption for the service providers Market Support Services Licensee and the Transmission Licensee even if they are affiliated to Temasek Holdings Pte Ltd and not to have any exemptions for other classes of Market Participants who are competing in the NEMS. He further requested EMC to consider the above in its submission to RCP next year.

The Panel unanimously endorsed EMC’s rule change proposal to extend the exemption for Temasek affiliates to be concurrently represented on the RCP, by one more year. The Panel will support its recommendation to the EMC Board for further endorsement.

9.0 Recovery and Refund of Reserve and Regulation Payments  
(Paper No. EMC/RCP/52/2010/300)

Mr. Tan Liang Ching informed that, at the 47th RCP meeting, EMC presented two possible mechanisms to claw back reserve/regulation payments from non-providers:

- Option A – Automated Pre-Settlement Reserve/Regulation Filter
  - Non-complying units do not receive payments in first place
  - Estimated cost of $111k-$180k
  - PSO to provide data before prelim settlement run (T+6)

- Option B – Manual Post-Settlement Adjustment
  - EMC manually calculates the amount of reserve/regulation to claw back and refund on monthly/quarterly basis
  - Minimal change to current settlement system
  - Increases risk of errors
  - Cost – potentially one more headcount, recurrent cost of $40-60k p.a.
At the 51st RCP meeting, the PSO confirmed that Option A is not feasible as the PSO could not conclusively determine all non-provision cases within 5 business days. While the PSO has its own measurements to decide if the genco provided its scheduled reserve/regulation, the genco is also requested from time-to-time to provide its own measurement as a counter-check before the PSO makes a final determination.

Mr. Tan informed the Panel that the PSO has changed its preference to Option A.

Essentially, there are 3 scenarios under which a generating unit might be considered not to have provided reserve or regulation:

1) The generation unit trips before the period it was scheduled for reserve/regulation and remains unavailable for the period.
2) The generation unit trips during the period.
3) The generation unit (running) is called on to supply reserve/regulation energy but could not provide the scheduled quantity (in MW).

Mr. Tan added that under Option A, the PSO will be able to identify all non-provision cases under Scenarios 1 and 2. However, for Scenario 3 cases, the PSO will identify cases on a “best endeavour” basis, using all available data within 5 business days.

The PSO is of the view that Option A is more efficient than Option B. And given that Scenario 3 cases not identified within 5 business days deadline are usually the more complicated cases, they could be dealt with subsequently by MAU/MSCP. Mr. Kng added that even with Option B there would still be no guarantee that all Scenario 3 cases could be identified within the 10 business days suggested by EMC.

Mr. Tan conveyed EMC’s views on Option A as follows:

There are 2 possible MAU/MSCP determination outcomes for Scenario 3:

1) Reserve/Regulation payments are not recovered
2) Reserve/Regulation payments are recovered and refunded to industry as a whole through MEUC

EMC found either of these outcomes to be inconsistent with treatment under Option B because:

1) The non-provider is still paid for a service it did not provide, unlike those identified by PSO before T+5BD. A longer timeline should be allowed to catch all cases (Option B)
2) MPs that paid for the service are not directly refunded, even though the service was not rendered
3) Some gencos could intentionally delay providing PSO with the required data to drag out the 5-day period

Mr. Philip Tan queried the rationale for not directly refunding generators that had paid for the service under Scenario 3, but rather, refunding through MEUC, which is paid to loads (retailers/MSSL).

Mr. Poh explained that under Option A, non-providers identified before 5 business days will not be paid, while more complex cases will be referred to the MSCP. Under the current Market Rules, any recovered amounts arising from MSCP determinations will be refunded to MEUC, and not to MPs that paid for the service. Mr. Poh highlighted this as one of the differences between the original Option A and PSO's proposed modified Option A.

Mr. Kenneth Lim said that Option A is neater because by setting the settlement quantities of non-providers to zero pre-settlement, it removes the need for a clawback process.

In response to Mr. Langdale's query on whether the MSCP would impose a penalty which is at least equal to what has been paid to the non-providers, Mr. Lim replied that EMC will not know what the MSCP will determine, and is not in a position to advise the MSCP on how to penalize the defaulting party.

Mr. Dallon Kay asked if over-provision cases should be addressed in this proposal, and preferred for EMC to look at the issue from both perspectives. Mr. Poh clarified that the issue of over-provision of regulation was discussed at a previous RCP Meeting, and the Panel had decided not to pursue the proposed Regulation Effectiveness Factor (REF) methodology.

Mr. Philip Tan added that he agreed with Mr. Kay's suggestion, although it should be extended to both regulation and reserve.

In response to Chairman's query on the number of cases classified under Scenario 3, Mr. Kng replied that there were 400+ such cases in 2009. Mr. Kng added that a majority of the cases were clear cut non-provision cases. For the rest after further investigations PSO will decide which to refer to the MSCP for formal investigation.

Mr. Tan Liang Ching then informed that implementing Option A would involve changes to:

- Settlement system (to set the reserve/regulation payments to non-providers to zero)
- Trading website (to provide reports to MP)
- Data warehouse
It would require an external cost of $76,000, internal EMC effort of 36 - 40 man-days, and a timeline of 4 months.
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Mr. Philip Tan then queried about the allocation methodology in Option B in the clawback process. Mr. Poh replied that under Option B, the clawback will be refunded to the parties that paid for the service, in the proportion of their payment amounts.

Mr. Kay asked how the clawback amount will be determined, if the unit trips part way into the dispatch period. Mr. Tan Liang Ching said that there will not be any pro-ratin of payment in this case. Mr. Paul Poh added that this issue was deliberated by the Rules Change Panel in 2004, and the Panel had decided that partial provision is tantamount to non-provision. Mr. Poh gave an analogy of an individual paying for travel insurance cover for 14 days, but only receiving cover for 12 days.

With regards to Scenario 3, Mr. Peacocke queried the possibility of using the settlement wash-up process to clawback and refund payments rather than refunding through MEUC on a periodic basis. Mr. Poh replied that this suggestion would essentially be equivalent to Option B except that instead of a monthly clawback it would be done once a year.

Mr. Kay suggested looking at other refund payments alternatives other than just through MEUC. He added that those impacted should be entitled to some form of compensation. Chairman stated that the panel should not deal with this MEUC issue as part of this rule change. Any proposed review of the existing refund of financial penalties and costs imposed by MSCP via MEUC should be raised in the Rule Change Work Plan consultation exercise.

The Chairman requested that PSO and EMC work on including information of number of non-provision cases for the 3 scenarios and for scenario 3 the number of cases that were not clear cut.

The Chairman summarized that the rule change proposal will:

- catch non-provision cases identified by PSO to EMC by T+5 business days through the ex-ante mitigation process to limit the amount of the clawback
- create correct incentives on the provision of reserves and regulation
- include a provision for MPs to provide data required by PSO within a certain time in respect of suspected non-provision cases.

The Chairman also clarified that EMC will continue to monitor the payments to non-providers through the monitoring list even after the rules change has taken effect.

The Panel supported the switch to Option A.
10.0 Obligation revise offers in the event of complete system outage at EMC (Concept Paper No. 28)

Mr. Henry Wee presented the concept paper. He informed that there are market rules that oblige the dispatch coordinators (DCs) to submit offer revisions under certain situations. It was proposed that EMC drafts a market manual to map out what the DCs are expected to do in situations where they have to submit such offer revisions when EMC’s NEMS systems are not available, whether due to planned or unplanned outages.

Mr. Wee presented the key rules that oblige DCs to submit offer revisions and EMC’s obligations when it receives such submissions.

When EMC’s NEMS system is unavailable, whether planned or unplanned, EMC will not able to perform these functions:

- Confirmation of receipt of offers
- Acceptance/Rejection of offer submitted
- Validation of offer submissions
- Production of various dispatch schedules and associated pricing schedules

Mr. Wee explained the 2 key reasons for EMC planned outages:

1) Fulfill EMC license condition 17.2
   - By having an electricity preparedness plan (EPP)
   - Testing its own backup control centres and participating in PSO-directed testing as part of Singapore EPP

2) Keep NEMS systems in prime operating condition
   - Add enhancements to the system, upgrade hardware or re-configuration to support new features
   - Repair hardware faults

Then, he walked through the high level process for such planned outages.

Mr. Wee informed that when the NEMS systems are unavailable, EMC will be unable to perform its obligations. Thus, EMC would have breached the market rules. Whether the outages are planned or unplanned, EMC can be subjected to MSCP’s investigation and enforcement.

For a breach of the market rules, MSCP can investigate and make a determination. Enforcement Actions made available to MSCP include:

- Direct EMC to take actions to comply with Market Rules, Market Manual and Systems Operations Manual or to cease the activity constituting the breach
- Issue a non-compliance letter to EMC
- Fine EMC if MSCP is satisfied that the breach could have been avoided by due diligence or EMC had acted intentionally
• Make an award for costs arising from the breach
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The Panel was informed that back up submission methods are in place for submission to offer revisions. Therefore, the proposal for additional procedures in the Market Manual is not necessary.

Mr. Wee highlighted that since the rules breaches by EMC due to outages will be governed by the MSCP, it ensures that planned/unplanned outages are kept to an acceptable level.

Mr. Luke Peacock raised that there are two portions to this, the DC’s obligation is to submit the offer revisions and EMC’s obligation is for NEMS to perform its function. As long as DC submit it offer revisions, it has fulfilled the market rules. Mr. Wee concurred, highlighting the distinction between the parties and continued to say that even with backup submission, if the NEMS system is unavailable, EMC will not be able to perform its obligations but the DC would have fulfilled its part.

Mr. Philip Tan said that if there is system maintenance, there is no fault on both parties and therefore no one is in breach of the rules. He suggested that there be provisions in the market rules to relieve the DC and EMC of its obligations during such events.

Mr. Wee reiterated that not adding exceptions to obligations of the DC and EMC during such events is to allow MSCP continue with its monitoring functions on EMC, hence to keep such planned outages to an acceptable level.

To clarify Mr Philip Tan’s comment that for backup submissions, DCs are required to seek EMC’s approval before submission, the backup submission guide, which is posted on EMC’s website was also presented. The instruction for any of the three backup submission methods is for DCs to inform EMC helpdesk of the system problem preventing the submission of offers.

The Chairman said that there are concerns that the Market Rules and the Market Manual may not be sufficiently clear regarding the scenarios discussed. He asked EMC to clarify with Mr Philip Tan his suggestions on the areas of the market rules or market manual which require further changes if any.

11.0 Modeling of Multi-Unit Contingency (“MUC”) Risk
(Paper No. EMC/RCP/52/2010/CP17)

Ms. Wang Jing informed that the Panel had requested at its 52th meeting that cost allocation of reserve charges arising from the three types of multi-unit contingency (MUC) risks be discuss at this meeting.

Ms Wang Jing presented the proposed reserve cost allocation for all 3 types of MUC.
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Under Type 2 where only one transmission facility connects two or more GRFs within the same power station to the Grid, Mr. Chan Hung Kwan recalled that it was previously discussed and minuted. At the 49th RCP meeting where he explained why the Transmission Licensee is not the causer in the case of Type 2 MUC:

a) If PSO can identify the Type 2 MUC situation, they should inform SPPA. SPPA, having fulfilled its obligation of “N-1” under the Transmission Code, will then request the relevant genco to pay for a third (or additional) transmission line. If the relevant genco agrees to do so, the Type 2 MUC situation will no longer exist.

b) In connection to the scenario described in Item (a) above, if the relevant genco refuses to pay for the third transmission line, the causer will be the relevant genco in the Type 2 MUC situation.

He said that the current concept paper had not been updated to capture views from different parties during the previous discussions.

EMC

Mr. Poh said that it is EMC’s view that since the facility is controlled by the Transmission Licensee it is the causer and for the Transmission Licensee to contractually pass the costs back to the genco through their mutual agreements if the transmission Licensee has the right to require the genco to have a third transmission line. Mr. Chan said that it would not be easy to have a contractual agreement with the genco for such a situation.

Mr. Daniel Lee said that gencos have paid through standard connection charges of $50,000/MW which are supposed to cover the entire cost of cable installation required and asked why the gencos have to pay more. Mr. Chan said that the current connection policy was designed based on the Transmission Licensee’s obligations under the Transmission Code and the network conditions. Should there be changes to such obligations and conditions, the current connection policy would have to be reviewed and revised accordingly.

In reply to Mr. Langdale’s query, the Chairman informed that the Transmission Licensee is a regulated company.

Mr. Langdale asked what would happen if it is determined that the Transmission Licensee’s line has gone down and the risk is theirs. The Chairman replied that the Transmission Licensee will be relooking their licence terms and the Transmission Code to see if they can pass through the costs to the consumers.

Mr. Kay asked EMC to use the term “additional reserve requirement” rather than “higher reserve costs” because theoretically it may not result in higher reserve costs.
Mr. Chan asked if this should be addressed under the Transmission Code or under the Market Rules. Mr. Kng said that the Transmission Code only specifies the design of the transmission system but this is an operational issue rather than design issue. The proposal is trying to address that given the configuration where there are only 2 connection circuits to a power station, if one cable is disconnected for whatever reason then who is the cause for the cable that is disconnected.

The disconnection could be due to the Transmission Licensee doing maintenance work on that cable so in that sense the Transmission Licensee is the causer of that condition or it could be the generation company or power station that wants to maintain the equipment that is connected to the cable so that cable has to be taken out. These are the things that EMC is trying to address in terms of who is the causer and who should be allocated the cost of additional reserve requirement.

Under Type 3: Risk associated with the gas supply which may lead to disruption of gas supply to more than one GRF.

Wang Jing presented MP’s comments on the proposed cost allocation for Type 3 MUC. The Gencos are of the view that it is unfair for Gencos to bear the cost when the MUC is caused by the gas supplier/transporter. The reserve cost is proposed to be allocated to the corresponding Genco simply because the gas supplier/transporter is not MP.

The Chairman said that the gas supplier/transporter can cause disruption of gas supply (Type 3 MUC risk) and this must be included in the reserve cost allocation. However, even if we propose to allocate the cost to the gas supplier/transporter, the Market Rules is not binding on them as they are not MP in the SWEM.

Wang Jing further explained that reserve cost is proposed to be allocated to the corresponding Genco because the corresponding Genco is the party that is best able to manage such risk.

In conclusion, the Chairman said that the intent of the MUC is to provide a dynamic way to the reserves requirement and provide incentives on causers. It is also dynamic as the MCE takes into account the cost to get the reserve requirements and to reduce overall cost of the system.

With the vote of 4 in support and 6 members not in support, the Panel by majority voted not to support the conceptual proposal. to implement the modeling of the MUC risk in the MCE,
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<td>The following Panel members voted to support the implementation of the proposed modeling of the MUC in the MCE:</td>
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<tr>
<td>• Dallon Kay, representative of the trader class of market participant</td>
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<td>• Goh Bee Hua, representative of consumers of electricity in Singapore</td>
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<td>• Kng Meng Hwee (Representative of the PSO)</td>
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<td>• Robin Langdale (Representative experience in financial matters)</td>
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<td>The following Panel members voted NOT to pursue with the implementation of the proposed modeling of the MUC in the MCE:</td>
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<td>• Kenneth Lim (Employee of EMC)</td>
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<td>• Chan Hung Kwan (Representative of Transmission Licensee Class)</td>
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<td>• Lawrence Lee (Representative of Market Support Services Licensee)</td>
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<td>• Philip Tan, representative of generation licencee</td>
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<td>• Luke Peacocke, representative of generation licencee</td>
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<td>• Daniel Lee, representative of generation licencee</td>
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There being no other matters, the meeting ended at 12.45pm.

Dave E Carlson  
Chairman

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