MINUTES OF THE RULES CHANGE PANEL
68th MEETING
HELD ON TUESDAY, 9 JULY 2013 AT 9.40AM
AT ENERGY MARKET CO. PTE LTD
238A THOMSON ROAD #11-01
NOVENA SQUARE, SINGAPORE 307684

Present: Dave Carlson Toh Seong Wah
         Luke Peacocke Sean Chan
         Dallon Kay Phillip Tan
         Kng Meng Hwee Chan Hung Kwan
         Daniel Lee Pak-Juan Koe
         Lawrence Lee

Absent with apologies: Loh Chin Seng Michael Wong

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

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 Resignation - Representative of consumers of electricity in Singapore
The Chairman informed the Panel that one of the representatives of consumers of electricity in Singapore, Mr. Low Cheong Kee, has tendered his resignation on 13 June 2013 given his other commitments. EMC will call for nominations from eligible organisations for the EMC Board to appoint a replacement.

3.0 Confirmation of Minutes of the 67th Rules Change Panel Meeting
The Minutes of the 67th Rules Change Panel meeting held on 7 May 2013 were tabled.

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

3.1 Matters Arising
The Panel noted that the matters arising from the 67th RCP Meeting was completed.
Minutes of 68th RCP Meeting – 9 July 2013

4.0 Monitoring List

Under Item 5 – Cases of Non-Compliance with Dispatch Instructions Referred by the PSO to the MSCP for Investigation.

Mr. Paul Poh reported that to address the concerns on the sensitivity of the information discussed at the previous Panel meeting the identity of MP has been removed from this monitoring list item.

5.0 Summary of Outstanding Rule Changes

The Panel noted the summary of outstanding rules change proposals.

6.0 Rules Change Workplan Status Update

6.1 Under Item 3 – Publication of Total Available Offer Capacity

The Panel had supported this proposal at the 67th RCP meeting, and the Board has also subsequently endorsed the Panel’s decision.

Mr. Poh reported that the EMA has informed EMC that they have decided to review the publication of information in the market, in conjunction with the implementation of an electricity futures market. The EMA has thus decided to defer their decision until the conclusion of the review.

6.2 Mr. Daniel Lee requested adding one more issue on the workplan, which is to review the methodology for compensation in cases when gencos are directed by the PSO to run up out of merit order, and for this issue to be tackled with high priority. He shared that PSO had recently directed gencos to run up their steam plants and that the affected gencos intended to claim compensation but were concerned about whether the compensation would be adequate.

6.2.1 Mr. Poh informed him that the RCP had earlier discussed the guidelines for compensation in 2006. Specifically, the RCP at that time resolved that it was not possible to have comprehensive compensation guidelines that covered all cases of compensation. In any case, if there was any disagreement regarding the quantum of compensation, either party would have the option of proceeding with the Dispute Resolution process. Mr. Lee noted that the compensation guidelines which were non-binding based compensation on offer prices but did not cover situations of generation facilities without energy offers but directed to run up, since there were no offer prices to base compensation on. He also expressed concern that if gencos were not adequately compensated, the gencos would not expend extraordinary effort to run up their units and this would potentially impact on system security.
Minutes of 68th RCP Meeting – 9 July 2013

Mr. Poh suggested that the issue could be brought up after the outcome of the earlier-mentioned compensation claim if there still was felt to be a need.

6.3 Mr. Pak-Juan Koe noted that he had previously requested for an opportunity, in the middle of each financial year, to review the priorities of the Rules Change Workplan. This was to allow urgent issues that cropped up over the financial year to be prioritized, rather than waiting for the RCP Workplan consultation exercise at the end of the year.

6.3.1 The Chairman agreed to consider this proposal, and EMC will consider how to incorporate this suggestion and present it to the Panel at the next meeting.

6.4 The Panel noted the other contents of the Rules Change Workplan Status Update.

7.0 Proposed Rejection of Offers with Zero Ramp Rates
(Paper No. EMC/RCP/2013/68/CP46)

Ms. Serena Ho presented the concept paper on the proposed rejection of offers with zero ramp rates.

She said that there have been cases of Market Participants (MPs) entering zero ramp rates in their energy offer submissions, seemingly by mistake. Such cases could have undesirable effects on the pricing and scheduling. To address such cases of potential oversight, a proposal suggested adding a condition (in italics below) to the current Rule 2, as follows:

**Rule 2:** Validate that the ramp rates for energy offers are not greater than the relevant standing capability data maximum values;

*Validate that the ramp rates for energy offers are greater than zero if the relevant standing capability data maximum values are greater than zero.*

The proposed rule requires that so long as standing data ramp rate is non-zero, then offer ramp rates must be non-zero.

The Panel was informed that EMC is not in favour of rejecting zero ramp rate energy offers. One feasible option is to include a prompt in the user interface to alert MPs when they have submitted zero ramp rate energy offers. This prompt could be given either:

A. **before their offer submission is approved** (to inform them about the zero ramp rates before proceeding with submission), or

B. **after their offer submission is approved** (to inform them about the zero ramp rates, allowing them to decide if they would like to re-submit their offers in the event of a mistake made).
Regarding Mr. Kng Meng Hwee’s query on the constraint violation penalty (CVP) for ramp rate violation, Mr. Poh replied that it is 20 times the value of lost load, similar with other facility violations.

Mr. Kng suggested EMC examine the CVP level for ramp rate violation. His rationale was that under emergency system conditions, some of these facility-level parameters could possibly be violated to relieve energy shortfalls. Mr. Tan Liang Ching informed Mr. Kng that this could be examined as part of the “Extension of Stepwise Constraint Violation Penalties” issue, which is already on the current Workplan.

The Panel unanimously supported EMC’s recommendation to:

(a) **Reject** the proposal to disallow zero ramp rates in the energy offers, and
(b) **Reject** the implementation of a prompt in the user interface to alert MPs when they have submitted offers at or below a ramp rate threshold.

8.0 **Modelling of Minimum Stable Load**
(Paper No. EMC/RCP/2013/68/CP48)

Ms. Lucia Loh presented the proposal for the Market Clearing Engine (MCE) to take into account the minimum stable load (MSL) of Generation Registered Facilities (GRFs) when scheduling, such that their MSL levels are scheduled either in whole or not at all.

Mr. Kay queried if peaking GRFs which were scheduled below their MSL were able to run, in order to ascertain the real risk to system security. Mr. Kng informed that these GRFs were usually unable to run when scheduled below their MSL.

To Mr. Kng’s question on whether the MSL constraint would take into account the GRF’s ability to provide contingency reserve, Ms. Loh said that the reserve envelope modelled for contingency reserve is such that GRFs do not need to be at the low load level to be scheduled contingency reserve.

Mr. Kay asked if this proposal applies only for energy and whether there was any intent to extend this principle to load facilities. Mr. Poh clarified that the MSL constraint applies only to energy, and if implemented, it will be modelled only for GRFs that choose for their MSLs to be modelled.

Mr. Kay also asked if the proposed compensation was intended to be recovered from loads consuming in the same dispatch period (through HEUC) or from subsequent periods through MEUC. Mr. Poh replied that it will be recovered from MEUC.
Mr. Kay queried if the former (recovering from loads consuming in the same dispatch period) could be implemented. Mr. Poh replied that if the recovery of compensation were to be aligned with the same dispatch period for which the proposed compensation relates to, it may complicate the implementation of the compensation regime. Moreover, given the small number of peaking generators, it will be costly to automate compensation. He further added that compensation will be restricted to actual energy injected.

Mr. Kay noted that, with the proposed constraint, since GRFs would be scheduled either zero or at/more than their MSL level, other generators may face greater dispatch variability. Ms. Loh clarified that this is no different from the current arrangement where generators have to manage their output to adhere to the dispatch instructions received.

In relation to the proposed Exclusion B (excluding GRFs scheduled for ancillary services from compensation), Mr. Kay asked if OCGTs can offer reserve and regulation. Mr. Poh replied that OCGTs do not offer regulation; they are thus eligible for compensation depending on whether they are scheduled for reserve.

Mr. Kay noted that the problem of OCGTs being scheduled below MSL is actually smaller than that painted by the statistics in Table 1, since deviation from dispatch instructions is currently acceptable within a 10MW threshold. Mr. Poh replied that it is true that GRFs deviating from their dispatch will not be deemed non-compliant if it falls within the 10MW tolerance. But beyond this issue of tolerance, the underlying principle is that if a GRF is scheduled, then it should always run. Hence, the proposal is meant to tackle situations where gencos, scheduled below their MSL, are uncertain as to whether they should run, or not.

Mr. Daniel Lee added that even with the deviation threshold of +/- 10MW allowed, GRFs with MSL levels more than 20MW will still face the issue of non-compliance and gave an example of a GRF with MSL of 30MW but scheduled for 15MW. The GRF would either choose to generate at MSL or not generate, but in either case the deviation of 15MW would be more than 10MW and therefore a case of non-compliance.

Regarding the various implementation considerations raised in the paper, Mr. Koe voiced concern over gencos’ potential ability to over-declare a MSL that is higher than the GRF’s actual level. Given that the proposal is premised on technical considerations, he thus concurred that the MSL parameter used should be a technically verified one.
Mr. Koe added that he was agreeable with the MSL being a static parameter, and asked how gencos would be allowed to exercise the option to modify their GRFs’ MSL e.g. to account for ageing. Ms. Loh replied that this information would be part of GRFs’ standing capability data. Mr. Poh added that, currently, when a generator undergoes commissioning, the PSO will go through all of the facility’s capability data. Gencos that intend to change any technical parameters subsequently will have to submit a request to the PSO for approval. The process similarly applies to any amendments to MSL-related parameters.

Mr. Koe asked why OCGTs which were non-compliant with their dispatch instructions (due to being scheduled below MSL) were not included in Item 5 of the Monitoring List. Ms. Loh said that Item 5 of the Monitoring List comprises cases of non-compliance with dispatch instructions that are referred to the MSCP. Mr. Poh added that PSO would first ask gencos which do not follow their dispatch instructions for an explanation. If PSO is satisfied with their explanation, e.g. due to technical reasons, they will then not be referred to the MSCP.

The Panel was informed that the estimated implementation costs were:

<table>
<thead>
<tr>
<th>Option</th>
<th>Costs</th>
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<tbody>
<tr>
<td>Implementation of MSL Constraint only</td>
<td>$60,800</td>
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<tr>
<td>Implementation of MSL Constraint with Automated Compensation</td>
<td>$772,000</td>
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To the Chairman’s query on the various implementation options for compensation calculation, Mr. Poh listed the following options:

1. Automated compensation calculation
2. EMC manually determine and calculate compensation whenever a GRF is eligible for compensation
3. Gencos submit claims to EMC if they meet the eligibility criteria, and EMC will verify the claim. If eligible, then EMC calculates the compensation.

Mr. Poh added that for the third option, gencos have most but not the full set of information required to determine if they are eligible for compensation. Specifically, gencos may only be able to estimate their GRF’s StartGeneration level.

Mr. Dave Carlson said he was not keen for EMC to have processes which involve significant manual processing. He added that it will be difficult for EMC’s Settlement team to perform such calculations manually, and the ongoing manpower costs required were not included for consideration. He reiterated his support to implement an automated compensation calculation.
Mr. Toh Seong Wah reiterated the point that EMC cannot manually administer compensation calculation, as it will have to be carried out for every GRF that is scheduled at MSL period-by-period. He feels that it will be a challenge to do manual settlement calculations given the high risk of human errors. Further, a manual process will require both a preparer and checker, which further increases resource requirements.

Mr. Tan Liang Ching replied that EMC’s Market Administration team will work with the Market Operations/Settlements team to examine different implementation options to lower the costs.

Mr. Kng noted EMC’s view that only GRFs which can reach their MSL within a dispatch period would choose for its MSL to be modelled. He requested for a clause to be added such that the PSO will reject GRFs with low ramp rates from modeling their MSL. Mr. Poh explained that the incentives are aligned for only GRFs which can reach their MSL within one period to opt-in. Other generators would not do so, as they may either not be scheduled all the time, or would be unable to comply with their dispatch.

Mr. Kay suggested that the gencos’ decision of whether to model their GRFs’ MSL should be irrevocable, and this information should be published. Ms. Loh replied that there is no reason why this decision should be irrevocable, given SWEM’s principle of self-commitment. Moreover, given that the PSO’s approval is required for any requests to change MSL-related parameters, gencos would be unable to opt in/opt out at will instantaneously as the approval process required some processing lead time.

She added that EMC will consider adding this decision to the set of standing data currently published.

The Chairman said that the proposal would provide more certainty to both the system operator and generators. He queried which MSL level should then be used if combined-cycle plants choose to operate in open-cycle mode. Mr. Peacocke replied that it should be the MSL for the facility in open-cycle operations.

Mr. Kng sought to clarify the rationale for excluding GRFs scheduled for ancillary services from the proposed compensation. Mr. Poh replied that currently generators may already be scheduled out-of-merit for energy, due to their relatively cheaper reserve offers and they are not compensated. For consistency, such generators should not be compensated, even if they were scheduled at MSL.

Mr. Kay asked if the proposed compensation for energy is to be reduced by the difference between their reserve offer and reserve price. Mr. Poh clarified that if the GRF is scheduled for reserve and is out of merit for energy, then the GRF will not be eligible for compensation.
Mr. Koe asked whether any controls would be in place for GRFs which opts out, or which frequently changes their decision to model MSL. Ms. Loh reiterated that GRFs which ‘opts-out’ will have to change their standing data. Mr. Poh added that with this proposal, if a GRF can reach its MSL within one period but does not choose to model its MSL constraint, the facility will be subject to non-compliance if it was scheduled below its MSL and unable to run. In such cases, inability to run at below its MSL will no longer be an acceptable reason for the MSCP given the new provision.

The Chairman asked why the decision was to allow all generation plant-types to be potentially eligible for this constraint. Ms. Loh replied that there was no need to prescribe its applicability to certain generation plant types as the incentives are aligned for only those who can reach their MSL within one period to do so. Moreover, certain combined-cycle plants can operate in open-cycle mode, both of which have different MSL levels, and should be allowed to choose.

The Chairman called for a vote on the modelling of GRFs minimum stable load in the proposed form:
- Compensation for GRFs scheduled at MSL
  - Price: Offer price - marginal clearing price for energy
  - Allowable qty: IEQ capped at ½ MSL or MSL
  - Exclusions for those constrained by ramp limits or scheduled for ancillary services
- Allow gencos to decide whether to model their GRFs’ MSL
- MSL level to a static parameter and technically verified

The following Panel members voted to support the proposal:
- Luke Peacocke (Representative of Generation Licensee)
- Phillip Tan (Person experienced in Financial Matters)
- Kng Meng Hwee (Representative of the PSO)
- Toh Seong Wah (Representative of the EMC)
- Sean Chan (Representative of Retail Electricity Licensee)
- Daniel Lee (Representative of Generation Licensee)
- Pak-Juan Koe (Representative of Generation Licensee)

The following Panel member voted not to support the proposed modelling of GRFs minimum stable load:
- Dallon Kay (Representative of the Wholesale Electricity Market Trader)
Minutes of 68th RCP Meeting – 9 July 2013

The following Panel members abstained from voting:

- Chan Hung Kwan (Representative of Transmission Licensee)
- Lawrence Lee (Representative of Market Support Services Licensee)

Thus, the Panel, by majority vote, supported the proposed modelling of GRFs’ minimum stable load.

There being no other matters, the meeting ended at 12.00pm.

David E. Carlson
Chairman

Minutes taken by:
Eunice Koh
Sr. Executive, Corporate Secretariat