

**MINUTES OF THE RULES CHANGE PANEL  
31st PANEL MEETING  
HELD ON MONDAY, 12 MARCH 2007 AT 10.10AM  
AT ENERGY MARKET CO. PTE LTD  
9 RAFFLES PLACE #22-01  
REPUBLIC PLAZA, SINGAPORE 048619**

Present:	Dave Carlson Robin Langdale Kng Meng Hwee Dr. Daniel Cheng Michael Lim	Lim Ah Kuan Tay Swee Lee Philip Tan Pei Lip Dallon Kay Koh Kah Aik
Absent with Apologies:	Low Boon Tong Henry Gan	Francis Gomez Dr. Goh Bee Hua
In Attendance: (EMC)	Paul Poh Teo Wee Guan Wang Jing	Poa Tiong Siaw Janice Leow

**1.0 Notice of Meeting**

The Chairman called the meeting to order at 10.10am. The Notice and Agenda of the meeting were taken as read.

**2.0 Confirmation of Minutes of the 23<sup>rd</sup> Rules Change Panel Meeting**

The Minutes of the 30<sup>th</sup> Rules Change Panel meeting held on Tuesday, 9 January 2007 was tabled and taken as read.

There being no amendments to the Minutes, the Rules Change Panel unanimously accepted and approved the Minutes.

**3.0 Matters Arising**

The Panel noted that the follow-up actions were completed on the matters arising as outlined, except for the following:

**Item 2 – Imposition of Default Levy**  
(Paper No. EMC/RCP/25/2006/254)

The Panel was informed that the MSSL indicated that they are working with the EMA on the manual workaround solution on the default levy.

#### 4.0 Summary of Outstanding Rule Changes

The Panel noted the contents of the paper.

The Panel was also informed that the Summary reflected a list of all rule change modifications from the period 01/01/2006 to date and showed all modifications that were supported or not supported by the EMC Board.

#### 5.0 Monitoring List

The Panel noted the contents of the paper.

It was highlighted to the Panel that there were a large number of re-runs that resulted from nodal prices that were not reflecting the system marginal prices.

EMC provided a solution to modify the way artificial lines 2 is modeled. This rule change modification was brought to the Urgent Rules Modification Committee for consideration and an urgent rules change was subsequently approved by EMA. EMC will continue to monitor this rule modification for 3 months and as required by the market rules, the urgent rule change will be brought to the RCP for consideration within one year.

#### 6.0 Prudential Requirement following Default Levy Rule Change

Mr. Philip Tan had recommended a review of the existing formula of calculating prudential requirements for general adequacy.

The Panel was informed that the current methodology used to calculate the amount of credit support a MP/MSSL must provide to EMC is:

$$\text{Credit Support} = (\text{'Current Exposure'}/12) * 30$$

where:

Current Exposure (CE) = total net settlement amounts set out in the 12 most recent preliminary settlement statements of a MP/MSSL.

From the above formula, 2 parameters determine the credit support quantum:

- (1) average daily exposure (CE/12); and
- (2) length of coverage required – 30 days made up by 20 days' owed debt (MP payment date is 20 days from the trade date) and 10 days reflecting an estimate of the number of days it takes to suspend a defaulting MP.

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Adjusting the current formula would entail 2 parameters as follows:

- Parameter (a) measures the daily risk quantum: Latest available 12-day average of actual exposure is used, which is the best available proxy. The only way to modify this risk quantum is to set a multiplier but the value has to be arbitrarily determined which is not justifiable.
- Parameter (b) sets the length of coverage required based on the settlement and suspension timeline set out in the Market Rules and this should not be arbitrarily changed.

As such, the prudential cannot be increased by arbitrarily adjusting the existing parameters in the current formula.

EMC is testing a dynamic model of setting prudential requirements that takes into account price volatility. It adds a price volatility element to the calculation of daily risk quantum (for projected exposure) but remains based on the two parameters: average daily exposure and 30-day coverage

The Panel was informed that based on various timelines in the Market Rules the time from a MP default to the MSCP decision on suspension will take approximately 10 calendar days.

Mr. Philip Tan informed the Panel that the MSSL is the provider of last resort to any contestable consumer whose retailer has been suspended and is not served by another retailer. Given that the default-suspension process takes 10 calendar days, he asked if MSSL would have sufficient time to take over customers of a suspended retailer.

EMC was requested to work with the MSSL to determine if the 10-calendar day suspension process is sufficient for MSSL to take the necessary steps to take over any customer from a suspended retailer.

EMC

### 7.0 **RCP Work Plan 2007** (Paper No. EMC/RCP/31/2007/01)

#### **RCP's achievements : March 2006 – February 2007**

EMC took stock of the RCP's achievements from March 2006 to February 2007 (i.e. against the agreed RCP Work Plan 2006).

The Panel was informed that considerable progress had been made against the Work Plan agreed in 2006:

Updated RCP Work Plan 2007

EMC presented an updated work plan for the Rules Change Panel for the next 12-24 months period for the RCP's consideration.

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(i) Out of the eight issues regarded as high priority:

- the RCP has completed/commenced work on six of them;
- of the other 2 remaining issues, one ('Incremental Enhancement of Rulebook Drafting') is an on-going initiative, while the other ('Equity of Reserve Payments to Generators and Interruptible Loads') is in-progress as significant amount of work has already been done internally within EMC.

(ii) Out of the six issues regarded as of medium priority:

- The RCP would need to complete/commence work on at least three by March 2007 according to the Work Plan. In this regard, the RCP has exceeded the target, given that it had completed/commenced work on four of them.

Based on the work plan, over the one-year period from April 2006 to March 2007, effectively the RCP would need to complete/commence work on 10 issues from the 'high/medium priority' category. The RCP has managed to achieve this target.

In addition to the issues contained in the agreed work plan, the RCP had also addressed other issues including 'Treatment of Negative IEQ in Price Neutralisation', 'Rewrite of sections 3 and 6 of Chapter 2', 'Rewrite of sections 7.5 and 11 of Chapter 1', 'Close of Banking', 'Rewrite of section 6.4 of Chapter 1', 'Shortening of Settlement Cycle', 'Compensation Arising from Market Energy Price (MEP) Revisions' and 'Appointment of Technical Working Group 2007-2009'.

The Panel was informed that over a two-week period from 1 February to 14 February 2007, EMC consulted/met with market participants, SP Services, SP PowerAssets, PSO and the EMA to prioritise issues for the updated RCP work plan. Stakeholders were asked to rate on the importance and urgency of each issue as well as to refine problem definition.

The Panel was informed that many stakeholders had indicated that it made sense for EMC to complete issues which work had already commenced before EMC embarked on new issues.

Additionally, the Panel was told that issues confronting the Rules Change Panel have become increasingly complex and are taking longer time to resolve. In some cases, it is difficult, if not impossible, to reach unanimous decision. It was suggested that for these cases the RCP should put a closure to the issues after they have been discussed or debated over a prolonged time. This will avoid delay and prevent too much resources being used up when a unanimous decision could not be reached.

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A total of 17 issues were included in the prioritization exercise. 2 additional new submissions were received after the consultation with stakeholders had begun and could not be included in the exercise.

They are:

### a. Composition of RCP

Current rules allow up to 3 representatives from generator, 3 representatives from retailer and one representative from wholesale trader. Such arrangement is disproportionate to the number of licenses issued by EMA. There should be equal representation in RCP for these 3 categories of MP. The proposal is to increase representative from wholesale traders to 3, or reduce the representative from generator and the representative from retailer to 1 each.

### b. Payment for black start capability ancillary service

It is mandatory for some gencos to provide black start by entering ancillary service contract with EMC. However, some of the black start facilities of these gencos are fully depreciated and the gencos may need to invest in new facilities. Given that the current contract duration is only 1-year and renewal is not certain, the gencos may not be able to fully recover the costs of investment. If gencos were to ensure it recovers its cost fully within the 1 year contract, it may lead to extremely high MEUC charges and this may not be feasible. Proposal is to study the ancillary service contract arrangement and see what can be done to solve this problem.

The RCP discussed and agreed on the following updated 2-year work plan for 2007 after taking into consideration priority ranking by stakeholders:

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Expected completion/ commencement date	Issue No.	Issue Title
Within 9 Months (by December 2007)	3	Review of Price Revision in SWEM
	15	Nodal Prices Not Reflecting Locational System Marginal Price – Modelling of Type 2 Artificial Line in Market Clearing Engine (MCE) ‘
	16	Simultaneous/Consecutive Tripping of Multiple GRFs
	11	Trial of the Proposed Prudential Methodology
	7	The Real Time Pricing Schedule no longer reflects energy shortfall after EMC adjusting nodal load forecasts following a PSO energy shortfall forecast
	1	Equity of Reserve Payments to Generators and ILs
	17	Power Station with Only One Remaining Generation Connection to the Grid
	19	Payment for Black Start Capability Ancillary Service
Within 10 - 15 months (by June 2008)	2	Providing Historical Gencos' Offer Prices
	12	Shortening of the Settlement Cycle
	6	Accurate Profiling of Regulation Requirement
	4	Compensation for Excess Regulation
	13	Implementation of Agreed Changes Arising from the Review of Price Revision in SWEM
	18	Composition of RCP

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Expected completion/ commencement date	Issue No.	Issue Title
Within 16-24 months (by March 2009)	14	New Forms of Collaterals
	8	Review of Scarcity Pricing
	10	Review the Need for a Rewrite of the Rulebook
	9	Review the Need for Detailed Design and Implementation of a Financial Transmission Rights (FTR) Regime

The Panel tasked EMC to monitor the progress of the agreed work plan above.

### 8.0 **Rewrite of Section 5 of Chapter 7** (Paper No. EMC/RCP/31/2007/266)

This paper assessed EMC's proposal to rewrite Section 5.5.1, 5.5.5 and 5.5.6 of Chapter 7 of the Market Rules in plain English. These sections set out the procedures for a Market Participant (MP) to issue a notice of disagreement (NOD) on a preliminary settlement statement (PSS) and the procedures that the EMC should follow upon receiving such a notice. These sections were found to contain unclear and potentially ambiguous drafting. EMC has proposed to rewrite these sections in plain English. The rewrite draft is much shorter and clearer than the current draft. The EMC thus concluded that the proposed rule is superior to the existing draft.

Mr. Kng asked what data in the Preliminary settlement statements market participants could disagree on. Mr. Poh replied that normally the disagreements relate to metering errors. Mr. Kng also asked if a MP can raise a Notice of Disagreement relating to prices. To that, Mr. Paul Poh replied that current rules disallow a MP to submit a notice of disagreement on prices.

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Mr. Kay queried whether EMC would provide explanation of the adjustment in the statement if the adjustment is made in a preliminary settlement statement of a later date instead of the corresponding final settlement statement. Mr. Poh replied that detailed explanation of the adjustment would not be stated in the settlement statement. But EMC will send a notice to the market participant separately, where the explanation of the adjustment will be given.

EMC recommended that the RCP support the rule modification. The Panel **supported** EMC's recommendation and to make the necessary recommendation to the EMC Board for adoption.

### 9.0 **Review of Price Revision** (Paper No. EMC/RCP/30/2007/04)

Mr Teo Wee Guan informed the Panel that price revision/re-run cases in SWEM essentially can be classified into the following types:

**Type 1** – Cases arising from 'Failed/Missing/Late RTS';

**Type 2** – Cases arising from 'wrong/untimely inputs to MCE';

**Type 3** – Cases arising from MCE using adjusted nodal load forecasts which take into account the energy shortfall specified by the PSO;

**Type 4** – Cases arising from application of CVP in the MCE due to violation of line constraints where there is no load shed in real-time; and

**Type 5** – Cases arising from MCE producing prices which do not reflect their respective LSMP.

In its review, EMC has illustrated that the price difference arising from price revision (i.e. the difference between the original price and revised price) can be very large with a maximum absolute difference of \$9000/MWh. This can have a significant impact on consumers or on a particular generator. Additionally, it can have a favourable or unfavourable financial impact on the consumers and generators.

The Panel was told that there are both arguments for as well as against price revision. Typically, the arguments against price revision are that it introduces uncertainty to the market and (ex-ante) prices should not change after goods have been produced/consumed.

However, the counter-argument for having price revision is to maintain equity and fairness. Given the price determination setup in SWEM, it is important prices are determined correctly by the MCE and they reflect correctly the prevailing market conditions. Otherwise, parties (who have to take prices churned out by the MCE as final and binding) will be made to settle at the wrong prices. This can have serious implications particularly if the price difference is big and impacts adversely on a particularly party.

Also, while price revision has no material impact on short-run economic efficiency, it can have considerable impact on long-run efficiency particularly if pricing error occurs very frequently. Apart from the issue that prices are no longer reliable if the error is uncorrected, the wrong prices will filter down to settlement, distort the true value of the goods produced/consumed thus, sending the wrong price signals and misleading long-run decision making.

Overall, equity and fairness is assessed to be the more critical factor in deciding whether to have price revision or not. EMC considers having price revision is more desirable, and yields a fairer and more equitable outcome for the market in general. Hence, it recommends that, in principle, price revision be allowed in SWEM although it is an ex-ante market.

However, it was noted that there will be cases where a generator may be adversely affected by price revision, in that they have physically responded based on original high price but were paid a lower revised price. For such generator, it was recommended that there be an appropriate compensation for such affected generators.

Mr Teo Wee Guan subsequently covered the applicability of price revision/MCE re-run and suggested some augmentation to the price revision process.

The recommendations for the applicability of price revision/MCE re-run are as follows:

#### **TYPE 1 CASES**

EMC recommends re-running the MCE to obtain prices for settlement in cases of failed/missing/late RTS. While EMC notes that it is possible to use the last valid prices (e.g. from the STS, PDS or even MOS) as replacement prices, this arrangement is not ideal as these prices may not correctly reflect the prevailing market conditions.

### TYPE 2 CASES

EMC recommends a re-run of the MCE to obtain revised prices for settlement where EMC determines an erroneous input to the MCE. Further, EMC recommends that the scope of 'erroneous' inputs to include all inputs used by the MCE, except for the latest valid offers/bids have been used by the MCE in the determination of the RTS but subsequently, these offers/bids are claimed to be 'wrong' by market participants.

'Erroneous' inputs are defined as inputs deemed as not being reflective of the prevailing market conditions for a dispatch period at the time when the MCE runs to produce the RTS (currently "T+5 minutes").

In re-running the MCE, EMC will use all input data that should have been supplied to the MCE to produce the RTS if a MCE re-run is required (i.e. currently "T-5 minutes").

### TYPE 3 CASES

EMC recommends that the price revision process pertaining to this type of cases should stay. The entire process is designed specifically for situations where the PSO anticipates energy shortfall in real-time and sends EMC a load shed file and is intended to achieve certain objectives.

### TYPE 4 CASES

EMC recommends that the re-run of MCE pertaining to such cases be removed, as many constraints in MCE are precautionary in nature and we cannot simply remove them (ex-post) simply because no untoward circumstance has occurred. A re-run is justifiable only if it involves an input error in the ex-ante run (of which then, this will be classified as Type 2 cases).

### TYPE 5 CASES

EMC recommends a re-run of MCE for cases where the prices produced by MCE do not reflect their respective LSMP(s). This is to ensure the pricing outcome is reflective of locational marginal pricing regime used in our market.

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For augmentation of price revision process, EMC recommended the following:

- EMC to report to the RCP on the number of price revision/re-run and explain the circumstances giving rise to the price revision/re-run (we suggest this forms part of the monitoring list); and
- EMC to develop and establish an appropriate compensation arrangement for generators adversely affected by price revision (proposal is attached in Annex A of this paper).

In conclusion, EMC recommends that the RCP supports all the recommendations above.

Mr. Kng Meng Hwee disagreed with the recommendation on allowing price revision in SWEM. As a matter of principle, he felt that prices agreed beforehand should not be changed after the good has been consumed. To send out the correct price signals for efficient behaviour, he suggested that EMC can re-run to establish the revised prices and have them published, but they should not be used for settlement purpose. Using revised prices for settlement will undermine market players' confidence of the market.

Mr. Robin Langdale was concerned that having no price revision/re-run can have a considerable adverse financial impact on an individual market player, although the amount involved may be relatively small in comparison with the total amount of market transaction and opined that there is a need for price revision. Without price revision, there is a need to offer compensation to the adversely affected parties.

The Panel was informed that if EMC does not have price revision, then it is only appropriate that compensation to be paid to the adversely affected parties and the corresponding amount be recovered from the error-causer(s). However, such an arrangement may not be feasible in reality because it may not be easy to identify the error-causer(s) or make the error-causer(s) pay from its own pocket under the current regulatory framework.

After much debate, the Panel voted on the price revision.

The following SUPPORTED that on the Singapore Wholesale Electricity Market, price revision should be allowed in principle:

Mr. Philip Tan  
Mr. Michael Lim  
Mr. Dallon Kay

Mr. Robin Langdale  
Dr. Daniel Cheng  
Mr. Lim Ah Kuan

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The following DID NOT SUPPORT the recommendations contained in the review paper:

Mr. Kng Meng Hwee  
Mr. Tay Swee Lee

The following ABSTAINED from voting:

Mr. Koh Kah Aik

The Panel noted that the recommendations included removing price revision/re-run relating to Type 4 cases.

The Panel requested EMC to present at its next meeting the proposed changes it intends to make the Market Rules in relation to the recommendations supported by the RCP.

EMC

There being no other matters, the meeting ended at 1.05pm with a vote of thanks to the Chair.

**Dave E Carlson**  
**Chairman**

Minutes taken by:  
Eunice Koh  
Senior Executive - Corporate Secretariat