



Notice of market rule modification

Paper No.	EMC/RCP/16/2004/166
Rule reference:	Market Advisories
Proposer:	Chok Kian Loong (Market Operations, EMC Pte Ltd)
Date received by EMC:	31 July 2002
Category allocated:	2
Status:	Approved by EMA
Effective Date:	31 January 2005
Summary of proposed rules change:	

This rule change seeks to remove the need for EMC to solicit offer variations from market participants when there is a energy/reserve/regulation shortfall or surplus situation.

Date considered by Panel:	2 November 2004
Date considered by EMC Board:	18 November 2004
Date considered by Energy Market Authority:	9 December 2004
Proposed Rule Modification:	

Refer to attachment

Reasons for rejection/Reasons for referral back to Panel (if applicable):



PAPER NO. : **EMC/BD/06/2004/07(b)**

RCP PAPER NO. : **EMC/RCP/16/2004/166**

SUBJECT : **MARKET ADVISORIES**

FOR : **DECISION**

PREPARED BY : **POA TIONG SIAW**

VETTED BY : **PAUL POH
SVP, MARKET ADMINISTRATION**

DATE : **18 NOVEMBER 2004**

Executive Summary

The original version of this rule change proposal was intended to remove the requirement for EMC to assess the overall system security before soliciting offer variations. Under the Market Rules, soliciting offer variations is required when there is a quantity (energy/reserve/regulation) shortfall or surplus. This paper analyzes the broader issue of EMC soliciting offer variations and concludes that it is not consistent with a market-based approach. We also conclude EMC should not have a role in assessing any form of system security risk, which is the domain of the system operator. Hence, the RCP recommends that the EMC Board **adopt EMC's revised modification** to reflect these conclusions.

1. Introduction

EMC Market Operation's rule change proposal was to remove the requirement for EMC to determine system security risk before it can solicit offer variations in the following 2 situations:

1. When an energy surplus advisory notice is issued.
2. When an energy/reserve/regulation shortfall advisory notice is issued.

The rationale for the proposal is that EMC is not in a position to assess security risk of the PSO-controlled system. In the rule analysis, we further consider the desirability of EMC "soliciting" offer variations when there is a forecasted energy surplus or energy/reserve/regulation shortfall.

2. Background

2.1 Current Rules require EMC to Solicit Offer Variations

The Market Clearing Engine (MCE) uses forecast demand and offers from providers to determine various forecast and real-time dispatch and pricing schedules. When the MCE forecasts an energy surplus or energy/reserve/regulation shortfall, a market advisory notice is automatically issued to advise Market Participants (MPs) via the trading website. The purpose of issuing an advisory notice is to allow MPs to react to new information. Besides issuing advisory notices, current rules also require EMC to solicit offer variations from generators in response to a surplus or shortfall situation, unless either of the following occurs:

- EMC cannot do so for operational reasons.
- EMC determines that such action poses security risk to the PSO-controlled system.

3. Economic Analysis

The original objective of this rule change proposal was to remove the clause that requires EMC to assess system security risk before proceeding to solicit offer variations. While we agree with its rationale, we also consider that there are wider questions that have to be resolved for the rules to reflect good market design. This led us to develop a wider problem definition.

3.1 Problem Definition

1. Is having EMC solicit offer variation to alleviate a quantity surplus or shortage situation consistent with good design principles?
2. If so, is EMC in a position to first assess system security risk before soliciting offer variations?

3.2 Issuing Market Advisory Notices and Soliciting Offer Variations

MPs rely on the market operator for timely and accurate market information to base their decisions on. The current design provides for the market operator to issue market advisory notices that forewarn MPs of potential issues in a factual and neutral manner. The intent of the nodal pricing model is also to allow MPs to make bidding decisions based on locational price signals. When quantity shortfalls or surpluses occur, the resultant locational price signals and advisory notices provide all the necessary market information for MPs to react.

The market design intends for market outcomes to be determined by MPs. Having the market operator solicit offer variations is not consistent with this intent. Furthermore, it is not a robust rule because MPs are not obliged to respond to any solicitation.

More specifically, where locational shortfalls or surpluses occur, soliciting offer variations from only selected MPs is not a transparent practice. Moreover, EMC cannot guarantee its ability to make the right solicitations (in terms how much and from whom) to solve a shortfall or surplus situation.

3.3 Assessing System Security Risk

Section 3.2.1 of Chapter 5 of the Market Rules provides that the PSO shall “maintain the reliability of the PSO controlled system and arrange for the secure operation of the PSO controlled grid”. Accordingly, it has the authority and ability to override dispatch instructions to preserve system security under Section 9.1.3 of Chapter 5 of the Market Rules. The obligations of the EMC are to “act in accordance with any and all advice, requirements and instructions... by the PSO” (Section 3.4.1 of Chapter 5). From these provisions, it is clear that the PSO is the authority in assessing system security risks. Above all, EMC does not have the ability to make security assessments.

3.4 Conclusion from Analysis

The underlying principle of the wholesale electricity market design is to maximize market demand and supply interaction. Intervention in the form of the market operator soliciting offer variation contravenes this fundamental principle because it is not transparent. Secondly, the PSO is the sole authority on system security issues. EMC should not have a role in making any assessment on a system security issue. Hence, we conclude that sections 9.3.4 and 9.3.5 of Chapter 6 are not consistent with these principles.

3.5 Matters Arising from Previous RCP Discussions

Sections 3.5.1 and 3.5.2 are re-produced from the matters arising from the 5th and 6th RCP meetings pertaining to this rule change.

3.5.1 Matters Arising from the 5th RCP Meeting and discuss at the 6th RCP

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There is no requirement for EMC to publish for comments any revision to the original rule change proposal for comments before the RCP meeting. The Panel requested EMC to publish for comments the revised rule change proposal.

Action

EMC published the revised rule change for paper 166 and received a comment from PSO. PSO pointed out that Market Participants are also required under the Act to ensure that their activities do not put system security at risk. It does not support the removal of the requirement for EMC to solicit offer variations and thinks that the amount of information available on the advisory notices may not be sufficient for MPs to respond. It feels that EMC should actively advise MPs to revise their offers when there is a need so that PSO’s intervention in real-time can be minimised. It suggests that EMC sought MPs’ views on what information should be provided so that they can respond positively to a shortfall/surplus situation.

Our opinion is that due to the co-optimization of the MCE, EMC cannot guarantee that it will be able to solicit offer variation of the right amount and from the right unit(s) to alleviate a particular shortfall or surplus situation. Using market advisory notices to encourage MPs to respond to a situation makes the best use of the notices. It is also consistent with the conduct of an independent market operator. With regards to the sufficiency of information on the advisory notices for MPs to respond, EMC can consult them. However, we still recommend that EMC not to have any role in soliciting offer variations.

The Panel agreed that sufficient information is already provided in the Market Advisory Notice to Market Participants without the need for solicitation of offer variations. However, the Panel requested EMC to look into including messages in the Market Advisory Notice that will draw market participants' attention to their rights, under market rules, to respond by adjusting their offers.

Action

EMC proposes the following phrase to be included in every shortfall/surplus market advisory notice:

“EMC encourages market participants to revise their offers in response to this notice. Offer variations made after gate closure that alleviate a shortfall/surplus situation can be made according to Section 10.4.5 of Chapter 6 of the Market Rules.”

EMC's IT department has been consulted on the feasibility of the change. In the original design of the advisory system, any text message in the advisory notices are coded and not inserted as free text. Also because no amendment to the advisory notice system has been attempted before, the IT department estimates that 20 man days would be required to investigate, code and then test the system change.

EMC was requested to resubmit the rules change paper and incorporate any new comments received after publication for the Panel's further consideration at the next Panel meeting.

Action

With RCP's approval of the proposed text to be inserted into the market advisory notices, EMC will confirm the implementation date of the system change and re-submit this same rule change proposal. It will also further consult the PSO on its concerns.

3.5.2 Matters Arising from the 6th RCP Meeting and discuss at the 7th RCP meeting

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The Panel was of the view that if adequate information could be provided in the advisory notice for market participants to react appropriately, EMC's proposal might be acceptable. However, there was a concern that the information in the current advisory notice might not be adequate and the disclosure of further information in the notice might entail commercially sensitive information. The Panel therefore requested EMC to consult the market participants to ascertain whether the current information in the notice would allow the market participants to react appropriately or further disclosure of non-commercially sensitive information could achieve the intention of attracting appropriate reaction from the market participants before the Panel would support EMC's position.

Action

As part of its work plan, EMC intends to carry out a review of the entire advisory regime. This issue will be incorporated as part of that review.

3.6 Review of Advisory Regime

EMC conducted a review of the market advisory regime with ¹trading representatives of generation licensees. In this review, we asked traders whether sufficient information was already provided in the advisory notices. Those interviewed felt that information currently provided in the advisory notices was sufficient for them to react. We found that generators seldom revise their offers in reaction to shortfall/surplus situations for the 2 primary reasons:

1. Many notices are issued for trading periods some time in the future. As real-time approaches, the shortfall/surplus situations would have been corrected.
2. For notices issued close to real-time, generation units may not be physically capable of reacting.

4. Conclusion

Under the Market Rules, advisory notices are issued for quantity surplus (energy) or shortfall (energy/reserve/regulation) situations. Together with locational price signals, an efficient market mechanism is in place. Solicitation of offer variation by the market operator is both unnecessary and non-transparent.

From the perspective of market design, we conclude that:

1. The requirement for EMC to solicit offer variations does not reflect the intent of market design.
2. It is not EMC's role to make a determination on any system security issue. EMC also does not have the capability to perform such an assessment.

Hence, sections 9.3.4 and 9.3.5 of Chapter 6 should be removed.

We also recommend that the following text message be printed on market advisory notices for energy surplus and energy/reserve/regulation shortfall:

Proposed Text Message

"Subject to gate closure rules in Section 10.4.1 of Chapter 6 of the Market Rules, EMC encourages market participants to review/revise their offer submissions."

The above message should also replace the current text message on the price warning advisory notice:

Current Text Message on Market Run Price Warning Advisory Notice

"Actions Proposed to address pricing problem: EMC proposes that market participants review their submissions for this dispatch period."

¹ Trading representatives from PowerSeraya Ltd, SembCorp Cogen, Senoko Power Ltd and Tuas Power Ltd were consulted on this issue.

5. Impact on market systems

The modifications will not have any impact on the market systems operated by the PSO and MSSL. Modification to the text message on advisory notices would require 20 man-days of IT work from EMC.

6. Implementation process

The rule change can take effect on the first business day following the publication of EMA's approval of the rules modification proposal. However, work on incorporating the text message on shortfall/surplus and price warning advisory notices would require 20 man-days.

7. Consultation

The original proposed text of modifications was published on the EMC website for comments. No comments were received for consideration.

The revised text of modifications was also published. Comments were received from the PSO. These comments and EMC's response to them are provided in the box below:

PSO's comments:

"PSO has no objection to the original rule change proposal by EMC-Market Op as it simply means that EMC will solicit offer variations from market participants whenever any energy surplus/shortfall (including regulation & reserves) is detected by the EMC. It retains the original intent of the rule, which is for EMC to actively ask MPs to vary their offers when conditions that may have adverse impact to security of the power system are detected prior to real-time dispatch. The market price warning advisory notice already has a statement requesting MPs to revise their offer, though it would be more appropriate to have the statement (or variant of it) in the respective energy, regulation and reserve advisory notices.

EMC's Response

Please refer to section 3.5.1 of this paper. We think it is not an independent market operator's role to influence any market outcome. Selectively asking MPs to vary their offers is not a transparent practice. We agree that a similar message should be inserted into surplus/shortfall advisory notices.

In addition, the current publication of locational prices for MNNs may not be sufficient for MPs to react appropriately to energy shortfall, DNN prices, total offer capacity etc. may be required. The revised proposal by EMC-Market Admin cannot be support as it removes the entire rules section 9.3.4 & 9.3.5. In fact, the rules should be reinforced and state what information (in addition to what is already available) on shortfall/surplus conditions reported at Pre-Dispatch Runs be provided by EMC to all Market Participants (esp. Gencos). This is so that these MPs can make informed decision of whether their offer variations would help in alleviating shortfall/surplus conditions before Real-Time dispatch run for the period concerned. As EMC has all the information on why shortfall/surplus was reported by the MCE, appropriate & timely information to MPs will minimise the probability of the power system going into high-risk or emergency operating states during real-time operation. It also minimise the need for PSO to override the real-time dispatch (RTD) schedule to maintain security of the power system, and minimises the risk of the WEM from compensation claims as a result.

EMC's Response

Please refer to section 3.5.1 of this paper. We think that the availability of locational prices and advisory notices provides sufficient information. Due to the co-optimization of the MCE, EMC cannot guarantee that it will be able to solicit offer variation of the right amount and from the right unit(s) to alleviate a particular shortfall or surplus situation. Using market advisory notices to encourage MPs to respond to a situation makes the best use of the advisory notices.

Although EMC argued that maintaining system security is PSO's function (not EMC), but the Electricity Act Section 20(5) states very clearly that "It shall be the duty of an electricity licensee to ensure that it will not do or not omit to do any act which will adversely affect, directly or indirectly, the security and stability of the electricity supplied by it or by any other person to consumers." Wouldn't the revised proposal be inconsistent with the requirements of the Electricity Act?" It should be noted that Ch6, Section 9.3.1 refers Energy/Regulation/Reserve advisory as result of PDS runs, meaning one of EMC's duty prior to Real-Time dispatch should be that of alerting MPs of potential adverse impact to the power system as a result of clearing offers submitted by the MPs, and that EMC should advise MPs to revise their offer prior to Real-Time dispatch. One of PSO's role in real-time is to override the RTD schedule to maintain system security if MPs have not responded to EMC's advise. There is no duplication of roles."

EMC's Response

Please refer to section 3.5.1 of this paper. In addition, we agree that all Electricity Licensees have a duty not to act such that system security would be compromised. We only argue that EMC is not in a position to make a determination on any system security issue. We have revised the paper to reflect that. In advising MPs to review their offers, we consider it to be accomplished through issuing shortfall/surplus advisory notices that contain a message advising them to react. Hence, the revised proposal is not inconsistent with the Electricity Act.

8. Legal sign off

Text of modifications has been vetted by EMC's legal counsel whose opinion is that the deletion of sections 9.3.4 and 9.3.5 of Chapter 6 of the market rules reflect the intent of the submission as expressed in the analysis section of this paper.

9. Recommendations

The RCP unanimously recommend that the EMC Board:

- a) **not adopt** the original rule change proposal to remove the requirement for EMC to determine system security risk before it can soliciting offer variations.
- b) **adopt** EMC's revised rule change proposal to remove sections 9.3.4 and 9.3.5 of Chapter 6 as outlined in Annex 1 of this paper;
- c) **approve** the revision to the message printed on surplus/shortfall and price warning market advisory notice as described in Section 4 of this paper; and
- d) **recommend** that the proposed modifications come into force 1 month following the date on which the approval of the Authority is published by the EMC.

Annex 1: Recommended rules modifications

Existing Rules (Release 01 July 2004)	Proposed Rules (Deletion represented by strikethrough text and addition underlined.)
<p>Chapter 6</p> <p>9.3.4 Where the <i>EMC</i> issues an <i>energy surplus advisory notice</i> pursuant to section 9.3.1.1 the <i>EMC</i> shall, unless the <i>EMC</i> determines that it is not able to do so for operational reasons or because such actions will place at risk the <i>security</i> of the <i>PSO controlled system</i>, and notwithstanding any notification requirements or other conditions specified elsewhere in these <i>market rules</i>, solicit <i>offer variations</i> that will, subject to section 10.4, decrease the aggregate output from <i>generation facilities</i> in such locations as may be designated by the <i>EMC</i>.</p>	<p>Chapter 6</p> <p>Original Proposal:</p> <p>9.3.4 Where the <i>EMC</i> issues an <i>energy surplus advisory notice</i> pursuant to section 9.3.1.1 the <i>EMC</i> shall, unless the <i>EMC</i> determines that it is not able to do so for operational reasons or because such actions will place at risk the <i>security</i> of the <i>PSO controlled system</i>, and notwithstanding any notification requirements or other conditions specified elsewhere in these <i>market rules</i>, solicit <i>offer variations</i> that will, subject to section 10.4, decrease the aggregate output from <i>generation facilities</i> in such locations as may be designated by the <i>EMC</i>.</p> <p>Revised Proposal:</p> <p>9.3.4 Where the <i>EMC</i> issues an <i>energy surplus advisory notice</i> pursuant to section 9.3.1.1 the <i>EMC</i> shall, unless the <i>EMC</i> determines that it is not able to do so for operational reasons or because such actions will place at risk the <i>security</i> of the <i>PSO controlled system</i>, and notwithstanding any notification requirements or other conditions specified elsewhere in these <i>market rules</i>, solicit <i>offer variations</i> that will, subject to section 10.4, decrease the aggregate output from <i>generation facilities</i> in such locations as may be designated by the <i>EMC</i>.</p>

9.3.5 Where the *EMC* issues an *energy, reserve or regulation* shortfall *advisory notice* pursuant to section 9.3.1.2, 9.3.1.3 or 9.3.1.4 or issues a system status *advisory notice* pursuant to section 9.3.2.1 that advises of *load shedding*, the *EMC* shall, unless the *EMC* determines that it is not able to do so for operational reasons or because such actions will place at risk the *security* of the *PSO controlled system*, and notwithstanding any notification requirements or other conditions specified elsewhere in these *market rules*, solicit *offer variations* that will, subject to section 10.4, increase *energy, reserve or regulation*, as the case may be, in such locations as may be designated by the *EMC*.

Original Proposal:

9.3.5 Where the *EMC* issues an *energy, reserve or regulation* shortfall *advisory notice* pursuant to section 9.3.1.2, 9.3.1.3 or 9.3.1.4 or issues a system status *advisory notice* pursuant to section 9.3.2.1 that advises of *load shedding*, the *EMC* shall, ~~unless the *EMC* determines that it is not able to do so for operational reasons or because such actions will place at risk the *security* of the *PSO controlled system*, and notwithstanding any notification requirements or other conditions specified elsewhere in these *market rules*,~~ solicit *offer variations* that will, subject to section 10.4, increase *energy, reserve or regulation*, as the case may be, in such locations as may be designated by the *EMC*.

Revised Proposal:

~~9.3.5 Where the *EMC* issues an *energy, reserve or regulation* shortfall *advisory notice* pursuant to section 9.3.1.2, 9.3.1.3 or 9.3.1.4 or issues a system status *advisory notice* pursuant to section 9.3.2.1 that advises of *load shedding*, the *EMC* shall, unless the *EMC* determines that it is not able to do so for operational reasons or because such actions will place at risk the *security* of the *PSO controlled system*, and notwithstanding any notification requirements or other conditions specified elsewhere in these *market rules*, solicit *offer variations* that will, subject to section 10.4, increase *energy, reserve or regulation*, as the case may be, in such locations as may be designated by the *EMC*.~~