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RCP PAPER NO.	:	**EMC/RCP/2013/65/CP43**
SUBJECT	:	**ADJUSTMENT OF RECOVERY AND REFUND OF PAYMENTS FOR PARTIAL PROVISION OF ANCILLARY SERVICES**
FOR	:	**CONSULTATION**
PREPARED BY	:	**TAN LIANG CHING** **VP, MARKET ADMINISTRATION**
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DATE OF MEETING	:	**08 JANUARY 2013**

Executive Summary

This paper reviews the proposal to pay ancillary service providers, even when they have only partially provided their scheduled ancillary service for the period.

Earlier, RC300 was implemented on 03 July 2012, which ensured that ancillary service providers that were scheduled but did not provide reserve or regulation would not be paid, if they were identified before the preliminary settlement statement is posted. A proposal was received suggesting that PSO's review of reserve provider groups (RPGs) should already be sufficient to incentivize reliability and penalize non-performance, and the rule change may result in an unintended "double" penalty.

The proposer thus suggested that non-payment (i.e. full claw back) of reserve is only applied when no reserve is provided at all (i.e. full failure), while payment for the provision of partial reserve would remain. The proposer suggested that this sufficiently addresses the issue of a "double" penalty, and ensures that reserve provision would be paid on a fair and consistent basis with what is actually provided.

EMC assessed and concluded that partial provision cases should not be paid, in whole or in part, as they pose system security risks. Furthermore, pro-rating reserve or regulation payments would not be consistent with the importance placed on system security. Thus, EMC recommends that the RCP **not support the proposal to make payments to ancillary service providers for partial provision**.

At the 65th RCP meeting, the Panel by majority vote decided **not to support** the proposal to make payments to ancillary service providers for partial provision.

1. Aim

This paper reviews the proposal to pay ancillary service providers, even when they have only partially provided their scheduled ancillary service for the period.

2. Background

2.1 Recent Rule Change

Ancillary service providers are paid for reserve and regulation services based on their respective scheduled quantities, as determined in the real-time dispatch schedule (RTDS) produced before the dispatch period. Previously, these providers are paid even if they failed to provide the service (e.g. if they tripped within the period). This is clearly undesirable as those who failed to provide the service should not be paid in the first place, and does not provide the right incentives for the reliable provision of ancillary services.

The RCP first considered this issue at the 14^{th} RCP, but decided that the level of payments to these “non-providers” did not justify the costs involved with implementing system changes to correct the situation. A decision was made instead to monitor these payments, for possible action if they became substantial in future.

At the 46th RCP Meeting in 2009, this issue resurfaced when the rolling 12-month total for reserve/regulation payments reached $550,666. In addition, these payments were skewed by distribution of MPs, with a single MP accounting for 64% of all payments to non-providers since market start.

Given the substantial payment amounts, the RCP supported Rule Change 300: Recovery and Refund of Reserve and Regulation Payments (RC300), whereby non-providers identified before 5 business days (before the preliminary settlement statement is posted) will not be paid in the first place. Non-provision cases identified after 5 business days may be referred to the MSCP, whereby any recovered amounts arising from MSCP determinations will be refunded to the market through the MEUC. RC300 was approved and implemented on 03 July 2012.

2.2 PSO’s Revision to Reserve Provider Groups

Under the market rules, Reserve Provider Groups (RPG) categorise generators and interruptible loads based on their past performance in providing reserve. Each group has an associated Reserve Effectiveness Function (REF), which directly impacts the reserve payment due to the reserve provider. In other words, for the same scheduled quantity, a reserve provider with a higher RPG/REF receives a higher payment.

Earlier this year, PSO decided to review the RPG/REF to incentivise Reserve Providers to better reflect their actual performance when responding to contingencies. After a few rounds of consultation, the following changes were implemented:

Table 1: Previous and Revised Reserve Provider Group/Effectiveness Function

<table>
<tr><th rowspan="2">Reserve Provider Group</th><th colspan="2">Range of Overall Reserve Effectiveness</th><th colspan="2">Effectiveness Function to the MCE</th></tr>
<tr><th>Original</th><th>Revised</th><th>Original</th><th>Revised</th></tr>
<tr><td>A</td><td colspan="2">RE≥0.9</td><td>0.95</td><td>1.00</td></tr>
<tr><td>B</td><td colspan="2">0.8≤RE<0.9</td><td colspan="2">0.85</td></tr>
<tr><td>C</td><td colspan="2">0.7≤RE<0.8</td><td colspan="2">0.75</td></tr>
<tr><td>D</td><td>0.6≤RE<0.7</td><td>0.5≤RE<0.7</td><td>0.65</td><td>0.60</td></tr>
<tr><td>E</td><td>0.5≤RE<0.6</td><td>RE<0.5</td><td>0.55</td><td>0.25</td></tr>
</table>

As shown in Table 1 above, the finalized changes to the RPGs involved increasing the REF for RPG A slightly from 0.95 to 1.00, and changing the categorizations for RPG D and E to cater to situations where the Reserve Effectiveness falls below 0.5. As most Gencos fall within RPGs A to C, this change should make them neutral or better off.

The PSO had earlier considered i) penalizing Gencos for Reserve Effectiveness above 1.0, ii) a finer stratification of Reserve Effectiveness below 0.5 and iii) units that fail to retest within a stipulated timeline would be subjected to a Reserve Effectiveness of 0. However, after consulting with the industry and further consideration, these changes were not implemented.

2.3 Proposal Received

The proposer suggested revising the recovery and refund of reserve payments such that non-payment (i.e. full claw back) is only applied when no reserve is provided at all (i.e. full failure), while payment for the provision of partial reserve would remain. The proposer was of the view that this is consistent with the energy market, where payment for energy is based on what is provided.

The proposer noted that as part of the on-going annual review of the SOM, the PSO has proposed several changes to the reserve provider groups (RPGs) whereby failure to perform will result in downgrading to a RPG with a reserve effectiveness factor of 0[1]. He suggested that these changes are sufficient to incentivize reliability and penalize non-performance, and the rule change, RC300, may result in an unintended “double” penalty.

The proposer suggested that his proposal would sufficiently address the issue of a “double” penalty, and ensure that reserve provision would be paid on a fair and consistent basis with what is actually provided. The proposed fine tuning is to incentivize the best performance possible (i.e. partial performance is better than full failure).

[1] At the point of receipt of this proposal, PSO had not finalized its decision on changes to the RPG as described in Section 2.2.

3. Analysis

The proposal stems from PSO's potential downgrade of certain RPGs, which is moot now that the finalized changes merely involve an upgrade of REF for RPG A, and downgrade for RPGs D and E (which affect only a handful of units). Any discussion on the proposal thus boils down to whether partial provision should be paid, in whole or in part. Furthermore, although the proposal only mentions reserve, the analysis is extended to regulation for completeness.

To reiterate, RC300 discusses three scenarios where a unit is deemed unable or failed to provide the scheduled reserve/regulation:

i) The unit trips before the period it was scheduled for reserve/regulation and remains unavailable for the period.

ii) The unit trips during the period.

iii) The unit is unable to provide adequate regulation or reserve in accordance with the System Operation Manual Chapter 10, Sections 10.2.8 and 10.2.9 (e.g. not able to provide the scheduled MW regulation/reserve within the required response time).

Based on the above, partial provision could be either by time, whereby a unit trips midway into a period, or by quantity, whereby the unit physically provides only a fraction of its schedule when called upon to respond. To reiterate the arguments raised in RC300, the reasons **against** the proposal to pay partial provision cases, in whole or in part, are:

- **Risks to System Security** – The procurement quantities of ancillary services are determined based on market principles and assumes coverage across the whole dispatch period. Partial provision could thus jeopardize the whole system, as it could not provide the stipulated quantity of energy for the stipulated duration (e.g. as a result of partial provision, there is inadequate reserve quantity to cover the tripping of the largest scheduled unit, or if the trip occurs at a time when the scheduled provider is not available). Instead of safeguarding the system, the scheduled provider has jeopardized it.

- **Sending of Wrong Signal** – Making partial payments to ancillary services could send the unintended signal that partial provision of ancillary services is acceptable. As mentioned, the system operates on the assumption that all ancillary services can perform to 100% of scheduled quantity (after adjustment for REF) and throughout the whole dispatch period. Units should thus be confident of providing to these standards before offering.

4. Industry Consultation

The concept paper was published for industry consultation on 14 November 2012, and the following comments were received from PSO and Keppel Energy.

Comments from the PSO

*PSO agrees with EMC's recommendation of **NOT** to support of this rule change proposal as:*

- *partial-provision of ancillary services in the stipulated duration could result in inadequate reserve quantity to cover the tripping of the largest scheduled unit, thus jeopardise the system security; and*

- *Sending wrong signal to market participant that partial provision is acceptable.*

GRFs and ILFs being scheduled (i.e. required) have to ensure availability of the Regulation/Reserve capacity for the entire dispatch period as they are being paid regardless of whether the ancillary services are called-on or not, and activation can be anytime during the dispatch period.

EMC's Response

PSO's comments are noted.

Comments from Keppel Energy

To provide ancillary services, the generating unit is required to be scheduled at part-load (instead of full load). The ancillary market incentivizes generating unit to provide these services as the payment compensates for the opportunity cost of running at part-load instead of full load.

Applying the fairness principle, it is only fair that generating unit get paid partially for the partial service provided as it has already incurred opportunity cost by running at part-load before tripping. Current "full claw back" scheme does not account for this opportunity cost. The proposed rule change will thus fairly compensate generating units for the services provided.

EMC's Response

Generating units providing ancillary services indeed deserve payment to compensate for their opportunity costs of running at part-load and enhancing system security. However, when they fail to provide the full scheduled quantity for the whole duration, they end up jeopardizing system security. EMC believes that non-payment for partial provision sends the appropriate signal on the critical role of ancillary services in maintaining system security.

5. Recommendations

In view of the above considerations, EMC recommends that the RCP **not support the proposal to make payments to ancillary service providers for partial provision**.

6. Decision at the 65th RCP meeting

At the 65th RCP meeting, the Panel by majority vote decided **not to support** the proposal to make payments to ancillary service providers for partial provision.

The details of the votes are as follows:

Those who voted not to support the proposal:

1. Mr. Daniel Lee — Representative of Generation Licensee
2. Mr. Luke Peacocke — Representative of Generation Licensee
3. Mr. Pak-Juan Koe — Representative of Generation Licensee
4. Mr. Phillip Tan — Person experienced in Financial Matters in Singapore
5. Mr. Sean Chan — Representative of Retail Electricity Licensee
6. Mr. Loh Chin Seng — Representative of Retail Electricity Licensee

7.	Mr. Kng Meng Hwee	Representative of the PSO
8.	Mr. Toh Seong Wah	Representative of the EMC
9.	Dr. Toh Mun Heng	Representative of consumers of electricity in Singapore

Those who voted to support the proposal:

1.	Mr. Dallon Kay	Representative of Wholesale Electricity Market Trader

Those who abstained:

1.	Mr. Michael Wong	Representative of Retail Electricity Licensee