

**MINUTES OF THE RULES CHANGE PANEL
50th MEETING
HELD ON TUESDAY, 6 JULY 2010 AT 9.40AM
AT ENERGY MARKET CO. PTE LTD
238A THOMSON ROAD #11-01
NOVENA SQUARE, SINGAPORE 307684**

Present:	Dave Carlson Annie Tan Daniel Lee Chan Hung Kwan Dallon Kay Lawrence Lee	Kenneth Lim Dr. Goh Bee Hua Philip Tan Kng Meng Hwee Robin Langdale Ng Meng Poh
Absent with apologies	Luke Peacocke	Michael Lim
In Attendance: (EMC)	Paul Poh Mok Xin Ying Henry Wee	Tan Liang Ching Nerine Teo Wang Jing

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 Replacement of PSO Representative to the Rules Change Panel

The Panel was informed that the EMC Board, at their 9 June 2010 meeting, approved the appointment of Mr. Kng Meng Hwee, Deputy Chief Executive of Power System Operator Division of EMA ("PSO") to the Rules Change Panel, with effect from 15 June 2010 to 31 December 2011.

2.1 The Chairman welcomed Mr. Kng Meng Hwee to the 50th RCP meeting.

3.0 Confirmation of Minutes of the 49th Rules Change Panel Meeting

The Minutes of the 49th Rules Change Panel meeting held on Monday, 10 May 2010 was tabled.

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

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The Panel invited Mr. Mark Hutchinson and Mr. James Ooi from IHS CERA, and Mr. Soh Sai Bor, Ms. Rachel Su Huifen and Ms. Leow Rui Ping from the EMA to the meeting.

4.0 Rules Change Proposal – Publication of Historical Dispatch Schedules (Paper No. EMC/RCP/47/2010/291)

Mr. Mark Hutchinson informed that IHS CERA was engaged by the EMA to review the proposal to publish unit-specific dispatch data to all participants of the NEMS. Given IHS CERA's concerns over market concentration and the potential negative impact on consumers, IHS CERA recommended that the EMA do not approve the proposal at this time.

4.1 Mr. Soh Sai Bor informed that the EMA had taken into consideration the IHS CERA recommendation and made a determination not to approve the rule change.

4.2 Mr. Hutchinson presented IHS CERA's recommendation to the EMA as follows:

While data disclosure policies in most jurisdictions generally endorse increased transparency through data dissemination, there are significant differences in how, how much and when the data is published. On balance, there is always a balancing of the benefits and risks associated with releasing such data. This in turn depends very much on the characteristics of the market design, one of the most important being the degree of market concentration.

Mr. Kay asked if there was any particular rationale in excluding the Philippines from the study's country comparisons given that the Wholesale Electricity Spot Market in the Philippines is the only other merchant electricity market in Southeast Asia and already publishes such information. Mr. Hutchinson informed, in his opinion, that the Philippines market is fairly new and, in his opinion, will take a few years to see how the market developments turn out.

Potential Outcome of the RCP Proposal

Mr. Hutchinson informed that:

- Gencos will be able to determine bid curves of their competitors – at least on the margin – and could alter their own bid curves just enough to raise the clearing price
- May not be *explicit collusion*, but it could enable *implicit collusion* as gencos would have the ability to know each other's bid curves
- Most gencos could benefit from such an exercise of market power (with the exception of when the non-portfolio gencos go out for maintenance) hence self-policing of such market power by the gencos themselves would be unlikely

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- This would potentially moot the main benefit of open data publication, namely that more eyes looking at more data will expose any exercise of market power

Proponents of Data Disclosure Argue

- Reduction of risk. Having more information reduces the economic risk of suppliers and theoretically should reduce prices to consumer.
- Information symmetry. More information reduces information asymmetry and should therefore encourage more market participation by “levelling the playing field”.
- Increased market monitoring. More “eyes” looking at specific supplier data in search of evidence of anticompetitive behaviour.

Singapore Characteristics

All of the world’s wholesale electricity markets experience at least some of the following characteristics and NEMS is no exception:

- A single-stage market in which gate closure time is very close to delivery time and suppliers have significant flexibility in changing bids very close to delivery time – this facilitates
- strategic withholding of capacity
- price instability in the face of inelastic demand

Mr. Hutchison noted that in Singapore:

- 5,000 MW of capacity is usually withheld for a variety of reasons
- NEMS is an highly concentrated market (3 owners = 85% of supply)
- Mostly natural-gas fired combustion turbine
- Ownership of generation is almost completely divested of government equity and control

Mr. Hutchinson concluded that

- Gencos will determine bids of their competitors and may use this to their advantage
- Gencos are now privatized
- Market concentration is high
- Buyers are unlikely to be sophisticated enough to provide a counter-balance to genco attempts to manipulate the market
- Hence risk of potential negative impacts on consumers outweighs potential benefits to the market of the proposed data disclosure rule

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Mr. Kay noted that there was no mention of a timing lag in publishing the data as a means of mitigating these concerns and he enquired if CERA's concerns could be mitigated if such a timing lag were introduced.

Mr. Hutchinson said that a good balance is between 6 months to one year lag. However given NEMS's characteristics he does not recommend it. Also once this information is released, there will be no turning back as Gencos would have already gained knowledge of other genco's bid curve or at least inferred from the information released.

The Chairman asked if projections of the HHI have been done based on current demand trends. Mr. Hutchinson replied that CERA analysed the HHI based on market share net of vesting contracts and retail loads, rather than simply the market share of each genco.

To the Chairman's enquiry on the current HHI level, Mr. Hutchison informed that the HHI based on their calculations net of vesting contracts and retail loads was in the region of 4,000 or greater, indicating an extremely concentrated market. He added that it will take more than 5 years for the HHI to fall below the 1,800 threshold.

The Panel was informed that while the HHI is a good indicator, it was not a hard and fast rule. There will need to be a variety of developments to reduce concentration on both the demand and supply side.

Mr. Philip Tan noted that in 2013/14 there will be a new LNG terminal and he enquired the impact of this on the HHI. Mr. Hutchinson informed that it ultimately depends on how the market grows; if most of the supply is still retained by the three gencos, then the HHI will remain high.

Mr. Kay asked Mr. Hutchinson for CERA's opinion on what information could be released. Mr. Hutchinson responded that in CERA's views, an aggregated supply curve identified by e.g. fuel type (instead of by individual Unit ID) was also not recommended, as this would still enable gencos to determine bid curves of their competitor at the margin given the current development of the NEMS.

The Panel thanked Mr. Hutchinson and Mr. Ooi of CERA, and Mr. Soh Sai Bor, Ms. Rachel Su Huifen and Ms. Leow Rui Ping from the EMA for their attendance. They then left the meeting.

The Panel noted EMA's decision not to accept the RCP's and the EMC Board's recommendations to publish dispatch data, arising from EMA's concerns over market power.

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5.0 Matters Arising

The Panel noted that, as outlined, the follow-up actions for the matters arising were completed.

5.1 Item 1.0 – Rules Change Workplan Status Update

Mr. Paul Poh informed that to the suggestion to settle the vesting relief option fee within the wholesale market, EMA responded that it is reviewing IHS CERA's proposal to further refine the settlement of the vesting relief fee. EMA has consulted EMC and assessed that it would be more appropriate and cost-effective to determine whether to settle the fee within the wholesale market after the scheme is finalized.

**5.2 Item 4.0 – Amendment to PSO Budget
(Paper No. EMC/RCP/49/2010/293)**

Mr. Kng enquired if the Panel needed the PSO's agreement before proceeding with RCP's proposal. The Chairman replied that if the PSO has any concerns over system security arising from this proposal, then it is important for PSO to raise it before the rules change proposal goes to the EMC Board and the EMA.

5.2.1 Mr. Kng noted that the PSO is required to return any surplus or over recovery to the market under the proposal. He informed the Panel that the EMA Board's approval is required for the return or refund of surplus.

5.2.2 Mr. Kng informed that since the proposal was supported by the Panel at the last meeting, he suggested that it goes through the due process of the rule change.

5.2.3 Mr. Kng also noted that the amended proposal differs materially from the proposed text of PSO's original submission. He noted that under Market Rules Chapter 3, Section 5.5.3, "the proposer of the rule change reserves the right to submit an objection to EMC Board after EMC has published the amended text", and stated that the PSO reserves that said right.

5.2.4 Mr. Kng noted that the paper stated that the Ministry of Finance opened up Budget 2010 for open consultation with the public, seeking feedback on various issues including the expenditure estimates of various ministries. Mr. Kng's understanding of the MOF "public consultation" mentioned in EMC's paper was that the public had been invited to give views on what they would like to see in the coming Government's budget. The expenditure estimates were only published after Parliament had debated on the ministries' budget, this did not constitute consultation as suggested by the paper. Mr. Tan Liang Ching replied that since MOF has asked for public comments Ministries would likely take into account constructive feedback from the

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Mr. Daniel Lee shared that the Singapore Government Ministries worked on the basis of block budgets which means that funds can be reallocated from different budget items as long as the total block budget of each Ministry is not exceeded.

- 5.2.5 Mr. Kng also mentioned that the PSO found the consultation paper, which stated that “In this climate whereby the government is actively soliciting views from stakeholders, it seems discordant to remove the requirement for PSO’s budget to be subjected to RCP’s review, especially given that PSO’s budget is paid for by the industry” offensive. Mr. Tan clarified that it was meant to be objective without any intention to offend.

The Panel concluded the issue by asking EMC to table the proposed rule changes for this rule change proposal at the upcoming RCP meeting.

EMC

- 5.2.6 Item 6.0 – Modeling of Multi-Unit Contingency Risk (“MUC”) (Paper No. EMC/RCP/49/2010/CP17)

The PSO was requested by the Panel to make a presentation on how the RAF is currently applied.

Mr. Kng said that at previous RCP meetings on the MUC proposal, PSO had stated that, pending the approval of the MUC proposal, PSO will apply the RAF when any of the 3 conditions occurs. The 3 conditions are:

1. Type 1: Two or more GRFs within the same Power Station that are co-dependent
2. Type 2: Only one transmission facility connects two or more GRFs within the same Power Station to the grid
3. Type 3: Risks associated with Gas supply which may lead to disruption of gas supply to more than one GRF.

He said that in the commissioning of 2 generating units where the RAF was recently applied, from May 12 to May 17 2010, a Type 1 MUC condition had occurred whereby the 2 units had tripped simultaneously. PSO thus applied the RAF and this was lifted after the fault that resulted in tripping of the 2 units had been rectified and tested successfully.

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He explained that the RAF is calculated by looking at the short term dispatch schedule because the RAF has to be set in advance before the Real-Time dispatch run, (STS is 2 hours in advance of the RTS). The RAF calculation is straight forward and applies to all 3 types of MUC conditions. Essentially, the RAF would be the summation of the scheduled dispatch level of all the MUC units over the scheduled dispatch level of the largest online unit. Assuming there are 2 MUC units where the 1st unit is scheduled at 210MW and the 2nd unit at 240MW, and the largest output in the system of any GRF is scheduled at 350MW, the RAF would be the summation of the 2 MUC units' output divided by the output of the largest online unit i.e. $210+240/350 = 1.29$. So while the RAF under normal conditions is 1, in this case, it would be raised to 1.29.

Mr. Kng highlighted that the RAF method is effective to a certain extent, but is not dynamic as the MUC method. From the few days where the RAF was applied, it was noticed that there were occasions where reserve was over-provided by as much as 30-40%, simply because in the real time schedule the MUC units' output was lower than what was earlier scheduled in the short term schedule. Alarmingly, there were also more occasions where reserve was under-provided, some by as much as 50% because in the real time schedule the output of the MUC units was much higher than what was scheduled in the short term schedule.

One surprising observation is that the market price did not increase significantly. It is observed that when RAF is applied, market participants will adjust their offers and bids to minimize their exposure financially.

The Chairman sought Mr. Kng's confirmation that there was no change in the pricing and also asked if reserve pricing was affected. Mr. Kng said that there were no significant increases in the reserve prices. When the RAF was raised, advisory notices were also sent to all MPs.

Mr. Daniel Lee said that the lack of significant increases in market price (USEP) could be due to commissioning when commissioning units need to maintain their output for commissioning purposes but the situation could be different if commissioning generation facilities are not involved.

The Chairman informed the Panel that the RCP's decision is required to support the MUC proposal in principle. EMC will do a CBA comparison of the RAF and the MUC methods on the recent incident in May when the RAF had been applied, the results of this comparison will be presented at the next RCP meeting.

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5.3 Item 7.0 – Compensation for Excess Regulation
(Paper No. EMC/RCP/49/2010/CP22)

The Panel requested for the PSO to respond if it is able to conduct a technical assessment on GRFs to determine their individual relative effectiveness in providing regulation.

5.3.1 Mr. Kng said that the issue on the Compensation of Excess Regulation was raised in 2005, which was to compensate generators for providing excess regulation. However, there is now a demand for monitoring of system-wide regulation and the computation of the regulation effectiveness factor (REF).

The Chairman clarified that based on the methodology that EMC suggested to determine regulation provision and the data provided by GRFs, it was found that instances of excess regulation provision at individual GRF level was significant. At PSO's suggestion and RCP's concurrence, EMC evaluated using the similar methodology whether there was excess system wide regulation provision. This was found to be insignificant. Thus the RCP agreed that there was no merit in providing compensation. However, the RCP agreed that there is merit in

- a) Monitoring excess system-wide regulation provision
- b) Considering whether the GRFs who are more effective in providing regulation should be paid a larger share of the regulation payment while those less effective are paid a smaller share, thus the idea of REFs.

Under Item 7.0(b), the PSO was requested to provide information on how the Automatic Generation Control (AGC) works in relation to regulation to better understand the situation, before the Panel decides whether to pursue the REF method further.

In response to whether PSO is able to conduct a technical assessment of each GRF's regulation effectiveness, Mr. Kng explained that the generator's output at a given point in time is influenced by both primary and secondary control systems. The primary system refers to a GRF's governor response to frequency changes, while the secondary system refers to AGC commands sent by the PSO and/or the generator's internal control system. These commands depend on prevailing system conditions and plant conditions. It is therefore not possible to apportion the generators' output according to these controls. Furthermore, the data resides with the generators and not with the PSO. He concluded that it is not possible for the PSO to undertake a technical assessment on the regulation effectiveness of a GRF.

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In reply to the Panel's query on how the AGC works, Mr. Kng pointed out that the concept of AGC is rather complex. PSO conducts AGC training for its own staff and the training takes about 4 hours. He also said that there are other resources available on the internet on how the AGC works.

Mr. Kng briefly described the AGC as follows:

A generator's governor typically responds first to any change in system frequency. AGC, acting as the secondary control, kicks in thereafter by calculating the generator's output required (in MW terms) to bring the system frequency back to acceptable levels. For example, suppose the normal system frequency is say 49.9Hz, which implies a 0.1 Hz correction on the AGC's part. This 0.1 Hz is translated to "X" megawatts which will be allocated to all units participating in the regulation provision. However, AGC aims to correct the errors over time and not immediately, and immediate response to frequency is still based on the generators' governor controls.

The AGC system models generators' behavior based on the assumption that it remains the same throughout the entire operating range. However, a generator's behavior may not exactly be consistent throughout the whole operating range. This results in occasional over or under-provision of regulation by these generators, with other generators having to make up for the difference.

The Chairman asked if the PSO has any concerns that some GRFs are not responding to regulation. Mr. Kng replied that they are not concerned with individual generators not responding, as long as generators as a whole respond in the desired manner.

Mr. Philip Tan asked if there is a way to differentiate generators that are not responsive to regulation provision, from those that are responsive. He enquired if the former group should be penalised, while the latter group incentivised.

Mr. Kng said that the PSO regularly checks whether the units are responding. For units that do not respond, they will be asked to do so, failing which the PSO will prohibit them from offering regulation or request that they modify their offers. He added that this practice is in line with the Market Rules, which states that the PSO may request for GRFs to modify their offers if these units do not comply with dispatch instructions.

Under Item 7.0(c), the Panel determined that system-wide excess regulation amount should be monitored every 6 months, which would require PSO to submit "System-wide Actual Online Generation" data to EMC every 6 months to facilitate this computation.

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Mr. Kng was concerned that additional monitoring requests by the Panel will increase costs to the PSO, and the PSO is mindful of additional costs which will have to be recovered through PSO fees from MPs and consumers. Mr Kng highlighted that PSO's functions and obligations under Chapter 1, Section 5.1 of the Market Rules do not include provision of information on a regular basis to either EMC's Market Administration Team or the RCP.

The Chairman informed Mr. Kng that the RCP was satisfied that the current level of excess regulation on a system-wide basis did not support a rule change, but it would be useful to monitor this data such that the Panel could act if these levels change in the future.

Mr. Daniel Lee indicated that if the situation of excess regulation were to worsen in the future with a hypothetical affected genco having its output often lowered to the extent that it could not meet its contract position, comprising vesting and retail, ending up exposed to pool prices, it might reduce its retail contract position, which would impact the retail market.

Mr. Kng reiterated that the PSO is not prepared to commit resources to provide the requested information. He added that market monitoring is under the purview of the Market Surveillance and Compliance Panel (MSCP), and the PSO will provide data on "System-wide Actual Online Generation" if the MSCP include it as part of its catalogue of data.

Dr. Goh enquired if the REF is an effective methodology. The Chairman replied that there is currently no distinction between regulation providers in the market - any generator offering and scheduled regulation will be paid. The question lies in whether generators that perform more consistently should receive a larger share than those that perform inconsistently, without any extra costs to the market.

Mr. Kng commented that the proposed REF for regulation is a new concept, and it remains to be seen if it could effectively measure the instantaneous regulation effectiveness of the generators in responding to AGC signals.

Mr Philip Tan commented that the proposed REF methodology using historical data is one of many approaches that could be adopted to measure a GRF's regulation effectiveness. If the RCP decides to continue with this proposed methodology, it could result in returning to the conceptualisation stage and repeating the entire exercise.

In response to the Chairman's query if the Panel would like to pursue the REF, the Panel unanimously **voted not to** pursue the proposal.

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6.0 Monitoring List

Mr. Kng commented on Item 3 – Payment to Reserve/Regulation providers who failed to provide has been on the monitoring list since 2004. He said that after the threshold was raised early this year to 1% of the reserve/regulation total amount, the amount of payment to non-providers have exceeded the original \$600,000 threshold for four consecutive months.

Mr. Kng asked the following:

1. What is the total amount paid to non-providers to-date?
2. How much would it cost EMC to modify the settlement system to recover payments from non-providers?
3. Is it not obvious that it would be beneficial to the market and consumers in not paying the non-providers?

The Chairman asked EMC to bring back the previous RCP paper on this issue and to provide information on the total amount paid to non-providers to date and to update the costs to change the settlement system in not paying for non-provision.

EMC

Mr. Robin Langdale suggested to find out whether payments to non-providers were randomly spread over the MPs or whether certain MPs were the main culprits. This is important because if non-provision of reserve/regulation is randomly spread, there may be no point in setting up a system to charge/compensate for it.

Under Item 4 – Vesting Contract levels, Mr. Kng suggested to take it off the Monitoring List since EMA has decided not to approve the publication of the historical dispatch schedule.

The Panel agreed to take Item 4 – Vesting Contracts out of the Monitoring List.

EMC

7.0 Summary of Outstanding Rule Changes

The Panel noted the contents of the paper.

8.0 Rules Change Workplan Status Update

The Panel noted the contents of the paper.

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9.0 Consultancy Services to Review Alternative Reserve Payment Methodologies between Interruptible Loads (ILs) and Gencos

EMC sought the RCP's endorsement of the proposed schedule, shortlisted consultants, RFP documents and evaluation criteria in the exercise to procure *Consultancy Services to Review Alternative Reserve Payment Methodologies between Interruptible Loads (ILs) and Gencos*.

Mr. Kng commented that the original rule change proposal was to get academic institutions to look at the alternative reserve payment methodologies between the ILs and Gencos. He enquired on why EMC is considering engaging commercial consultants, and the costs of doing so.

Mr. Tan Liang Ching informed that at the last RCP meeting, in order to expand the number of choices, as EMC understands the only academic institution in Singapore with such expertise is the Energy Studies Institute, EMC suggested considering commercial consultants. The RCP concurred. EMC will only know the costs after the consultants have reverted with their quotes.

Mr. Kng opined that given the scope it would cost between \$200,000 to \$1m to engage the proposed consultants, and enquired how the costs would be recovered. Mr. Tan replied that EMC has set aside a budget of \$70,000 for general consultancy.

The Chairman informed that this issue was prioritised by the industry and the RCP, and therefore EMC had an obligation to proceed with the issue. This is an opportunity cost for EMC given its limited resources.

Mr. Kng opined that the RCP did not have the mandate under the Market Rules to endorse EMC's engagement of consultants. He added that the Market Rules only allow the RCP to set up working groups. He also queried how the consultancy service would benefit consumers given that they do not pay reserve charges.

(Mr. Ng Meng Poh sent his apologies and took leave of the meeting)

Mr. Kng recalled that EMC's earlier recommendation on this issue was to remain status quo. The proposed scope of work could entail a total revamp of the entire reserve market, which could lead to significant consultancy and system implementation costs.

Dr. Goh added that EMC had not responded as to who is the causer of the rule change, who should then pay for the costs. The Chairman clarified that, in principle, he is reluctant to go down the path whereby anyone who proposes a rule change has to bear the costs.

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Mr. Daniel Lee added that if cost allocation were to be done for rule change proposals, there would be arguments over who to bear the costs as well as what proportion. This could end up paralysing the rule change process as too much time could be spent determining cost allocation rather than reviewing rule change proposals.

The Chairman further added that the proposal relates to the provision of reserve, which enhances system security so that in any event that a generation trips out, another generator or interruptible load could step in. This enhanced system security benefits all consumers.

However, Dr Goh highlighted that the underlying issue had been a differing of opinions between some Gencos and EMC on the latter's recommendation not to review the existing system (i.e. indicating that enhancement is not required). As such, she questioned if there would indeed be real benefits to consumers and if that was not certain then perhaps the Gencos might want to conduct their own study to refute the recommendation of EMC to begin with.

The issue was put to a vote and by majority the Panel decided not to pursue the consultation study.

The following Panel members voted NOT to pursue with the consultancy study:

- Kenneth Lim (Employee of EMC)
- Kng Meng Hwee (Representative of the PSO)
- Chan Hung Kwan (Representative of Transmission Licensee Class)
- Lawrence Lee (Representative of Market Support Services Licensee)
- Dallon Kay (Representative of Wholesale Electricity Market Trader Class)
- Robin Langdale (Representative experience in financial matters)
- Dr. Goh Bee Hua (Representative of Consumers)

The following Panel members voted to defer the request of the proposal and asked EMC to get indicative quotes of the consultancy cost:

- Annie Tan (Representative of Retail Licensee Class)
- Daniel Lee (Representative of Generation Licensee Class)
- Philip Tan (Representative of Generation Licensee Class)

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10.0 Appointment of Technical Working Group Member
(Paper No. EMC/RCP/50/2010/08)

The Panel was informed that the Technical Working Group (TWG) is an industry-resourced group appointed by the RCP to assist it in examining technical changes to the Market Rules. Such changes typically relate to the formulation used in the Market Clearing Engine (MCE) for dispatch and price discovery in the Singapore wholesale electricity market.

Seraya Energy Pte Ltd had advised that Mr. James Ooi, its representative on the Technical Working Group (TWG), had resigned from the TWG with effect from 2 May 2010.

Two nominations were received from a list of eligible market participants. EMC recommended that the RCP appoint Ms. Tini Mulyawati of Keppel Energy Pte Ltd to the Technical Working Group from 7 July 2010 to 20 January 2011.

The Panel approved the appointment of Ms. Tini Mulyawati of Keppel Energy Pte Ltd to the Technical Working Group from 7 July 2010 to 20 January 2011.

11.0 Requirement for GRFs to submit positive energy offer quantities unless physically unavailable
(Paper No. EMC/RCP/50/2010/296)

The paper assessed the rule change proposal to require all GRFs allocated vesting contract quantities to offer positive energy quantities for all periods, unless they are declared physically unavailable to the PSO, either due to planned maintenance or forced outages.

Given the SWEM's principle of self-commitment and EMA's confirmation that Vesting Contracts are not structured to impose an obligation on Gencos to offer positive energy quantities, EMC recommended the RCP **not support the rule change proposal** to require all GRFs allocated vesting contract quantities to offer positive energy quantities for all periods, unless physically unavailable.

Mr. Kng noted EMC's point on Gencos with a long lead time to start up and synchronise, and enquired if there should be a separate treatment for plants that could fast start in 10 minutes.

The Chairman clarified that EMC's recommendations were predicated on the market design principle of self commitment, and not whether a generator was a OCGT, CCGT or oil-powered.

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Ms. Annie Tan said that vesting contracts are awarded to installed capacities except those who are declared to be unavailable for more than 6 months. Apart from this, how would the authority ensure that these capacities are available to maintain system supply reliability and security?

Mr. Daniel Lee responded that a Transmission Code change had been considered to require generation plants to demonstrate their availability but it had been decided that given the recent generation dispatch patterns, there was no immediate need for such an imposition with EMA continuing to monitor the situation.

Mr. Daniel Lee explained that the proposal if implemented would either result in the retirement of plants which would be detrimental to system security or raise costs significantly, resulting in higher electricity prices to be paid by consumers. In order for most plants to be able to provide positive energy quantities if called upon in accordance with their offers, they would have to be running so as to be able to quickly synchronise with the power system and would thus incur fuel costs which would be significant.

Mr. Kng highlighted the costs involved with keeping oil/steam plants synchronised to the system.

Following which, Ms. Annie Tan stated that all such plants are accorded revenue through the vesting contracts and should therefore be able to show evidence of availability.

The proposal was put to a vote and by majority the Panel voted **not to support** the proposal.

The following Panel members voted **not to support** the rule change proposal:

- Kenneth Lim (Employee of EMC)
- Kng Meng Hwee (Representative of the PSO)
- Chan Hung Kwan (Representative of Transmission Licensee Class)
- Lawrence Lee (Representative of Market Support Services Licensee)
- Dallon Kay (Representative of Wholesale Electricity Market Trader Class)
- Robin Langdale (Representative experienced in financial matters)
- Dr. Goh Bee Hua (Representative of Consumers)
- Daniel Lee (Representative of Generation Licensee Class)
- Philip Tan (Representative of Generation Licensee Class)

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The following Panel member voted **to support** the rule change proposal:

- Annie Tan (Representative of Retail Licensee Class)

12.0 Review of SPF Methodology
(Paper No. EMC/RCP/50/2010/CP26)

Ms. Mok Xin Ying informed the Panel that industry stakeholders raised a proposal to revise the current SPF methodology so as to better reflect the reliabilities of different types of plants. It was felt that multi-shaft plants are technically designed to be more reliable than single-shaft plants – i.e. unlike a single-shaft plant, when the ST or GT for a multi-shaft plants trips, the energy output of the multi-shaft plant would not be reduced to zero – thus, the SPF computation for multi-shaft plants and single-shaft plants should be differentiated to better reflect their reliabilities.

Ms. Mok explained the suggested revisions to the SPF Methodology:

Suggestion 1: Revise the denominator to “number of half-hourly periods where the GRF is dispatched by the PSO for energy greater than 10 MW”.

Suggestion 2: Revise the numerator to consider both the number and size of a GRF’s forced outages – for periods where a GRF is dispatched for energy greater than 10 MW.

The suggested revisions to the SPF methodology will allow the SPF to be a better reflection of the reliability of a generating unit and hence the reserve costs that it imposes on the market. Revising the SPF methodology as such will create a sharper incentive for generators to minimize their reserve costs and, ultimately, lead to a more efficient market. Nevertheless, it is acknowledged that any revision(s) should not create the impact of a “double-penalty” on generators in the event that other policy proposals are implemented i.e. penalty for failure to re-declare available capacity (KEMA) and auto penalty scheme (NERA). Such a “double-penalty” would be unfair to affected generators and would likely lead to market inefficiencies.

Mr. Poh said that EMA will be directing rule change on the NERA policy proposal. EMC will also be presenting its assessment of the KEMA policy proposal at the next RCP meeting.

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EMC recommended that the RCP defers its decision on revising the SPF methodology until there is further clarity on whether and how the NERA and KEMA policy proposals will be implemented. Taking into account the decisions on the NERA and KEMA policy proposals, EMC will re-table this paper at the earliest RCP meeting (likely in November 2010) for decision. The Panel agreed to the time-line.

EMC

13.0 Conflict of Interest for Dispatch Coordinator
(Paper No. EMC/RCP/50/2010/CP27)

Mr. Henry Wee informed that there was a concern that conflict of interest may arise when a dispatch coordinator (“DC”) of a market participant (“MP”) acts as a DC of another MP and thus proposed to restrict using an agent as a DC of a MP. This may lead to potential uncompetitive outcomes or potential market power issues that may arise when a DC of a MP acts as a DC of another MP.

Mr. Wee touched on the existing provisions from the market rules on the requirements for a DC, the role of the DC and the use of an agent. References were also made to the Electricity Act and the electricity licensing conditions in terms of mitigating market power issues. Given the power vested that the EMA has in the Electricity Act (section 50, 51 & 59), and the authority to impose licence conditions, market power issues are best handled by the EMA.

One other point that was raised was whether condition 2.2 of a generation licensee’s Electricity Licence would require a generation licensee to seek EMA’s prior approval before it can act as a DC of another MP. This condition is common among all existing generation licensees.

EMC recommended that the RCP write to the EMA regarding the concern raised on the potential market power issues if an MP acts as the agent DC for another MP and to seek EMA’s views on whether:

- i. EMA considers dispatch coordination arrangements as “control”; and
- ii. a MP with a generator license needs to seek EMA’s prior approval before such a MP is allowed to act as the agent DC for another MP.

Mr. Kng said that, given the dispatch coordinator complies with dispatch instructions from PSO, it has to have control over the generating unit. He said that it is the onus of the generator MP who intends to be a dispatch coordinator of another MP’s generating units to seek approval from EMA.

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Action

Mr. Kng asked if it is necessary to raise this issue with EMA. He also stated that the hierarchy of legislation is the Act, followed by the Licence, the Transmission Code, the Market Rules, Manuals and other Codes. If there is any conflict with the market rules, the licence conditions will take precedence.

Mr. Kay asked if a retailer can act as DC to a generator. The Chairman informed him that, based on the current licence conditions of retailers and market rules, it would appear that the retail affiliate of a generator can act on behalf of another generator.

The Chairman said that the issue will be raised with the EMA. Following the EMA's clarification, the RCP will further discuss if there are adequate controls in place to mitigate conflict of interest arising from agent DCs.

There being no other matters, the meeting ended at 1.30pm.

Dave E Carlson
Chairman

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