

**MINUTES OF THE RULES CHANGE PANEL
154th MEETING
HELD ON THURSDAY, 16 JULY 2026 AT 10.00AM
AT ENERGY MARKET CO. PTE LTD
4 SHENTON WAY #03-01
SGX CENTRE 2, SINGAPORE 068807**

Present: Toh Seong Wah (Chairman) Andrew Tan
 Lee Kim Hwee Sherman Toh
 Teo Chin Hau Henry Gan
 Wong Yew Chung Fong Yeng Keong
 Cheong Zhen Siong Tan Jian Hui
 Calvin Quek Dr Toh Mun Heng

Absent with Dallon Kay
Apologies: Teo Swee Teng
 Matthijs Jan Guichelaar

In Attendance: Poa Tiong Siaw Li Zhenhui
(EMC) Alicia Poh Alfred Toh
 Vincent Wise Feng Ruili
 Candice Tia

	Minutes of 154 th RCP Meeting – 16 July 2026	Action						
1.	Notice of Meeting The Chairman called the meeting to order at 10.00am. The Notice and Agenda of the meeting were taken as read.							
2.	Confirmation of Minutes of the 153rd Rules Change Panel Meeting The Minutes of the 153 rd Rules Change Panel (“RCP”) meeting, held on 14 May 2026 were approved by the RCP.							
3.	Update of Monitoring List, Summary of Outstanding Rules Change Submissions, and RCP Work Plan Status Update							
3.1	Mr Li Zhenhui presented the Monitoring List, Rule Change Submission, and RCP Work Plan Status. Mr Li provided an update to the Panel regarding Energy Market Authority’s (EMA) response to the rule change proposals that were referred to the EMA. <table border="1"> <thead> <tr> <th></th><th>RCP proposal</th><th>EMA comments to RCP</th></tr> </thead> <tbody> <tr> <td>1</td><td>Incorporation of Behind-the-Meter Energy Storage Measurements into Demand Response Performance Verification</td><td><i>[Closed]</i> The issues outlined in Crystal Clear's RCP proposal fall within the operational responsibilities typically required of an Aggregator.</td></tr> </tbody> </table>		RCP proposal	EMA comments to RCP	1	Incorporation of Behind-the-Meter Energy Storage Measurements into Demand Response Performance Verification	<i>[Closed]</i> The issues outlined in Crystal Clear's RCP proposal fall within the operational responsibilities typically required of an Aggregator.	
	RCP proposal	EMA comments to RCP						
1	Incorporation of Behind-the-Meter Energy Storage Measurements into Demand Response Performance Verification	<i>[Closed]</i> The issues outlined in Crystal Clear's RCP proposal fall within the operational responsibilities typically required of an Aggregator.						

			It would be more appropriate for these matters to be addressed internally, in line with their existing DR commitments. We have since clarified this with Crystal Clear.	
	2	Review of Rules Governing Participation and Offers for Batteries and Distributed Energy Resources (i) New battery classification (ii) Reviewing the 65-minute gate closure for BESS (iii) Enabling facilities such as VPPs to provide grid regulation services at low tension	<i>[Closed]</i> EDPR (formerly Sunseap) has closed this item, noting that the RCP proposal was submitted prior to Sunseap's acquisition by EDPR.	
	3	Review of Directed Supply Scheme (DSS) instruction criteria	<i>[In progress]</i> EMA is reviewing the DSS instruction criteria and will inform RCP after we have concluded the review. In the meantime, there will be no change to the DSS scheme.	
	4	Setting the appropriate Reserve and Regulation requirements	<i>[In progress]</i> EMA is conducting a study on the reserves and regulation requirements needed, given the increasing penetration of intermittent sources, to ensure a stable and reliable power system. We will inform RCP after we have concluded the review.	
4.	CP103: Participation of Fast Start (FS) Units			
4.1	Mr Alfred Toh presented the proposal's background and an overview of the ancillary services framework for FS units.			
4.2	Mr Fong Yeng Keong sought clarification on whether the FS units earn revenue from the SWEM to cover their costs. Mr Alfred Toh explained that FS service providers receive capability payments as specified in their respective contracts and recover costs through monthly claims of variable operating expenditure (OPEX) administered through the Monthly Energy Uplift Charge (MEUC).			

	Mr Fong then inquired whether the capability payments are disbursed monthly or annually. Mr Toh confirmed these payments are settled monthly. Mr Henry Gan added that EMC verifies that the FS units have met the performance criteria outlined their contract before disbursing the capability payments. He further added that FS providers earn a specific profit margin on their costs, which is determined by the EMA. Mr Calvin Quek highlighted that while EMA sets the profit margin rate, contract negotiations are essential to justify and validate the budgeted OPEX and capital expenditure (CAPEX). This negotiation process ensures that capital expenditures are necessary and reasonable, rather than inflated to boost returns.	
4.3	Mr Toh presented the purpose, requirements and dispatch conditions of FS units. He explained that FS units, being out-of-market due to their remuneration structure, should not submit offers upon activation. This approach preserves the integrity of real-time market price signals. Mr Fong inquired about the impact of FS units' offers on wholesale energy prices. Mr Toh clarified that FS units typically submit non-competitive offers to guarantee dispatch, which can displace competitive offers from other units and artificially affecting prices. Mr Fong then questioned whether increased supply from FS units would lead to lower wholesale energy prices. Mr Teo Chin Hau responded that PacificLight Power (PLP), as a FS service provider, does not time the market; they generate power as instructed by the Power System Operator (PSO). While FS units offering into the market might lower wholesale energy prices, this doesn't guarantee lower costs for consumers, since these units are often less efficient, leading to higher operational costs that must be recovered from consumers. Therefore, the overall financial impact on consumers from lower wholesale energy prices and increased recovery costs is uncertain. Mr Teo emphasised the need for clear guidance on bidding expectations for FS service providers when the PSO activates them.	
4.4	Dr Toh Mun Heng emphasised that during emergency, when FS units are activated, market principles should be secondary to physical security. Mr Lee Kim Hwee supported this viewpoint, stating that FS units serve as the "last line of defence" for security in emergencies.	

	Therefore, the PSO's main goal is to restore system balance and stability quickly, rather than focus on offer submission. Therefore, Mr Lee opined that it is not practical for FS units to submit offers during emergencies, so this behaviour should not be considered controversial. However, he noted that there could be more debate over behaviours during testing activities, which are necessary to ensure that the FS units remain reliable. Mr Poa Tiong Siaw reiterated that EMC aims to clarify the participation of FS units. In the end, the expected behaviour of FS units during emergency activation and testing ought to be established clearly in the rules.	
4.5	Mr Alfred Toh proceeded to present the industry consultation comments from: ▪ Keppel Merlimau Cogen ▪ Tuas Power ▪ Senoko Energy ▪ PacificLight Power ▪ YTL PowerSeraya ▪ Sembcorp Cogen ▪ EMC Markets and Operations ▪ Power System Operator	
4.6	Dr Toh referenced industry comments regarding potential deviations in injection energy quantity (IEQ) when FS units operate, as this may lower the output of other generators. Mr Teo explained that FS units' maximum capacity is about 782MW, or roughly 10% of the typical net energy demand, indicating limited overall impact on the market and IEQ of other generators. He also noted that FS providers conduct infrequent monthly scheduled tests, which involves short activation durations.	
4.7	Mr Cheong Zhen Siong asked how the system accounts for surplus generation capacity when FS unit do not offer into the market. Mr Lee explained that the PSO will pulse down energy injection from other generating units in the system. He noted that Gencos nominate gas based on their expected power generation schedules but might consume less gas if their generating units are pulsed down due to FS units' activation. This could lead to pressure issues in the gas network. Mr Lee emphasised that FS units should submit offers during testing activities to ensure accurate scheduling and system balance, thereby minimising disturbances in both the power and gas system. Mr Henry Gan queried on the management of excess gas nominations when FS units do not submit offers into the market.	

	Mr Teo explained that gas nomination discrepancies could impact Gencos commercially. He validated the PSO's concerns, but emphasised that managing imbalances between nominated and consumed gas is an existing practice for Gencos, given the intra-day solar variability. Mr Calvin Quek added that traders actively monitor and rebalance Gencos' gas positions throughout the day. Gencos will adjust nominations subsequent periods to ensure that the Gencos position remains balanced.	
4.8	Mr Toh highlighted that the proposal aims to: • Provide clarity and transparency on the behaviour of FS units • Ensure FS units' participation in market is consistent with their role in maintaining system security, while preserving market clearing integrity and achieving efficient market outcomes	
4.9	Mr Toh then summarised EMC's analysis: a) EMC considers that FS units <u>should not offer</u> into the market during both emergency activation and testing. While EMC's position is based on market principles, the analysis remains subject to regulatory input from EMA. b) EMC proposes that information on the activation of FS units be published and disseminated to market participants through an advisory notice issued by the PSO, and recommends that the RCP <u>support</u> the proposal. Mr Teo queried whether the RCP would only vote on item (b), but not item (a). He opined that item (a) should also be put to a vote, as the rules change process requires proposals to go through the RCP, the EMC Board, and the EMA, all of which can reject them. Mr Poa clarified that if the Panel considers the analysis provided by EMC up to this point is sufficient for a recommendation on (a), EMC is in favour of voting on it. The Chairman concurred with Mr Poa.	
4.10	Mr Lee raised concerns about whether the publication of information on FS unit activations via advisory notices is intended as an ex-ante or ex-post event. He opined that if the information is published ex-ante, Gencos might reduce their offers upon notification, risking market shortfalls. Mr Henry Gan opined that ex-ante advisory notices would help Gencos operationally. He emphasised that if offers are withdrawn, the market can adapt through pre-dispatch forecasts, and any unmitigated shortfall would raise wholesale energy prices, encouraging market responses.	

	Mr Tan Jianhui added that as long as the FS units generate as planned, some offers withdrawals is unlikely to result in shortfalls. Chairman acknowledged Mr Lee's concerns and suggested further examination on the publishing of the advisory notices.	
4.11	Chairman concluded that the RCP shall vote on recommendation (a) that FS units <u>should not offer</u> into the market during both emergency activation and testing. For recommendation (b) publication of information on the activation of FS units through advisory notices, further study is required before the RCP considers a vote. Chairman called for a vote on recommendation (a) as above. The RCP by majority supported the vote. The following RCP members supported the vote: 1. Mr Henry Gan (Representative of EMC) 2. Mr Calvin Quek (Representative of Generation Licensee) 3. Mr Tan Jian Hui (Representative of the Generation Licensee) 4. Mr Teo Chin Hau (Representative of Generation Licensee) 5. Mr Andrew Tan (Representative of Retail Electricity Licensee) 6. Mr Sherman Toh (Representative of Transmission Licensee) 7. Mr Wong Yew Chung (Person experienced in Financial Matters in Singapore) 8. Dr Toh Mun Heng (Representatives of Consumers of Electricity in Singapore) The following RCP members did not support the vote: 9. Mr Lee Kim Hwee (Representative of the PSO) 10. Mr Cheong Zhen Siong (Representative of Wholesaler Electricity Market Trader) 11. Mr Fong Yeng Keong (Representative of Consumers of Electricity in Singapore)	

There being no other matters, the meeting ended at 11.47 a.m.

Toh Seong Wah
Chairman

Minutes taken by:
Ivy Leong
Legal, Compliance & Corporate Secretarial Executive