

RCP PAPER NO. : **EMC/RCP/xxx/2024/CP99**

SUBJECT : **MULTIPLE SETTLEMENT ACCOUNTS FOR MARKET PARTICIPANTS WITH DIVERSIFIED PORTFOLIOS**

FOR : **CONSULTATION**

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DATE OF MEETING : **TBC**

Executive Summary

This concept paper presents the proposal to allow EMC to create more than one settlement account for each market participant.

The current settlement account structure only allows for market participants to maintain a single settlement account that encompasses all their electricity loads and/or registered facilities, with the exception for market participants with embedded generation facilities.

EMC proposes allowing market participants who engage in multiple activities, such as generation, retail, import, and demand-side management, to maintain multiple settlement accounts. Specifically, one dedicated settlement account can be allowed for each of the following activities a MP engage or intend to engage in

- a) Generation of electricity from standalone generation facilities;
- b) Retail;
- c) Import of Electricity;
- d) Trade in the Singapore Wholesale Electricity Market for the purpose of participation in demand side management (i.e. Interruptible Load and Demand Response Program)
- e) Contracted ancillary services

EMC would like to seek industry views on the proposal. We appreciate receiving comments by **18 October 2024**.

1. Introduction

This concept paper reviews the proposal for rules to be modified to allow flexibility for EMC to create more than one settlement account for each Market Participant (“MP”).

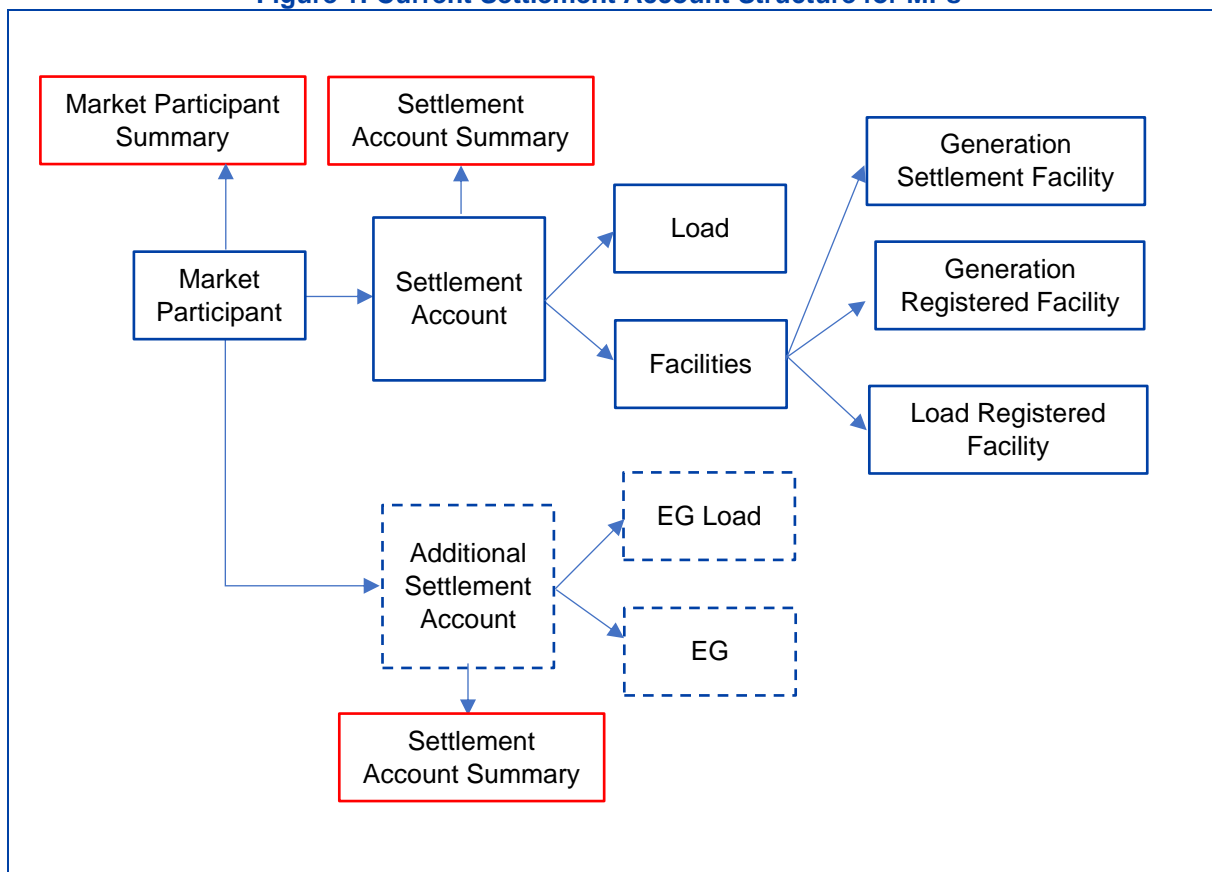
2. Background

Chapter 7 Section 2.1.2 of the market rules stipulate that each MP can only be associated with one settlement account. Currently, MPs may only create and maintain one settlement account apart from MPs that have embedded generation facilities (“EGF”). MPs with EGFs will be associated with a separate settlement account for each of its embedded generation facilities group.

2.1 Current Settlement Account Structure

For an MP to participate in the Singapore Wholesale Electricity Market (“SWEM”), it needs to have a load settled via EMC or have facilities that are registered and settled with EMC. Apart from MPs with EGF, these MPs will have a single settlement account that encompasses all their electricity loads and/or registered facilities. Only MPs with EGFs will have additional settlement accounts created for each of its EGF group.

Figure 1: Current Settlement Account Structure for MPs



For each trading day, EMC’s settlement system generates settlement statements at both the market participant (Participant Summary) and settlement account levels (Account Summary). These settlement statements offer a daily summary of the transactions associated with the

load and all facilities registered under a single settlement account, including relevant charges and taxes. A sample of such summary statements can be found in Annex 1.

For each trading day, the current system also allows MPs to access a breakdown of the transactions for each product. For example, MPs can access reports on energy settlement for generator and load consumption, load curtailment settlements, reserve settlements, regulation settlements, etc. where more details (e.g. settlement prices and quantities) are provided at facility level for each half-hourly trading period. A sample of such statements can be found in Annex 2.

2.2 Issues Raised

In recent years, we have seen MPs with more diversified portfolios participating in the market, who have requested for the flexibility to hold additional settlement accounts to segregate the financial transactions for different business (e.g. separation import from generation, and separation of accounts for different customers/sites).

Market participants engaged in various activities face several operational challenges when restricted to a single settlement account, particularly when official segregated settlement statements are required. For instance, companies managing facilities or operations on behalf of other entities require segregation of their transactions. In such cases, confidentiality is a concern as a single account risk exposing confidential data to unauthorised personnel. Similarly, auditors may require clear and distinct financial records for each segment of a company's operations.

Currently, MPs engaged in multiple activities within the SWEM who require segregated statements for each activity must extract and consolidate data from their breakdown statements. This process involves sorting through separate detailed reports, which can be time-consuming and labour-intensive. This concept paper explores the feasibility to allow for EMC to create more than one settlement account for each MP to address these concerns.

3. Analysis

While the current system allows MPs to view breakdowns of settlement statements, the proposal for MPs to maintain multiple settlement accounts addresses a need of MPs engaged in multiple distinct activities in the SWEM (e.g. retail, generation, imports, demand-side management).

Allowing MPs to maintain additional settlement accounts helps them organize and segregate their different business activities and the corresponding settlement amounts, where daily settlement summaries for each type of activity would be automatically generated, providing clearer insights into different segments of MPs' operations.

On the other hand, allowing MPs to maintain multiple settlement accounts would impose increased load on the EMC's settlement system and could potentially impact settlement processing times. Hence, the solution needs to ensure that the settlement system remains efficient and manageable.

4. Proposal

To facilitate the participation of MPs with diversified portfolios, EMC proposes allowing MPs who engage in multiple activities, such as generation, retail, import, and demand-side management, to maintain multiple settlement accounts. This preliminary proposal aims to segregate accounts according to the type of licensed activities in which MPs are currently or would potentially be involved in with the SWEM. Additionally, EMC proposes allowing MPs

who provide contracted ancillary services to maintain an additional settlement account because of their unique settlement arrangement.

Specifically, one dedicated settlement account can be permitted for each of the following activities:

- a) Generation of electricity from standalone generation facilities;
- b) Retail;
- c) Import of Electricity;
- d) Trade in the SWEM for the purpose of participation in demand side management (i.e. Interruptible Load and Demand Response Program)
- e) Contracted ancillary service

in addition to existing provisions for a settlement account for each EG group.

Each additional settlement account must serve a distinct operational purpose. For instance, under an ancillary services contract, an MP sometimes would need to segregate its revenue earned from the real-time markets when providing contracted ancillary services in order to derive the amount needs to be additionally recovered under the ancillary services contract. To enhance the financial management for ancillary services providers, EMC proposes that these providers be allowed to maintain more than one settlement account. This separation would facilitate clear accounting by distinguishing the cost and revenue associated with facilities providing contracted ancillary services from those arising from real-time market participation.

This proposal aims to support MPs with differing business operations, without unduly burdening the settlement system.

5. Conclusion

This paper presents an evaluation of the current settlement account arrangement in the SWEM and proposes to allow MPs who engage in multiple distinct activities to have multiple settlement accounts. The proposal addresses account segregation needs of MPs and would facilitate their participation in the market.

6. Consultation

EMC would like to seek industry feedback on the proposal, including any additional cases (beyond those mentioned section 4) where a separate settlement account may be required, along with the reasons. We appreciate receiving comments by **18 October 2024**.

Annex 1: Sample summary statements^{1,2}

Participant Summary

Summary Report

	Net Amt	Input GST	Output GST	Total Amt
GES - Generator Energy Settlement Credit *	\$1,913,385.62	\$172,211.74	\$(7.04)	\$2,085,590.32
LESD - Load Energy Settlement Debit	\$(6,271,444.08)	\$0.00	\$(564,429.97)	\$(6,835,874.05)
LCSC - Load Curtailment Settlement Credit *	\$0.00	\$0.00	\$0.00	\$0.00
BESC - Bilateral Energy Settlement Credit	\$6,271,444.08	\$0.00	\$0.00	\$6,271,444.08
NESC - Net Energy Settlement Credit	\$1,913,385.62	\$172,211.74	\$(564,437.01)	\$1,521,160.35
RSC - Reserve Settlement Credit *	\$129,920.09	\$11,692.81	\$0.00	\$141,612.90
RSD - Reserve Settlement Debit *	\$(2,210.87)	\$0.00	\$(198.98)	\$(2,409.85)
RCC - Reserve Contract Credit	\$0.00	\$0.00	\$0.00	\$0.00
NRSC - Net Reserve Settlement Credit *	\$127,709.22	\$11,692.81	\$(198.98)	\$139,203.05
FSC - Regulation Settlement Credit *	\$2,048.70	\$184.39	\$0.00	\$2,233.09
FSD - Regulation Settlement Debit *	\$(7,483.96)	\$0.00	\$(673.55)	\$(8,157.51)
FCC - Regulation Contract Credit	\$0.00	\$0.00	\$0.00	\$0.00
NFSC - Net Regulation Settlement Credit *	\$(5,435.26)	\$184.39	\$(673.55)	\$(5,924.42)
NTSC - Net Transmission Settlement Credit	\$0.00	\$0.00	\$0.00	\$0.00
VCSC - Vesting Contract Settlement Credit	\$0.00	\$0.00	\$0.00	\$0.00
HEUC - Hourly Energy Uplift	\$14,441.05	\$0.00	\$1,299.69	\$15,740.74
MEUC - Monthly Energy Uplift	\$(416.69)	\$0.00	\$(37.50)	\$(454.19)
NPSC - Net Participant Settlement Credit	\$2,049,683.94	\$184,088.94	\$(564,047.35)	\$1,669,725.53
GME - Generation Metering Adjustment on Energy	\$0.00	\$0.00	\$0.00	\$0.00
GMEF - Generation Metering Adjustment on Fees *	\$0.00	\$0.00	\$0.00	\$0.00
LMEE - Load Metering Adjustment on Energy	\$(857.60)	\$0.00	\$(68.58)	\$(926.18)
LMEF - Load Metering Adjustment on Fees	\$(2.53)	\$0.00	\$(0.20)	\$(2.73)
NMEA - Net Metering Adjustment Amount	\$(860.13)	\$0.00	\$(68.78)	\$(928.91)
NELC - Net Energy Load Credit	\$0.00	\$0.00	\$0.00	\$0.00
NEGC - Net Energy Generation Credit	\$0.00	\$0.00	\$0.00	\$0.00
NEAA - Net Energy Adjustment Amount	\$0.00	\$0.00	\$0.00	\$0.00
NEAD - Net Energy Adjustment Debit	\$99.83	\$0.00	\$0.00	\$99.83
EMCADMIN - APPROX. 0.3703 \$/MW	\$(6,769.44)	\$0.00	\$(609.26)	\$(7,378.70)
PSOADMIN - APPROX. 0.3503 \$/MW	\$(6,404.09)	\$0.00	\$(576.37)	\$(6,980.46)
Total Due (Owed)	\$2,035,750.11	\$184,088.94	\$(565,301.76)	\$1,654,537.29

¹ The statements in Annex 1 are generated in test environment with dummy inputs for illustration purpose.

² Items marked with * on the settlement statements have associated breakdown reports available at the facility level for each half-hour trading period.

Account Summary

Summary Report

	Net Amt	Input GST	Output GST	Total Amt
GESC - Generator Energy Settlement Credit	\$1,913,463.82	\$172,211.74	\$0.00	\$2,085,675.56
LESD - Load Energy Settlement Debit	\$0.00	\$0.00	\$0.00	\$0.00
LCSC - Load Curtailment Settlement Credit	\$0.00	\$0.00	\$0.00	\$0.00
BESC - Bilateral Energy Settlement Credit	\$0.00	\$0.00	\$0.00	\$0.00
NESC - Net Energy Settlement Credit	\$1,913,463.82	\$172,211.74	\$0.00	\$2,085,675.56
RSC - Reserve Settlement Credit	\$126,339.10	\$11,370.52	\$0.00	\$137,709.62
RSD - Reserve Settlement Debit	\$(2,210.87)	\$0.00	\$(198.98)	\$(2,409.85)
RCC - Reserve Contract Credit	\$0.00	\$0.00	\$0.00	\$0.00
NRSC - Net Reserve Settlement Credit	\$124,128.23	\$11,370.52	\$(198.98)	\$135,299.77
FSC - Regulation Settlement Credit	\$1,637.29	\$147.36	\$0.00	\$1,784.65
FSD - Regulation Settlement Debit	\$(122.35)	\$0.00	\$(11.01)	\$(133.36)
FCC - Regulation Contract Credit	\$0.00	\$0.00	\$0.00	\$0.00
NFSC - Net Regulation Settlement Credit	\$1,514.94	\$147.36	\$(11.01)	\$1,651.29
NTSC - Net Transmission Settlement Credit	\$0.00	\$0.00	\$0.00	\$0.00
VCSC - Vesting Contract Settlement Credit	\$0.00	\$0.00	\$0.00	\$0.00
HEUC - Hourly Energy Uplift	\$0.00	\$0.00	\$0.00	\$0.00
MEUC - Monthly Energy Uplift	\$0.00	\$0.00	\$0.00	\$0.00
NASC - Net Account Settlement Credit	\$2,039,106.99	\$183,729.62	\$(209.99)	\$2,222,626.62
GMEE - Generation Metering Adjustment on Energy GST(8%)	\$0.00	\$0.00	\$0.00	\$0.00
GMEF - Generation Metering Adjustment on Fees GST(8%)	\$0.00	\$0.00	\$0.00	\$0.00
LMEE - Load Metering Adjustment on Energy GST(8%)	\$0.00	\$0.00	\$0.00	\$0.00
LMEF - Load Metering Adjustment on Fees GST(8%)	\$0.00	\$0.00	\$0.00	\$0.00
GMEE - Generation Metering Adjustment on Energy GST(9%)	\$0.00	\$0.00	\$0.00	\$0.00
GMEF - Generation Metering Adjustment on Fees GST(9%)	\$0.00	\$0.00	\$0.00	\$0.00
LMEE - Load Metering Adjustment on Energy GST(9%)	\$0.00	\$0.00	\$0.00	\$0.00
LMEF - Load Metering Adjustment on Fees GST(9%)	\$0.00	\$0.00	\$0.00	\$0.00
NMEA - Net Metering Adjustment Amount	\$0.00	\$0.00	\$0.00	\$0.00
NELC - Net Energy Load Credit	\$0.00	\$0.00	\$0.00	\$0.00
NEGC - Net Energy Generation Credit	\$0.00	\$0.00	\$0.00	\$0.00
NEAA - Net Energy Adjustment Amount	\$0.00	\$0.00	\$0.00	\$0.00
NEAD - Net Energy Adjustment Debit	\$0.00	\$0.00	\$0.00	\$0.00
EMCADMIN - APPROX. 0.3703 \$/MW	\$(1,626.21)	\$0.00	\$(146.36)	\$(1,772.57)
PSOADMIN - APPROX. 0.3503 \$/MW	\$(1,538.44)	\$0.00	\$(138.46)	\$(1,676.90)
Total Due (Owed)	\$2,035,942.34	\$183,729.62	\$(494.81)	\$2,219,177.15

Annex 2: Sample breakdown statements³

Energy Settlement for Generator and Load Consumption

GESC and LESD - Generator and Load Settlements

Period	MNN	IEQ (MWh)	MEP (\$/MWh)	GESCN	GESCP	GESCE	WEQ (MWh)	USEP (\$/MWh)	LESDP	LESDN
1	AGCESS : ESS : ESSM U1									
	IGS_A : SPES : UNIT1									
	IL_SDC : RAFFQB1 : CHL_PLT1									
	IL_SDC : RAFFQB1 : CHL_PLT2									
	Total									
2	AGCESS : ESS : ESSM U1									
	IGS_A : SPES : UNIT1									
	IL_SDC : RAFFQB1 : CHL_PLT1									
	IL_SDC : RAFFQB1 : CHL_PLT2									
	Total									
3	AGCESS : ESS : ESSM U1									
	IGS_A : SPES : UNIT1									
	IL_SDC : RAFFQB1 : CHL_PLT1									
	IL_SDC : RAFFQB1 : CHL_PLT2									
	Total									
4	AGCESS : ESS : ESSM U1									
	IGS_A : SPES : UNIT1									
	IL_SDC : RAFFQB1 : CHL_PLT1									
	IL_SDC : RAFFQB1 : CHL_PLT2									
	Total									

³ Sample historical statements for illustration purpose.

Regulation Settlement

FSD - Regulation Settlement Debits

Period	MNN	Total FSC	Total Market (MWh)	FEQ (\$/MWh)	AFP (\$/MWh)	Gen FEQ (MWh)	Load FEQ (MWh)	FSD
1	AGCESS : ESS : ESSM U1 IGS_A : SPES : UNIT1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2							
2	AGCESS : ESS : ESSM U1 IGS_A : SPES : UNIT1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2							
3	AGCESS : ESS : ESSM U1 IGS_A : SPES : UNIT1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2							
4	AGCESS : ESS : ESSM U1 IGS_A : SPES : UNIT1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2							
5	AGCESS : ESS : ESSM U1 IGS_A : SPES : UNIT1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2							
6	AGCESS : ESS : ESSM U1 IGS_A : SPES : UNIT1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2							

Reserve Settlement

Reserve Settlement Credits

Period	MNN	Reserve Class	MRP (\$/MWh)	GRQ + LRQ (MWh)	RSC	Fail to Provide
1	AGCESS : ESS : ESSM U1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2					
2	AGCESS : ESS : ESSM U1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2					
3	AGCESS : ESS : ESSM U1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2					
4	AGCESS : ESS : ESSM U1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2					
5	AGCESS : ESS : ESSM U1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2					
6	AGCESS : ESS : ESSM U1 IL_SDC : RAFFQB1 : CHL_PLT1 IL_SDC : RAFFQB1 : CHL_PLT2					