



Smart Energy, Sustainable Future

CONSULTATION PAPER

REGISTRATION OF PSEUDO GENERATION SETTLEMENT FACILITIES BY AGGREGATING STANDALONE INTERMITTENT GENERATION SOURCES FOR MARKET PARTICIPANTS

Closing date for submission of comments and feedback:

26 August 2021, 4pm

12 August 2021

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REGISTRATION OF PSEUDO GENERATION SETTLEMENT FACILITIES BY AGGREGATING STANDALONE INTERMITTENT GENERATION SOURCES FOR MARKET PARTICIPANTS

1. Background

- 1.1. The Energy Market Authority (“Authority”) supports the adoption of solar energy in Singapore. In ensuring fair and sustainable growth of solar, the Authority continues to make enhancements to our regulations to facilitate the entry of solar photovoltaic (PV) installations into the National Electricity Market of Singapore (“NEMS”).
- 1.2. The Authority has received industry request to allow Market Participants (“MP”) to register multiple distributed standalone (i.e. direct grid-connected) Intermittent Generation Source (“IGS”) installations with the Energy Market Company (“EMC”). However, there is an inherent limit to how many unique number of facilities that the settlement engine can effectively handle (i.e. about 180 facilities estimated by EMC). If EMC were to proceed with registering every IGS installation as individual Generation Settlement Facilities (“GSFs”), as per current practice, the limit would be quickly breached. This can result in a longer settlement processing-time for the settlement engine¹ and consequently impact the settlement operations of the wholesale electricity market, unless the settlement engine and related systems can be upgraded.

2. Registration of Pseudo GSFs by Aggregation of Standalone IGS for MPs

- 2.1. The Authority has worked with the EMC and the Market Support Service Licensee (“MSSL”) to develop a solution to support the registrations of multiple distributed standalone IGS installations without requiring complex system changes. The design considerations of the solution are as follows:
 - 2.1.1. The MP, who will also need to hold at least a Wholesale Licence, will be allowed to register and aggregate multiple standalone IGS, which are less than 10 MWac² individually, as one or more pseudo GSFs;
 - 2.1.2. Each pseudo GSF can only aggregate up to 50 meter³ readings;

¹ The impact of such registrations on EMC’s systems was discussed in the Authority’s Information Paper on “Changes to the Market Participation Threshold for Generation Facilities” dated 25 March 2020 can be found at <https://www.ema.gov.sg/cmsmedia/Information%20Paper%20on%20Changes%20to%20MP%20Threshold%2025%20March%202020.pdf>.

² This less than 10MWac threshold is aligned with the Enhanced Central Intermediary Scheme (“ECIS”) that is administered by MSSL.

³ The 50 meter readings limit is based on SP’s current IT system design. It is inclusive of main and check meters i.e. up to 25 IGS installations per pseudo GSF if each IGS installation has a main and check meter.

- 2.1.3. Such pseudo GSFs will be paid at the prevailing half-hourly volume-weighted average market energy price and be subject to regulation charges;
 - 2.1.4. Reserve charges will not be applicable since the capacity of each IGS installation is less than 10 MWac⁴; and
 - 2.1.5. All technical requirements (e.g. Metering Code, Transmission Code, licensing, etc) for each IGS installation shall remain.
 - 2.1.6. The Authority reserves the right to review the arrangement and assess applications on a case by case basis.
- 2.2. The aggregated pseudo GSF solution ensures that the market clearing and settlement systems will not be adversely affected, and helps to defer the need for expensive system upgrades. There will also be administrative time savings for both EMC and MPs, compared to if the installations are registered as individual GSFs. The relevant market rule changes will be required to facilitate this solution, with the estimated implementation timeframe to be around Q4 2021.
- 2.3. The Authority notes that the proposed solution described in para 2.1 may be similar to the Enhanced Central Intermediary Scheme (“ECIS”) that is administered by MSSL. However, the ECIS was designed for the registration of embedded IGS only. The Authority has already begun exploring potential system enhancements to allow more options for MPs to aggregate IGS for market participation, as part of our efforts to support solar deployment. Updates will be provided to the industry in due course.

⁴ Treatment of reserves and regulation charges are subject to the Intermittency Pricing Mechanism (IPM), which sets out the allocation of the fair share of reserves to all generation types that contribute to the need for reserves, including recognising the characteristics and effects of IGS on the power system. The Final Determination on IPM dated 30 October 2018 can be found at <https://www.ema.gov.sg/cmsmedia/Final%20Determination%20Paper%20-%20Intermittency%20Pricing%20Mechanism%20vf.pdf> and the Addendum dated 16 December 2020 can be found at <https://www.ema.gov.sg/cmsmedia/PPD/Addendum-Intermittent-Pricing-Mechanism-2020.pdf>.

REQUEST FOR COMMENTS AND FEEDBACK

The EMA invites comments and feedback to Section 2 of the consultation paper.

Please submit your written response to EMA Policy and Planning Department (PPD) at ema_policy@ema.gov.sg by 26 Aug 2021 (4pm). Anonymous submissions will not be considered.

EMA will acknowledge receipt of all submissions electronically. Please contact ema_policy@ema.gov.sg if you have not received an acknowledgement of your submission within two business days.

The EMA reserves the right to make public all or parts of any written submissions made in response to this consultation paper and to disclose the identity of the source. Any part of the submission, which is considered by respondents to be confidential, should be clearly marked. EMA will take it into account regarding the disclosure of the information submitted. EMA may also approach the respondents for clarification while the consultation is ongoing.

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