

# Energy Market Authority of Singapore

## Feedback on Proposed Modifications to the Metering Code

## APPENDIX 2

<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Industry's Feedback</u>	<u>EMA's Assessment</u>
MC/2007/1	1.4.1	<p><b>SPPG:</b> To define “embedded generation facility” explicitly in the Metering Code instead of making reference to the Market Rules. Market Rules Chap 4.4 only makes reference to “embedded generation facility” in relation to a generation licensee but there is no mention of the Wholesaler Licensee (Generation).</p>	<p>Not accepted.</p> <p>The classification for “embedded generation facility” is described in “Market Rules Chapter 7, section 4.4.1 and 4.4.2”. It makes reference to a market participant, who is an electricity licensee, and would include the Wholesaler Licensee (Generation).</p>
MC/2007/2	1.4.1	<p><b>SPPG:</b> “meter entity” means a consumer, Generation Licensee, Wholesaler Licensee (Generation) or any other person responsible for the flow of electricity measured by a meter <del>at a connection point</del>, <u>at the appropriate intake supply point</u> and shall include the Transmission Licensee or any other person through whose plant or equipment there is a flow of electricity that is being metered for the purposes of settlement by an electricity licensee;</p> <p>Reason: To reflect actual situation. According to definition in 1.4.1, the connection point for a load refers to the point on the Transmission Licensee side. For metering of loads, the meters are generally located at the consumer intake supply points rather than at the connection points.</p>	<p>Accepted with further amendment to improve clarity.</p>

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<sup>1</sup> Reference to the section of the code where change has been made in the version dated on January 2007 as published on the web.

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MC/2007/4	2.1.1	<p><b>SPPG:</b> Subject to Section 2.4.7, for those meter installations associated with a generation facility or <u>meter installations associated with</u> an embedded generation facility having a name-plate rating of 10 MW or above, the Generation Licensee or Wholesaler Licensee (Generation) that owns the generation facility shall be the MESP.</p> <p>Reason: For clarity. i.e Generation Licensee is MESP of its generation facility whether it is below or above 10MW.</p>	<p>A Generation Licence is applicable for any generating unit having a name-plate rating of 10 MW or above, while a Wholesaler Licence (Generation) is applicable for any generating unit having a name-plate rating of less than 10MW.</p> <p>Based on SPPG's feedback, the clause has been further amended to improve clarity and will reflect explicitly that Generation Licensee or Wholesaler Licensee (Generation) would be their own MESP.</p>
MC/2007/5	2.1.2	<p><b>SPPG:</b> For those meter installations other than those that are associated with a generation facility and <u>those associated</u> with an embedded generation facility having a name-plate rating of 10MW or above, the Transmission Licensee shall be the MESP.</p> <p>Reason: For clarity. i.e Generation Licensee is MESP of its generation facility whether it is below or above 10MW</p>	<p>In view that clause 2.1.1 will be amended to reflect explicitly that Generation Licensee or Wholesaler Licensee (Generation) would be their own MESP, consequential changes to this clause and clause 2.4.5 (i.e. MC/2007/6) are no longer required.</p> <p>We have retained the intent of the proposed amendment, which is to require the Transmission Licensee to offer meter installation and maintenance services for Wholesaler Licensee (Generation) with embedded generation unit having a name-plate rating of less than 10MW, with the insertion of a new Section 2.2.3.</p>

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<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Industry's Feedback</u>	<u>EMA's Assessment</u>
MC/2007/9	2.4.10	<p><b>SPPG:</b> <u>Except in relation to an embedded generation facility</u>, the main and check meters for a generating unit having a name-plate rating of 1 MW or above, or registered as a GRF or GSF shall be a 3-phase, 4-wire type or 3-phase, 3-wire type of accuracy class 0.2S. Metering current transformers of accuracy class 0.2 with 1 or 5 amperes secondary current and 30 VA burden shall be provided for each circuit. Metering voltage transformers shall be of accuracy class 0.5 with 110 volts secondary voltage and a burden of not less than 100 VA per phase per circuit.</p> <p>Reason: To distinguish from new insertion 2.4.12 (MC/2007/11) which stipulates the metering requirement for generation meters and metering transformers for embedded generation facility.</p>	Accepted. The clause will be amended accordingly.
MC/2007/11	2.4.12	<p><b>SPPG:</b> For an embedded generation facility, <u>the accuracy class and burden requirements for generation meters and their metering transformers shall follow the prevailing requirements for its associated Installation Meter and metering transformers.</u></p>	Accepted. The clause will be amended accordingly.
MC/2007/13	2.4.16	<p><b>SPPG:</b> The main meter or check meter referred to in Section 2.4.15 shall, individually or in combination, be capable of measuring positive and negative injections <u>into the transmission system</u> of active energy, measured in units of kWh, and reactive energy, measured in kVarh (i.e. <u>bi-directional</u> flows) for each half-hour interval</p> <p>Reason: To indicate energy flow of intertie connection with respect to the transmission system.</p>	Accepted. The clause will be amended accordingly.

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<u>Modification Ref. No.</u>	<u>Section<sup>1</sup></u>	<u>Industry's Feedback</u>	<u>EMA's Assessment</u>
MC/2007/14	2.7.1(e)	<p><b>SPPG:</b> Any site-specific adjustment factors as defined in the Market Support Services Code to be applied including the sign of the loss adjustment except that for a meter installation in an embedded generation facility having a name-plate rating of less than 10 MW, such site-specific adjustment factors losses shall be provided by <u>the owner of the embedded generation facility.</u></p> <p>Reason: This is more generic and removes ambiguity. There could be other types of licences held by the embedded generation facility other than the Wholesaler Licensee (Generation).</p>	In view that clause 2.1.1 will be amended to reflect explicitly that Generation Licensee or Wholesaler Licensee (Generation) would be their own MESP, consequential changes to this clause is no longer required.
MC/2007/15	2.9.1	<p><b>Senoko Power Limited:</b> To standardize to once every two years as is the case for Generating Units.</p>	<p>Not accepted.</p> <p>Embedded generation facility's load and generation are on a contiguous piece of land and the load, generation and land belong to the same owner. The embedded generation facility is considered to be part of the consumer's installation. Therefore, the inspection and testing cycle for the meters associated with the generating unit should be similar to those meters associated with their consumer installation.</p>
MC/2007/21	4.7.1	<p><b>SPPG:</b> The MDM for a meter installation shall obtain site specific adjustment factors for losses, if relevant, from the MESP for that meter installation except that for a meter installation in an embedded generation facility having a name-plate rating of less than 10 MW, such site-specific adjustment factors for losses shall be provided by the <u>owner of the embedded generation facility.</u></p> <p>Reason: This is more generic and removes ambiguity. There could be other types of licences held by the embedded generation facility other than the Wholesaler Licensee (Generation).</p>	In view that clause 2.1.1 will be amended to reflect explicitly that Generation Licensee or Wholesaler Licensee (Generation) would be their own MESP, consequential changes to this clause is no longer required.

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MC/2007/30	2.1.3	<p><b>SPPG:</b> Proposed NEW Section 2.1.3</p> <p>For those meter installations associated with an embedded generation facility having a name-plate rating of less than 10 MW, the owner of the embedded generation facility shall make arrangements with the Transmission Licensee for the Transmission Licensee to be the MESP and shall pay to the Transmission Licensee metering charges in accordance with the Transmission Schedule of Rates.</p> <p>Reason: Owner of embedded generation facility &lt; 10MW shall engage and pay TL to be MESP responsible for meter provision services for embedded generating facility.</p> <p>This is to ensure level playing field for EGs below 10MW and those above 10MW. SPPG cannot be deemed to be subsidising the meter installation for EG&lt;10MW.</p>	Accepted and the intent will be reflected as part of the new Section 2.2.3 that will be inserted.