



*Smart Energy, Sustainable Future*

## **DECISION PAPER**

# **PROPOSED MODIFICATIONS TO THE TRANSMISSION CODE**

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## **1 Introduction**

- 1.1 The Transmission Code sets out the rights and obligations of the Transmission Licensee, together with the rights and obligations of users of the transmission system. The Transmission Code also sets out the technical requirements to be met by those who seek to connect and operate installations on the transmission system.

## **2 Proposed modifications to the Transmission Code**

- 2.1 Pursuant to Section 1.6 of the Transmission Code, EMA has sought representations on the proposed modifications to the Transmission Code to provide updates and clarity to the technical requirements relating to, among other things, electricity import, generating unit and updating reference to “Wholesaler Licensees” from “Wholesaler (Generation) Licensee” or “Wholesaler (Demand Side Participation) Licensee”, following the earlier Wholesaler Licence Modification Final Determination Paper of 29 Jun 2021.
- 2.2 Feedback was received from 5 respondents when the consultation closed on 10 February 2022. EMA has carefully considered feedback pertaining to new definition (clause 1.3.1) and the technical requirements (clauses G2.3, G2.4 and G2.5) relating to generating unit and our responses are in [Appendix 1](#). EMA is still reviewing the remaining feedbacks pertaining to other proposed modifications and will issue a separate Final Determination Paper in due course.

## **3 EMA’s Decision**

- 3.1 Taking into account the feedback received, EMA has decided to modify clauses 1.3.1, G2.3, G2.4 and G2.5 of the Transmission Code as set out in [Appendix 2](#). The proposed modifications will come into effect on 29 Aug 2022.

~ End ~

**EMA's Response to Written Representations**

Modification Ref. No.	Clause	Public/ Industry	Comments	EMA's Response
TC/2021/61	G2.3	SPPA	We wish to clarify if this requirement also applies to Solar Photovoltaic generating facilities directly connected to Transmission System.	Yes, this requirement also applies to Solar Photovoltaic generating facilities directly connected to Transmission System.
TC/2021/62	G2.4	SPPA	<p>As highlighted to EMA on 20 May 2021, by connecting such a large generation facility (up to 10MW or 10MWac) via a 22kV single-ring configuration:</p> <ul style="list-style-type: none"> <li>a) The hosting capacity of the 22kV ring circuit will be almost to its limit and SPPG will need to carry out network reconfiguration before any future generation connections can be allowed in the 22kV ring circuit. This may result in potential complaints from existing premises as a longer lead time to effect their generation connections to the grid may be required and the cost of such network reconfiguration would have to be considered.</li> <li>b) SPPG would require a longer lead time to process generation connection applications as extensive network study and discussion with generation facility owners is required.</li> <li>c) The generation facility owners would have to bear the risk of potential loss of revenue in the event of any scheduled or unscheduled network outage since network transferability is not a requirement for generation connections.</li> </ul>	<p>While EMA noted SPPA's comments on generation connection applications, SPPG should not unduly delay such generation connections.</p> <p>We would also require SPPG to make clear to the generation facility owners and obtain their written acceptance of the risk of being unable to export electricity to the grid (hence potential loss of revenue) in the event of any scheduled or unscheduled network outage if they were to request for the minimum number of service connections allowed under this clause.</p>

## Appendix 2

### Modifications to the Transmission Code

Modification Ref. No.	Clause	Original Text	Modified Text	Reasons
TC/2021/3	1.3.1	New definition	<u>“electricity licence” has the same meaning as in the Act;</u>	To provide clarity on the respective Licensees who are required to comply with this Code as a condition of its electricity licence.
TC/2021/4	1.3.1	New definition	<u>“Licensee” means:</u> (i) <u>a Generation Licensee;</u> (ii) <u>an Importer Licensee;</u> (iii) <u>a Market Company Licensee;</u> (iv) <u>a Transmission Licensee;</u> (v) <u>a Wholesaler Licensee;</u>	To provide clarity on the respective Licensees who are required to comply with this Code as a condition of its electricity licence.
TC/2021/5	1.3.1.	New definition	<u>“Generation Licensee” has the same meaning as in the Act;</u>	To provide clarity on the respective Licensees who are required to comply with this Code as a condition of its electricity licence.

Modification Ref. No.	Clause	Original Text	Modified Text	Reasons
TC/2021/10	1.3.1	New definition	<u>“Importer Licensee” means a person who is authorised by an <i>electricity licence to import electricity</i>;</u>	To provide clarity on the respective Licensees who are required to comply with this Code as a condition of its electricity licence.
TC/2021/11	1.3.1	New definition	<u>“Market Company Licensee” means the company which holds an <i>electricity licence</i> authorising it to operate any wholesale electricity market pursuant to section 42 of the <i>Act</i>;</u>	To provide clarity on the respective Licensees who are required to comply with this Code as a condition of its electricity licence.
TC/2021/16	1.3.1	New definition	<u>“Transmission Licensee” has the same meaning as in the <i>Act</i>;</u>	To provide clarity on the respective Licensees who are required to comply with this Code as a condition of its electricity licence.
TC/2021/17	1.3.1	New definition	<u>“Wholesaler Licensee” means a person who is authorised by an <i>electricity licence</i> to trade in any wholesale electricity market operated by the Market Company, for the purpose of:</u>  <u>(i) selling electricity generated by the <i>Licensee</i> under the exemption set out in the Electricity (Electricity Generation Licence) (Exemption) (No. 2) Order;</u>  <u>(ii) providing ancillary services or any electricity-related product or service through a load reduction.</u>	To provide clarity on the respective Licensees who are required to comply with this Code as a condition of its electricity licence.
TC/2021/61	G2.3	Under normal system operating condition, i.e. all <i>service connections</i> to the <i>generation facility</i> are available, the <i>service connections</i> shall be adequate to export the <i>generation facility</i> total installed generation capacity. Under the system operating condition where one <i>generation</i>	<u>In the case of a <i>generation facility</i> of total installed generation capacity exceeding 10MW or solar photovoltaic <i>generating facility</i> of total installed generating capacity exceeding 10MWac connected for the sole purpose of conveying electricity to the grid, under <del>Under</del> normal system</u>	To amend section G2.3 to state clearly the requirements that generation facility of total installed generation capacity exceeding 10MW or solar photovoltaic generating facility of total installed

Modification Ref. No.	Clause	Original Text	Modified Text	Reasons
		<p><i>facility's service connection</i> is not available (scheduled or unscheduled), the remaining <i>generation facility's service connection(s)</i> shall be able to export 90% of its total installed generation capacity. Adequate <i>generation facilities' service connections</i> shall be provided to ensure system <i>security</i>, stability and <i>reliability</i>. Prolonged <i>outage</i> of two <i>generation facilities' service connections</i> shall not result in system being unable to meet the <i>demand</i>.</p>	<p>operating condition, i.e. all <i>service connections</i> to the <i>generation facility</i> are available, the <i>service connections of the generation facility</i> shall be adequate to <del>export</del> <u>convey electricity up to the generation facility</u> <del>facility's</del> total installed generation capacity <u>and all connected import facility's capacity</u>. Under the system operating condition where one <i>generation facility's service connection</i> is not available (scheduled or unscheduled), the remaining <i>generation facility's service connection(s)</i> shall be able to <u>continuously export convey</u> 90% of its total installed generation capacity <u>and all connected import facility's capacity</u>. Adequate <i>generation facilities' service connections</i> shall be provided to ensure system <i>security</i>, stability and <i>reliability</i>. Prolonged <i>outage</i> of two <i>generation facilities' service connections</i> shall not result in system being unable to meet the <i>demand</i>.</p>	<p>generating capacity exceeding 10MWac connected for the sole purpose of conveying electricity to the grid shall have adequate number of service connections to convey the generation facility's total installed generation capacity and all connected import facility's capacity under normal system operating condition.</p> <p>In addition, the amendments are also to make clear that under system operating condition where one generation facility's service connection is not available (scheduled or unscheduled), the remaining generation facility's service connection(s) shall be able to continuously convey 90% of its total installed generation capacity and all connected import facility's capacity.</p>
TC/2021/62	G2.4	New clause	<p><u>In the case of a <i>generation facility</i> of total installed generation capacity up to 10MW or solar photovoltaic <i>generating facility</i> of total installed generating capacity up to 10MWac connected for the sole purpose of conveying electricity to the grid, when all <i>service connections</i> to the <i>generation facility</i> are available, the <i>service connections</i> shall be adequate to convey electricity up to the <i>generation facility's total installed generation capacity</i>. In the event when <u>any of the <i>generation facility's service connection</i> is not available (scheduled or unscheduled), the <i>generation facility</i> shall be able to export any</u></u></p>	<p>To add a new section G2.4 to make clear the requirements that generation facility of total installed generation capacity up to 10MW or solar photovoltaic generating facility of total installed generating capacity up to 10MWac connected for the sole purpose of conveying electricity to the grid shall have adequate number of service connections to convey the generation facility's total installed generation capacity when</p>

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			<p><u>amount of electricity to the grid, up to its installed generation capacity or be isolated from the grid in the case where the sole <i>service connection</i> is unavailable.</u></p>	<p>all its service connections are in-service.</p> <p>In addition, it also makes clear that in the event when any of the generation facility's service connection is not available (scheduled or unscheduled), the generation facility shall be able to export any amount of electricity to the grid, up to its installed generation capacity or be isolated from the grid in the case where the sole service connection is unavailable.</p>
TC/2021/63	G2.5	New clause	<p><u>In the case of a <i>generation facility</i> which is embedded within an existing consumer's <i>installation</i>, the net export of the consumer's <i>installation</i> will have to meet the requirements of the prevailing load connection scheme as per section 4.2.2 of this Code.</u></p>	<p>To add a new section G2.5 to make clear the requirements that generation facilities which are embedded within an existing consumer's installation shall adhere to the requirements of the prevailing load connection scheme as per section 4.2.2 of this Code.</p>