

Singapore Electricity Market Rules

Chapter 2 Participation

Energy Market Authority

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1 INTRODUCTION

1.1 INTRODUCTION

1.1.1 This Chapter sets forth:

- 1.1.1.1 the procedures pursuant to which a person may apply to the *EMC* for registration as a *market participant* and a *market support services licensee* may apply for authorisation to participate in the *wholesale electricity markets*;
- 1.1.1.2 the terms and conditions upon which a *market participant* may cease to be a *market participant* and upon which a *market support services licensee* may cease to be authorised to participate in the *wholesale electricity markets*;
- 1.1.1.3 the procedures pursuant to which persons may apply to the *EMC* for the registration of facilities;
- 1.1.1.4 the terms and conditions upon which the registration of a *registered facility*, a *generation settlement facility* or a *non-exporting embedded intermittent generation facility* may be cancelled or transferred at the request of a *market participant*;
- 1.1.1.5 the prudential and technical requirements which must be met by prospective *market participants*, *market participants* and *market support services licensees*;
- 1.1.1.6 the manner in which the *EMC* may recover from *market participants* and *market support services licensee* shortfalls resulting from payment defaults; and
- 1.1.1.7 the fees payable by prospective *market participants*, *market participants* and *market support services licensees*.

1.2 MARKET PARTICIPANT REGISTRATION AND MARKET SUPPORT SERVICES LICENSEE AUTHORISATION

- 1.2.1 No person, other than a *market support services licensee*, shall participate in the *wholesale electricity markets* or cause or permit any *physical service* to be conveyed into, through or out of the *transmission system* unless:
 - 1.2.1.1 that person has been registered by the *EMC* as a *market participant* pursuant to this section 1.2 and section 3; and

- 1.2.1.2 subject to sections 5.1.2 to 5.1.9, the facility to or from which the *physical service* is to be so conveyed has been registered by the *EMC* as a *registered facility*, as a *commissioning generation facility*, as a *generation settlement facility*, or as a *non-exporting embedded intermittent generation facility* pursuant to section 5.2, 5.3, 5.4 or 5.4B, as the case may be.
- 1.2.2 No person shall be registered by the *EMC* as a *market participant* unless the *EMC* is satisfied:
- 1.2.2.1 on the basis of the certification, tests, and inspections referred to in section 8.2, that the person satisfies the technical requirements referred to in that section applicable to all *market participants*, to the class of *market participant* of which the person forms part and the *wholesale electricity market* in which the person wishes to participate;
- 1.2.2.2 on reasonable grounds, if the person applies to participate in the *real-time markets*, that the person will satisfy the prudential requirements set forth in section 7;
- 1.2.2.3 that the person has executed the *PSO/MP agreement*; and
- 1.2.2.4 that the person:
- a. if it engages in an activity for which an *electricity licence* is required under section 6 of the *Electricity Act*, holds an *electricity licence* permitting it to engage in such activity or is exempt by an order made pursuant to section 8 of the *Electricity Act* from the obligation to hold such an *electricity licence*; and
- b. holds an *electricity licence* permitting it to *trade* in the *wholesale electricity markets* or is exempt by an order made pursuant to section 8 of the *Electricity Act* from the obligation to hold such an *electricity licence*.
- 1.2.3 A person that has been registered by the *EMC* as a *market participant* may, subject to the registration of its facilities under section 5 where required, participate in the *wholesale electricity market* to which the registration relates.
- 1.2.4 No *market support services licensee* shall participate in the *wholesale electricity markets* to:
- 1.2.4.1 *supply* and sell *electricity* to non-contestable *consumers*;

1.2.4.2 facilitate access to any *wholesale electricity market* for obtaining *supply of electricity* for *contestable consumers* and *retail electricity licensees*; or

1.2.4.3 provide other services related to access to any *wholesale electricity market*,

unless it has been authorised to do so by the *EMC* pursuant to this section 1.2 and section 3.

1.2.5 No *market support services licensee* shall be authorised to participate in the *wholesale electricity markets* for the purpose referred to in section 1.2.4 unless the *EMC* is satisfied:

1.2.5.1 on the basis of the certification, tests and inspections referred to in section 8.2.3, that the *market support services licensee* satisfies the technical requirements referred to in that section;

1.2.5.2 on reasonable grounds, that the *market support services licensee* will satisfy the prudential requirements set forth in section 7;

1.2.5.3 that the *market support services licensee* has executed such agreement with the *PSO* as may be required by the applicable *market manual*; and

1.2.5.4 that the *market support services licensee* holds an *electricity licence* permitting it to engage in and provide the relevant *market support services* referred to in section 1.2.4 pertaining to the *wholesale electricity markets*, for which the *market support services licensee* seeks to be authorised.

2 CLASSES OF MARKET PARTICIPANTS

- 2.1.1 For the purposes of these *market rules*, *market participants* shall be comprised in the following classes:
- 2.1.1.1 *generation licensee* class of *market participants*, comprising of all *market participants* who are *generation licensees*;
 - 2.1.1.2 *retail electricity licensee* class of *market participants*, comprising of all *market participants* who are *retail electricity licensees*;
 - 2.1.1.3 wholesale trader class of *market participants*, comprising of all *market participants* (other than *generation licensees*, *retail electricity licensees* and *transmission licensees*), that either have been granted an *electricity licence* permitting them to *trade* in the *wholesale electricity markets* or are exempt by an order made pursuant to section 8 of the *Electricity Act* from the obligation to hold such an *electricity licence*; and
 - 2.1.1.4 *transmission licensee* class of *market participants*, comprising of all *market participants* who are *transmission licensees*.

3 APPLICATION FOR REGISTRATION OR AUTHORISATION

- 3.1.1 If a person wishes to be registered by the *EMC* as a *market participant*, he shall file a completed *participant registration application* with the *EMC*. Such *participant registration application* shall be in the form set out in the applicable *market manual*.
- 3.1.2 If the *EMC* determines that a *participant registration application* which it receives is incomplete or contains information with respect to which the *EMC* requires clarification, the *EMC* shall request that the relevant *participation applicant* provide further information or clarification required to support that application. Such request shall be made by the *EMC* within ten *business days* of its receipt of that application (or such longer period as the *EMC* may agree with the *participation applicant*).
- 3.1.3 The *participation applicant* shall be deemed to have withdrawn its *participant registration application* if it does not provide the information or clarification requested under section 3.1.2 to the *EMC*'s satisfaction within fifteen *business days* of the request (or such longer time as the *EMC* may agree with it).
- 3.1.4 Within twenty *business days* of receiving (i) a *participation applicant*'s *participant registration application*; or (ii) further information or clarification requested under section 3.1.2, whichever is later (or within such longer period as it may agree with the *participation applicant*), if the *EMC*:
- 3.1.4.1 is satisfied that the *participation applicant* meets all the requirements in section 1.2.2 and all the requirements as prescribed in the applicable *market manual*, it shall register the *participation applicant* as a *market participant* on such terms and conditions (that comply with section 3.1.7) as it determines appropriate; or
- 3.1.4.2 is not satisfied that the *participation applicant* meets all the requirements in section 1.2.2 and all the requirements as prescribed in the applicable *market manual*, it shall deny the *participation applicant* registration as a *market participant*, except that, if the *EMC* is satisfied that a *participation applicant* meets the requirements in sections 1.2.2.2 and 1.2.2.3, it may conditionally register the *participation applicant* as a *market participant*,

and notify the *participation applicant* of the same. If the *EMC* denies the *participation applicant* registration, the notice shall identify the reason for the denial. If the *EMC* conditionally registers the *participation applicant* as a *market participant*, the notice shall state a date by which the *participation applicant* shall satisfy all the remaining unsatisfied requirements in section 1.2.2 and in the applicable *market manual*.

- 3.1.5 For the purposes of section 3.1.4, *conditional registration* means the registration of a *participation applicant* by the *EMC* as a *market participant* whose registration is conditional upon the *participation applicant* satisfying all the remaining unsatisfied requirements in section 1.2.2 and in the applicable *market manual* by the date stated in the notice to a *participation applicant* that it has been *conditionally registered* (“conditional registration deadline”). Such *conditional registration* shall:
- 3.1.5.1 permit the *participation applicant* to commence the process of registration of its facilities pursuant to section 5 (provided that the *EMC* shall not register such facilities if the *participant applicant* has not been issued with the notice referred to in section 3.1.5.3);
 - 3.1.5.2 not otherwise have effect, or impose any other obligations on or grant any other rights to the *participation applicant* as a *market participant*, until the *participant applicant* has been issued with the notice referred to in section 3.1.5.3; and
 - 3.1.5.3 lapse on the fifth *business day* from the conditional registration deadline unless the *participation applicant* has by that fifth *business day* received a notice from the *EMC* that the *participation applicant* has satisfied all the requirements in section 1.2.2 and in the applicable *market manual*.
- 3.1.6 When a *participation applicant* (who has been granted *conditional registration*) receives a notice from the *EMC* that it has satisfied all the requirements in section 1.2.2 and in the applicable *market manual*, it shall be deemed registered as a *market participant* on the terms and conditions (that comply with section 3.1.7) set forth in the notice.
- 3.1.7 *Registration terms* imposed in respect of a *market participant* shall not unjustly discriminate against or in favour of the *market participant*. However, if the *market participant* intends to register a facility outside Singapore under section 5, the *registration terms* imposed on it may be different from (including more onerous than) the *registration terms* imposed on other *market participants*. For the avoidance of doubt, *registration terms* may, impose new or more onerous requirements on a *market participant* than the requirements that would otherwise apply to it under these *market rules*.

- 3.1.8 A *person* shall comply with the dispute resolution procedures in section 3 of Chapter 3 if he wishes to dispute a decision made by the *EMC* under section 3.1.4.2 to deny a *participation applicant* registration as a *market participant*, or to dispute any *registration terms*.
- 3.1.9 A *participation applicant* or a *market participant* shall immediately inform the *EMC* of any circumstances which result (or will likely result) in a change to the information provided in its *participant registration application* or in any updates to its *participant registration application*.
- 3.1.10 If a *market support services licensee* intends to participate in the *wholesale electricity markets* to:
- 3.1.10.1 *supply* and sell *electricity* to non-contestable *consumers*;
- 3.1.10.2 facilitate access to any *wholesale electricity market* for obtaining *supply* of *electricity* for contestable *consumers* and *retail electricity licensees*; or
- 3.1.10.3 provide other services related to access to any *wholesale electricity market*,
- it shall file a completed *application for authorisation* with the *EMC* in the form set out in the applicable *market manual*.
- 3.1.11 If a *market support services licensee* seeks authorisation to participate in the *wholesale electricity markets* for the purposes referred to in section 3.1.10, sections 3.1.1 to 3.1.9 shall apply to it and all references in those sections to:
- 3.1.11.1 a *person* who wishes to be registered as a *market participant* shall be read as references to a *market support services licensee* who wishes to be authorised to participate in the *wholesale electricity markets*;
- 3.1.11.2 a *participant registration application* shall be read as references to its *application for authorisation*;
- 3.1.11.3 a *participation applicant* shall be read as references to the *market support services licensee*;
- 3.1.11.4 registration as *market participant* shall be read as references to authorisation of a *market support services licensee* to participate in the *wholesale electricity markets*; and
- 3.1.11.5 *registration terms* shall (notwithstanding the definition thereof in Chapter 8) be read as references to the terms and conditions which the *EMC* may impose in respect of the authorisation of a

market support services licensee to participate in the *wholesale electricity market*, under section 3.1.4.1 or 3.1.6 (as the case may be and each as modified and applied pursuant to this section 3.1.11); and

3.1.11.6 *section 1.2.2, 1.2.2.1, 1.2.2.2, 1.2.2.3 or 1.2.2.4 shall be read as references to section 1.2.5, 1.2.5.1, 1.2.5.2, 1.2.5.3 or 1.2.5.4 respectively.*

3.1.12 The *EMC* shall establish, maintain, update and *publish* a list of:

3.1.12.1 all *market participants*;

3.1.12.2 all *participation applicants* whose applications are currently under consideration by the *EMC*; and

3.1.12.3 all *market support services licensees* that have been granted authorisation under section 3.

3.1.13 The *EMC* shall notify each *market support services licensee* in accordance with the applicable *code of practice* of the receipt and the status of a *participant registration application* filed by a contestable consumer.

4 WITHDRAWAL BY A MARKET PARTICIPANT OR MARKET SUPPORT SERVICES LICENSEE

- 4.1.1 Provided that the *market participant* has requested that the *EMC* cancel or transfer the registration of any applicable *registered facility*, *generation settlement facility* or *non-exporting embedded intermittent generation facility* pursuant to section 6, a *market participant* that wishes to cease being a *market participant* shall provide a written notice to the *EMC* to that effect. The notice shall specify the date of the *trading day* upon which the *market participant* intends to cease to participate in the *wholesale electricity markets* or to cause or permit any *physical service* to be conveyed into, through or out of the *transmission system*. The *trading day* specified shall not be earlier than the *trading day* on which:
- 4.1.1.1 the registration of the last of the *market participant's* applicable *registered facilities*, *generation settlement facilities* or *non-exporting embedded intermittent generation facility* is to be cancelled by the *EMC*, determined in accordance with section 6.1; or
 - 4.1.1.2 the registration of the last of the *market participant's* applicable *registered facilities*, *generation settlement facilities* or *non-exporting embedded intermittent generation facilities* is to be transferred by the *EMC*, determined in accordance with section 6.2.
- 4.1.2 Upon receipt of the notice referred to in section 4.1.1, the *EMC* shall *publish* a notice stating that:
- 4.1.2.1 the *EMC* has received a notice under section 4.1.1; and
 - 4.1.2.2 the *market participant* that gave the notice has stated that, from the end of the *trading day* specified in the notice, it intends to cease participating in the *wholesale electricity markets* or causing or permitting any *physical service* to be conveyed into, through or out of the *transmission system*.
- 4.1.3 A *market participant* that has given notice pursuant to section 4.1.1 shall cease to participate in the *wholesale electricity markets* and to cause or permit any *physical service* to be conveyed into, through or out of the *transmission system* no later than the end of the *trading day* specified in such notice.
- 4.1.4 The registration of a *market participant* that has given notice under section 4.1.1 shall expire on the date of the *trading day*:
- 4.1.4.1 specified in the notice referred to in section 4.1.1;

- 4.1.4.2 referred to in section 4.1.1.1;
- 4.1.4.3 referred to in section 4.1.1.2; or
- 4.1.4.4 on which all payments due to be paid by it or to it under the *market rules* have been made,
- whichever is the later.
- 4.1.5 A person whose registration as a *market participant* expires pursuant to section 4.1.4 shall remain subject to and liable for all of its obligations and liabilities as a *market participant*, including a liability under section 9 of this Chapter or a liability in respect of adjustments arising from *metering errors* under Chapter 7, which were incurred or arose under the *market rules*, a *market manual* or the *system operation manual* prior to or on the *trading day* on which such registration so expires regardless of the date on which any claim relating thereto may be made, subject only to any applicable provisions of the Limitation Act (Cap. 163).
- 4.1.6 Once the *EMC* is satisfied that a person whose registration as a *market participant* has expired pursuant to section 4.1.4 has no remaining financial obligations or liabilities under the *market rules*, including a liability under section 9 of this Chapter or an actual, contingent or prospective liability in respect of adjustments arising from *metering errors* under Chapter 7, the *EMC* shall return to the person all *credit support* held by the *EMC* in respect of such person.
- 4.1.7 The *EMC* shall establish, maintain, update as required and *publish* a list of all *market participants* that will cease to be *market participants* and the date, determined in accordance with section 4.1.4, on which the registration of each listed *market participant* expired.
- 4.1.8 The *EMC* shall notify each *market support services licensee* of the date on which the registration of any *market participant* that is a contestable *consumer* expires.
- 4.1.9 Sections 4.1.1 to 4.1.6 shall apply to each *market support services licensee* that has been granted authorisation to participate by the *EMC* pursuant to section 3 and that intends to cease participating in the *wholesale electricity markets* and, for such purposes, references in those sections to:
- 4.1.9.1 a *market participant* shall be deemed to include references to a *market support services licensee*; and
- 4.1.9.2 registration shall be deemed to include references to authorisation.

5 FACILITIES REGISTRATION

5.1 REQUIREMENT FOR REGISTRATION

5.1.1 No person, other than a *market support services licensee*, shall participate in the *real-time markets* or cause or permit any *physical service* to be conveyed into, through or out of the *transmission system* unless:

5.1.1.1 that person is registered as a *market participant* pursuant to section 1.2 and section 3; and

5.1.1.2 subject to sections 5.1.2 to 5.1.9, the facility to or from which the *physical service* is to be so conveyed has been registered by the *EMC* as a *registered facility*, as a *commissioning generation facility*, as a *generation settlement facility* or as a *non-exporting embedded intermittent generation facility* pursuant to section 5.2, 5.3, 5.4 or 5.4B, as the case may be.

5.1.2 A person that intends to participate in the *real-time markets* or cause or permit a *physical service* to be conveyed into, through or out of the *transmission system* from a *load facility* shall not be required to register the *load facility* as a *registered facility* unless:

5.1.2.1 the person wishes to provide a *physical service* from such *load facility* to the *real-time markets*, or withdraw a *physical service* through such *load facility* from the *real-time markets*; and

5.1.2.2 the *EMC* has *published* a notice indicating that *load facilities* may be registered as *registered facilities* for the purpose of providing or withdrawing that *physical service*.

Where the *EMC* has *published* a notice pursuant to section 5.1.2.2 in respect of a *physical service*, a person wishing to provide that *physical service* from, or withdraw that *physical service* through, a *load facility* shall be required to register that *load facility* as a *registered facility*. No *load facility* shall be registered as a *registered facility* or subject to *dispatch* by the *PSO* other than a *load facility* that is registered to provide or withdraw a *physical service* in respect of which a notice has been *published* pursuant to section 5.1.2.2.

Explanatory Note: Pursuant to section 5.1.2.2, the EMC has published a notice on 15 December 2003 stating that, from 1 January 2004, all interested parties can register their load facilities to provide reserve to the Singapore Wholesale Electricity Market. Pursuant to section 5.1.2.2, the EMC has also published a notice on 21 April 2016 stating that, from 28 April 2016, all interested parties can register

their load facilities to be scheduled for energy withdrawal for the purposes of load curtailment in the Singapore Wholesale Electricity Market, as contemplated in the Authority’s final determination paper titled “Implementing Demand Response in the National Electricity Market of Singapore” dated 28 October 2013.

- 5.1.3 Unless otherwise provided in section 5.1.4, 5.1.5 or 5.1.6, a person that intends to participate in the *real-time markets* or cause or permit a *physical service* to be conveyed into, through or out of the *transmission system* from a *generation facility* having a name-plate rating of less than 1 MW shall not be required to register that *generation facility* as a *registered facility* or a *generation settlement facility*. No such *generation facility* shall be subject to *dispatch* by the *PSO*, unless that *generation facility* is registered as a *generation registered facility*.

Explanatory Note: The name-plate rating of each given facility (including that of an intermittent generation facility) shall be its alternating current output capacity.

- 5.1.4 A person that intends to participate in the *real-time markets* or cause or permit a *physical service* to be conveyed into, through or out of the *transmission system* from any *generation facility* that is not an *intermittent generation facility*, which together with all other *generation facilities* that are not *intermittent generation facilities* at the same *generating station* (if any) have an aggregate name-plate rating of 10 MW or more, shall register all the *generation facilities* of such *generating station* as one or more *generation registered facilities* in accordance with Appendix 2B.
- 5.1.5 Unless otherwise provided in section 5.1.6 or 5.1.10, a person that intends to participate in the *real-time markets* or cause or permit a *physical service* to be conveyed into, through or out of the *transmission system* from any *generation facility* that is not an *intermittent generation facility*, which together with all other *generation facilities* that are not *intermittent generation facilities* at the same *generating station* (if any) have an aggregate name-plate rating of 1 MW or more but less than 10 MW, shall register all the *generation facilities* of such *generating station* as one or more *generation settlement facilities* in accordance with Appendix 2B.
- 5.1.6 Notwithstanding section 5.1.5, if a person intends that any one or more of the *generation facilities* at a *generating station* described in section 5.1.5 be subject to *dispatch* by the *PSO*, that person shall register such *generation facilities* as one or more *generation registered facilities* in accordance with Appendix 2B.
- 5.1.7 A person that intends to participate in the *real-time markets* or cause or permit a *physical service* to be conveyed into, through or out of the

transmission system from one or more *intermittent generation facilities* shall register such *intermittent generation facilities* as one or more *generation settlement facilities*, unless such registration requirements are waived by the *Authority*, not required pursuant to section 5.1.3, or if section 5.1.9 or 5.1.10 applies.

Explanatory Note: The Authority has waived the above registration requirements for certain generation facilities of non-contestable consumers pursuant to the Authority's Assessment and Decision on Review of Policy on Generation with less than 1MW in Installed Capacity published on 28 February 2011.

- 5.1.8 Notwithstanding sections 5.1.3 to 5.1.7, a person, other than a *market support services licensee*, that intends to participate in the *real-time markets* or cause or permit a *physical service* to be conveyed into, through or out of the *transmission system* from a *generation facility* may first register such *generation facility* as a *commissioning generation facility* under section 5.3 in pursuance of the subsequent registration of the *generation facility* as a *generation registered facility* or a *generation settlement facility*.
- 5.1.9 A person that intends to participate in the *real-time markets* or cause or permit a *physical service* to be conveyed into, through or out of the *transmission system* from an embedded *intermittent generation facility* having a name-plate rating of less than 10 MW, may register such *generation facility* as a *non-exporting embedded intermittent generation facility*.

Explanatory Note: For the purposes of this section 5.1.9, intermittent generation facilities are embedded intermittent generation facilities only if they meet the eligibility conditions for embedded intermittent generation sources as specified in the Authority's Clarification Paper on Enhancements to the Regulatory Framework for Intermittent Generation Sources in the National Electricity Market of Singapore dated 24 February 2015.

- 5.1.10 Notwithstanding section 5.1.5, but subject always to section 5.1.6, a *generation facility* (that is not an *intermittent generation facility*) referred to in section 5.1.5 or an *intermittent generation facility* referred to in section 5.1.7 may be comprised in a *generation settlement facility* that is registered by the *market support services licensee* in accordance with section 5.4A in lieu of being registered as a *generation settlement facility* by a *market participant*.

5.1A REGISTRATION PROCESS

5.1A.1 Each applicable *market participant* shall apply for:

5.1A.1.1 the registration of its facility as a *registered facility* and the registration of a *market participant* as the *dispatch coordinator* for such facility in accordance with section 5.2;

5.1A.1.2 the registration of its facility as a *generation settlement facility* in accordance with section 5.4;

5.1A.1.3 the registration of its facility as a *commissioning generation facility* and, if the facility is required or intended to be registered as a *generation registered facility*, the registration of a *market participant* as the *dispatch coordinator* for such facility, in accordance with section 5.3; or

5.1A.1.4 the registration of its facility as a *non-exporting embedded intermittent generation facility* in accordance with section 5.4B,

as the case may be, and in accordance with the process described in the applicable *market manual*.

5.1A.2 A *market support services licensee* shall apply for the registration of

5.1A.2.1 one or more *intermittent generation facilities*; or

5.1A.2.2 one or more *generation facilities* (that are not *intermittent generation facilities*),

as a *generation settlement facility* in accordance with section 5.4A and the process described in the applicable *market manual*.

5.2 REGISTRATION OF GENERATION REGISTERED FACILITIES AND LOAD REGISTERED FACILITIES

5.2.1 [Deleted and Intentionally Left Blank]

5.2.2 The process referred to in section 5.1A.1.1 shall include the obligation to provide the certifications referred to in sections 5.2.4.5 and 5.2.4.6 and the testing and inspection obligations referred to in section 5.2.4.7.

5.2.3 A *market participant* may apply to register a facility as a *registered facility* for the delivery or withdrawal of specific *physical services* pursuant to the provisions of this section 5.2.

- 5.2.4 The *EMC* shall register a facility as a *registered facility* if:
- 5.2.4.1 the applying *market participant* submits:
- a. the registration information required by section 5.2;
 - b. a copy of the *connection agreement* entered into with the *transmission licensee* for the facility, unless the facility is an aggregation of multiple installations as described under section 1.1.3 of Chapter 4 (where applicable);
 - c. identification of the *physical services* intended to be provided from or withdrawn through the facility; and
 - d. a *standing offer* or *standing bid* for each *physical service* intended to be provided from or withdrawn through the facility as required under sections 5.1.1 to 5.1.3 or section 5.1A.1 of Chapter 6, respectively;
- 5.2.4.2 the *PSO*, upon referral of the application for registration by the *EMC*, advises the *EMC* that the facility for which registration is sought poses no threat to the *reliability* or *security* of the *PSO controlled system*;
- 5.2.4.3 the *EMC* is satisfied on reasonable grounds that the applying *market participant* has operational control and authority over the *registered facility*;
- 5.2.4.4 the *EMC*, after consulting with the *PSO*, is satisfied on reasonable grounds that the facility is capable of operating as described in the registration information or as otherwise provided by the *market rules*, any applicable *market manual* or the *system operation manual* or any additional requirements imposed pursuant to section 5.2.4.8 in respect of the relevant *physical service*;
- 5.2.4.5 the applying *market participant* certifies to the *EMC* that all of the facilities and equipment to which its application for registration relates comply with all applicable technical requirements, other than those referred to in section 8.2:
- a. set forth in these *market rules*, any applicable *market manual* or the *system operation manual* applicable to all *market participants*, the class of *market participant* of which the applying *market participant* forms part and the *wholesale electricity market* in which the applying *market participant* wishes to participate; and
 - b. imposed pursuant to section 5.2.4.8;

- 5.2.4.6 the applying *market participant* certifies to the *EMC* that it has adequate qualified employees or other personnel and organisational and other arrangements that are sufficient to enable the applying *market participant* to perform all of the functions and obligations applicable to *market participants* under:
- a. these *market rules*, any applicable *market manual* or the *system operation manual*, the class of *market participant* of which the applying *market participant* forms part and the *wholesale electricity market* in which the applying *market participant* wishes to participate; and
 - b. imposed pursuant to section 5.2.4.8,
- in respect of all of the facilities and equipment to which its application for registration relates;
- 5.2.4.7 the applying *market participant* successfully completes such testing and permits such inspection as the *EMC* may reasonably require for the purposes of testing or inspecting whether all of the facilities and equipment to which its application for registration relates meet all applicable technical requirements, other than those referred to in section 8.2:
- a. set forth in these *market rules*, any applicable *market manual* or the *system operation manual* applicable to all *market participants*, the class of *market participant* of which the applying *market participant* forms part and the *wholesale electricity market* in which the applying *market participant* wishes to participate; and
 - b. imposed pursuant to section 5.2.4.8; and
- 5.2.4.8 where the facility to which the application for registration relates is located outside of Singapore, the *EMC* is satisfied on reasonable grounds that the facility meets such additional requirements as may be imposed by the *EMC*.
- 5.2.5 The *market participant* designated in the registration information as the *market participant* authorised to submit *dispatch data* with respect to a *registered facility* shall be the *dispatch coordinator* for that *registered facility*. The *dispatch coordinator* designated for a *registered facility* may not be changed without the prior approval of the *EMC*.
- 5.2.6 The information required for registration as a *registered facility* shall, subject to any lesser information requirements that may be specified in

the applicable *market manual* in respect of the registration of a given class or size of facility, include:

- 5.2.6.1 the identity of the owner and the operator of the facility;
 - 5.2.6.2 the identity of the proposed *dispatch coordinator* for the facility;
 - 5.2.6.3 information demonstrating that the proposed *dispatch coordinator* for the facility has the operational control necessary to assure delivery or withdrawal of the relevant *physical services* as described in the registration information;
 - 5.2.6.4 information demonstrating that the facility meets the *connection*-related requirements and the *metering*-related requirements set forth or referred to in Chapter 4;
 - 5.2.6.5 the location of the facility and the identity of the *RQM* that will measure the flow of energy between the facility and the *transmission system*; and
 - 5.2.6.6 such data as may be required by the *PSO* so as to satisfy the *PSO* that the operation of the facility will not have an unacceptable impact on the *reliability* or *security* of the *PSO controlled system* and that the *PSO* can *dispatch* the facility for the services that facility is registering to provide during both normal and emergency situations including, but not limited to, *standing capability data* for the facility.
- 5.2.7 The *EMC* shall, in addition to referring each application for registration of a facility as a *registered facility* to the *PSO*, provide the *PSO* with such additional technical information associated with any such application for registration as the *EMC* may determine appropriate or as the *PSO* may request for the purpose of the fulfilment by the *PSO* of its obligations under these *market rules*. The *EMC* shall provide the applicable *market support services licensee* with such metering-related information contained in or associated with any such application for registration as the *EMC* may determine appropriate or as the *market support services licensee* may request for the purpose of the fulfilment by the *market support services licensee* of its obligations under these *market rules* or the *metering code*.

5.3 REGISTRATION OF COMMISSIONING GENERATION FACILITIES

- 5.3.1 A *market participant* shall apply to register a *commissioning generation facility*:
- 5.3.1.1 if the facility is required or intended to be registered as a *generation registered facility* under section 5.1; or
 - 5.3.1.2 if the facility is required or intended to be registered as a *generation settlement facility* under section 5.1, and is required to cause or permit any *physical service* to be conveyed into, through or out of the *transmission system*,

on a transitional basis in accordance with the applicable *market manual* for the purpose of being permitted to convey a *physical service* into, through or out of the *transmission system* or of participating in the *real-time markets* during the period in which the *commissioning generation facility* is undergoing the commissioning tests referred to in section 5.3.4.
- 5.3.2 The *EMC* shall register a facility as a *commissioning generation facility* on a transitional basis if the *EMC* is satisfied that the requirements of the *market rules* and the applicable *market manual* have been met and shall issue to the *market participant* a notification of transitional registration. Each such registration shall expire on the earlier of:
- 5.3.2.1 the expected date of completion by the *commissioning generation facility* of the final commissioning test, being the later of:
 - a. the date specified by the *market participant* in its commissioning test plans that have been submitted to and approved by the *PSO* pursuant to section 5.3.4; or
 - b. such later date as may be requested by the *market participant* in accordance with the applicable *market manual* and approved by the *PSO* for completing the final commissioning test,in each case as communicated by the *PSO* to the *EMC*; or
 - 5.3.2.2 upon the registration of the facility as a *generation registered facility* or *generation settlement facility*.
- 5.3.3 Upon expiry of the registration referred to in section 5.3.2, a *market participant* shall not participate in the *real-time markets* nor cause or permit any *physical service* to be conveyed into, through or out of the *transmission system* in respect of a former *commissioning generation*

facility unless such former *commissioning generation facility* has been registered in accordance with section 5.2 or 5.4.

5.3.4 Where a *commissioning generation facility* has been registered by the *EMC* pursuant to section 5.3.2, the *market participant* for that *commissioning generation facility* shall, while such registration is in effect:

5.3.4.1 ensure that the *commissioning generation facility*:

- a. except as may otherwise be provided in the notification of transitional registration applicable to the *commissioning generation facility*, complies with all of the provisions of the *market rules* applicable to *registered facilities*; and
- b. complies with any applicable *connection*-related requirements.

5.3.4.2 submit to the *PSO*, for approval and in accordance with section 5.3.5, information detailing the commissioning test plans for the *commissioning generation facility*.

5.3.5 The detailed commissioning test plans referred to in section 5.3.4.2 shall be submitted to the *PSO* for approval and shall, if determined by the *PSO* to be required, include:

5.3.5.1 the time required for the *commissioning generation facility* to *synchronise* to and *desynchronise* from the *PSO controlled grid*;

5.3.5.2 *energy* and reactive power output levels;

5.3.5.3 the timing of and ramp rates associated with changes in *energy* and reactive power output levels; and

5.3.5.4 run-back or trip tests for the *commissioning generation facility*.

5.3.6 Except as otherwise provided in this section 5.3 or in the notification of transitional registration applicable to the *commissioning generation facility*, where a *commissioning generation facility* has been registered by the *EMC* pursuant to section 5.3.2, the *EMC* shall, while such registration is in effect, other than for the purposes of section 3.7.3 of Chapter 5 and Appendix 5D, treat the *commissioning generation facility* as a:

5.3.6.1 *generation registered facility* for all purposes under these *market rules*, including with respect to the submission of *dispatch data* and *settlement*, where the application for the

registration of such *commissioning generation facility* is made under section 5.3.1.1; or

5.3.6.2 *generation settlement facility* for all purposes under these *market rules*, where the application for the registration of such *commissioning generation facility* is made under section 5.3.1.2.

5.4 REGISTRATION OF GENERATION SETTLEMENT FACILITIES BY MARKET PARTICIPANTS

5.4.1 The process referred to in section 5.1A.1.2 shall include the obligation to provide the certifications referred to in sections 5.4.3.5 and 5.4.3.6 and the testing and inspection obligations referred to in section 5.4.3.7.

5.4.2 A *market participant* may apply to register a facility as a *generation settlement facility* for the delivery of *energy* only.

5.4.3 The *EMC* shall register a facility as a *generation settlement facility* if:

5.4.3.1 the applying *market participant* submits:

- a. the registration information required by this section 5.4; and
- b. a copy of the *connection agreement* entered into with the *transmission licensee* with respect to the facility;

5.4.3.2 the *PSO*, upon referral of the application for registration by the *EMC*, advises the *EMC* that the facility for which registration is sought poses no threat to the *reliability* or *security* of the *PSO controlled system*;

5.4.3.3 the *EMC* is satisfied on reasonable grounds that the applying *market participant* has operational control and authority over the *generation settlement facility*;

5.4.3.4 the *EMC*, after consulting with the *PSO*, is satisfied on reasonable grounds that the facility is capable of operating as described in the registration information or as otherwise provided by the *market rules*, any applicable *market manual* or the *system operation manual*;

5.4.3.5 the applying *market participant* certifies to the *EMC* that all of the facilities and equipment to which its application for registration relates comply with all applicable technical requirements, other than those referred to in section 8.2, set forth in these *market rules*, any applicable *market manual* or

- the *system operation manual* applicable to all *market participants*, the class of *market participant* of which the applying *market participant* forms part and the *wholesale electricity market* in which the applying *market participant* wishes to participate;
- 5.4.3.6 the applying *market participant* certifies to the *EMC* that it has adequate qualified employees or other personnel and organisational and other arrangements that are sufficient to enable the applying *market participant* to perform all of the functions and obligations applicable to *market participants* under these *market rules*, any applicable *market manual* or the *system operation manual*, the class of *market participant* of which the applying *market participant* forms part and the *wholesale electricity market* in which the applying *market participant* wishes to participate in respect of all of the *facilities* and equipment to which its application for registration relates; and
- 5.4.3.7 the applying *market participant* successfully completes such testing and permits such inspection as the *EMC* may reasonably require for the purposes of testing or inspecting whether all of the *facilities* and equipment to which its application for registration relates meet all applicable technical requirements, other than those referred to in section 8.2, set forth in these *market rules*, any applicable *market manual* or the *system operation manual* applicable to all *market participants*, the class of *market participant* of which the applying *market participant* forms part and the *wholesale electricity market* in which the applying *market participant* wishes to participate.
- 5.4.4 The information required for registration as a *generation settlement facility* shall, subject to any lesser information requirements that may be specified in the applicable *market manual* in respect of the registration of a given class or size of facility, include:
- 5.4.4.1 the identity of the owner and the operator of the facility;
- 5.4.4.2 information demonstrating that the facility meets the *connection*-related requirements and the *metering*-related requirements set forth or referred to in Chapter 4;
- 5.4.4.3 the location of the facility and the identity of the *RQM* that will measure the flow of energy between the facility and the *transmission system*; and
- 5.4.4.4 such data as may be required by the *PSO* so as to satisfy the *PSO* that the operation of the facility will not have an

unacceptable impact on the *reliability* or *security* of the *PSO controlled system*.

- 5.4.5 The *EMC* shall, in addition to referring each application for registration of a facility as a *generation settlement facility* to the *PSO*, provide the *PSO* with such additional technical information associated with any such application for registration as the *EMC* may determine appropriate or as the *PSO* may request for the purpose of the fulfilment by the *PSO* of its obligations under these *market rules*. The *EMC* shall provide the applicable *market support services licensee* with such metering-related information contained in or associated with any such application for registration as the *EMC* may determine appropriate or as the *market support services licensee* may request for the purpose of the fulfilment by the *market support services licensee* of its obligations under these *market rules* or the *metering code*.

5.4A REGISTRATION OF GENERATION SETTLEMENT FACILITIES BY A MARKET SUPPORT SERVICES LICENSEE

- 5.4A.1 The process referred to in section 5.1A.2 shall include the obligation to provide the relevant representations, warranties and undertakings referred to in section 5.4A.3 or 5.4A.3A, as applicable.
- 5.4A.2 A *market support services licensee* may apply to register a *generation facility* as a *generation settlement facility* for the delivery of *energy* only.
- 5.4A.3 The *EMC* shall register one or more *intermittent generation facilities* as a *generation settlement facility* if the applying *market support services licensee* represents, warrants and undertakes (as continuing representations, warranties and undertakings) to the *EMC* in writing that, at all times:
- 5.4A.3.1 such *generation settlement facility* shall be comprised only of embedded *intermittent generation facilities*;

Explanatory Note: For the purposes of this section 5.4A.3.1, intermittent generation facilities are embedded intermittent generation facilities only if they meet the eligibility conditions for embedded intermittent generation sources as specified in the Authority's Clarification Paper on Enhancements to the Regulatory Framework for Intermittent Generation Sources in the National Electricity Market of Singapore dated 24 February 2015.

- 5.4A.3.2 every *intermittent generation facility* as may from time to time be comprised in such *generation settlement facility* is for the purpose of *supplying electricity* to a contestable *consumer*;
- 5.4A.3.3 such *generation settlement facility* shall not be comprised of any *intermittent generation facility* directly or indirectly *connected* to a given substation of the *transmission licensee* (if any) for the purposes of *supplying electricity* to a given contestable *consumer*, if such *intermittent generation facility* together with all other *intermittent generation facilities* directly or indirectly *connected* to that given substation for the purposes of *supplying electricity* to that given contestable *consumer*, have an aggregate name-plate rating of 10 MW or more; and
- 5.4A.3.4 a *connection agreement* has been entered into (and remains in full force and effect) in respect of each *intermittent generation facility* as may from time to time be comprised in such *generation settlement facility*.
- 5.4A.3A The *EMC* shall register one or more *generation facilities* as a *generation settlement facility* if the applying *market support services licensee* represents, warrants and undertakes (as continuing representations, warranties and undertakings) to the *EMC* in writing that, at all times:
- 5.4A.3A.1 such *generation settlement facility* shall be comprised only of *generation facilities* that are not *intermittent generation facilities*;
- 5.4A.3A.2 such *generation settlement facility* shall be comprised only of *generation facilities* which are embedded *generation facilities*;
- Explanatory Note: For the purposes of this section 5.4A.3A.2, generation facilities are embedded generation facilities only if they meet the eligibility conditions for embedded generation facilities as specified in the Authority's Information Guide for Embedded Generation dated February 2014.**
- 5.4A.3A.3 every *generation facility* as may from time to time be comprised in such *generation settlement facility* is for the purpose of *supplying electricity* to a contestable *consumer*;
- 5.4A.3A.4 such *generation settlement facility* shall not be comprised of any *generation facility*, which together with all other *generation facilities* that are not *intermittent generation facilities* at the same *generating station* (if any), have an aggregate name-plate rating of 10 MW or more; and

5.4A.3A.5 a *connection agreement* has been entered into (and remains in full force and effect) in respect of each *generation facility* as may from time to time be comprised in such *generation settlement facility*.

5.4A.4 A *generation settlement facility* that is registered pursuant to section 5.4A.3 or 5.4A.3A shall be classified by the EMC as a *pseudo generation settlement facility*.

Explanatory Note: A generation facility is classified as a pseudo generation settlement facility by the EMC on the successful application by a market support services licensee for registration of a) one or more embedded intermittent generation facilities referred to in section 5.4A.3.1, or b) one or more embedded generation facilities referred to in section 5.4A.3A.2 (that are not intermittent generation facilities), as a generation settlement facility in accordance with section 5.4A.3 or 5.4A.3A respectively, where such generation settlement facility registration is sought for the purpose of the market support services licensee facilitating contestable consumers (who do not wish to participate directly in the wholesale electricity market as market participants) to supply energy produced from their generation facilities through the market support services licensee in the wholesale electricity market. The market energy price to be paid to the pseudo generation settlement facility will be the volume-weighted average market energy price of all generation registered facilities, calculated in accordance with section D.24.1.3 of Appendix 6D.

5.4A.5 A *market support services licensee* may, at any time and from time to time, add or remove one or more *generation facilities* to or from a *generation settlement facility* that is registered pursuant to section 5.4A.3 or 5.4A.3A. The *market support services licensee* shall ensure that all of its representations and warranties as set out in section 5.4A.3 or 5.4A.3A (as the case may be) remain true, accurate and complete, and that it continues to be in full compliance with all its undertakings as set out in section 5.4A.3 or 5.4A.3A (as the case may be), in respect to such *generation settlement facility* and all *generation facilities* for the time being comprised therein consequent to such addition or removal. For the purposes of sections 5.1.7, 5.1.7, 5.4A.3 and 5.4A.3A, a *generation facility* shall:

5.4A.5.1 upon its addition by the *market support services licensee* to such *generation settlement facility*, be deemed to be comprised in and duly registered as a part of such *generation settlement facility*; and

5.4A.5.2 upon its removal by the *market support services licensee* from such *generation settlement facility*, be deemed to cease

being comprised in and duly registered as a part of such *generation settlement facility*.

5.4B REGISTRATION OF NON-EXPORTING EMBEDDED INTERMITTENT GENERATION FACILITIES

Explanatory note: A market participant may apply for its embedded intermittent generation facility with name-plate rating of less than 10MW to be registered as a non-exporting embedded intermittent generation facility, instead of a generation settlement facility which entails daily settlement. The market participant of a non-exporting embedded intermittent generation facility is allowed to pay the relevant market-related charges (“fixed market-related charge”) in advance. This charge is intended to reflect the charges that would have been payable if such facility were to be a non-exporting generation settlement facility that is classified as an embedded generation facility.

The methodology to determine the fixed market-related charge, together with the payment schedule, shall be approved by the Authority and published by the EMC.

- 5.4B.1 A *market participant* may apply to register a *generation facility* as a *non-exporting embedded intermittent generation facility*, if such facility is an embedded *intermittent generation facility* with name-plate rating of less than 10 MW. It shall be understood by the applying *market participant* that there will be no payment to *market participants* in respect of any *non-exporting embedded intermittent generation facility*, whether or not any *electricity* is injected into the *transmission system*.
- 5.4B.2 The *EMC* shall register a *generation facility* as a *non-exporting embedded intermittent generation facility* if:
- 5.4B.2.1 the applying *market participant* submits:
- a. the registration information required by this section 5.4B; and
 - b. a copy of the *connection agreement* entered into with the *transmission licensee* with respect to the facility;
- 5.4B.2.2 the applying *market participant* confirms that the facility is an embedded *intermittent generation facility* with name-plate rating of less than 10 MW;
- 5.4B.2.3 the *PSO*, upon referral of the application for registration by the *EMC*, advises the *EMC* that the facility for which registration is sought poses no threat to the *reliability* or *security* of the *PSO controlled system*;

- 5.4B.2.4 the *EMC* is satisfied on reasonable grounds that the applying *market participant* has operational control and authority over the *generation facility*;
- 5.4B.2.5 the *EMC*, after consulting with the *PSO*, is satisfied on reasonable grounds that the facility is capable of operating as described in the registration information or as otherwise provided by the *market rules*, any applicable *market manual* or the *system operation manual*;
- 5.4B.2.6 the applying *market participant* certifies to the *EMC* that all of the facilities and equipment to which its application for registration relates comply with all applicable technical requirements (other than those referred to in section 8.2) set forth in these *market rules*, any applicable *market manual* or the *system operation manual* applicable to all *market participants*, the class of *market participant* of which the applying *market participant* forms part and the *wholesale electricity market* in which the applying *market participant* wishes to participate;
- 5.4B.2.7 the applying *market participant* certifies to the *EMC* that it has adequate qualified employees or other personnel and organisational and other arrangements that are sufficient to enable the applying *market participant* to perform all of the functions and obligations applicable to *market participants* under these *market rules*, any applicable *market manual* or the *system operation manual*, the class of *market participant* of which the applying *market participant* forms part and the *wholesale electricity market* in which the applying *market participant* wishes to participate in respect of all of the facilities and equipment to which its application for registration relates;
- 5.4B.2.8 the applying *market participant* successfully completes such testing and permits such inspection as the *EMC* may reasonably require for the purposes of testing or inspecting whether all of the facilities and equipment to which its application for registration relates meet all applicable technical requirements (other than those referred to in section 8.2) set forth in these *market rules*, any applicable *market manual* or the *system operation manual* applicable to all *market participants*, the class of *market participant* of which the applying *market participant* forms part and the *wholesale electricity market* in which the applying *market participant* wishes to participate; and
- 5.4B.2.9 the applying *market participant* has paid the *fixed market-related charge* applicable to such *generation facility* to the

EMC in accordance with the payment schedule approved by the *Authority* and published by the *EMC*.

5.4B.3 The information required for registration as a *non-exporting embedded intermittent generation facility* shall, subject to any lesser information requirements that may be specified in the applicable *market manual* in respect of the registration of a given class or size of facility, include:

5.4B.3.1 the identity of the owner and the operator of the facility;

5.4B.3.2 information demonstrating that the facility meets the *connection*-related requirements;

5.4B.3.3 the location of the facility; and

5.4B.3.4 such data as may be required by the *PSO* so as to satisfy the *PSO* that the operation of the facility will not have an unacceptable impact on the *reliability* or *security* of the *PSO controlled system*.

5.4B.4 A *market participant* shall pay the *fixed market-related charge* applicable to each of its *non-exporting embedded intermittent generation facility* to the *EMC* in accordance with the payment schedule approved by the *Authority* and published by the *EMC*.

5.5 CLASSIFICATION OF GENERATION FACILITIES REGISTERED BY MARKET PARTICIPANTS AS EMBEDDED GENERATION FACILITIES

Explanatory Note:

(1) An electricity licensee holding a relevant electricity licence, or a person exempt from the obligation to hold a relevant electricity licence, under the Electricity Act who intends to install a generation facility principally to generate and supply electricity to its load facilities, or such other load facilities, as the Authority may permit may apply to the Authority for approval for that generation facility to be classified by the EMC as an embedded generation facility and to be assigned to an EGF group. Guidance on when the Authority will grant such approval may be found in the Authority's Information Guide for Embedded Generation dated February 2014. If the EMC is notified by the Authority that such approval is granted by the Authority, the EMC shall classify that generation facility as an embedded generation facility and effect such assignment in accordance with the market rules. When so classified and assigned, that generation facility will be eligible to receive net treatment on certain non-reserve charges (i.e. MEUC, the PSO's fees and the EMC's fees) under Chapter 7 of the market rules.

- (2) An electricity licensee holding a relevant electricity licence, or a person exempt from the obligation to hold a relevant electricity licence, under the Electricity Act may also apply to the Authority for approval for a group of one or more generation facilities to be granted price neutralisation. If the EMC is notified by the Authority that such approval is granted by the Authority, the EMC shall grant price neutralisation to that group in accordance with the market rules.
- (3) All of the foregoing applications to the Authority for its approvals will be subject to such procedures, requirements, terms and conditions as the Authority may from time to time impose or prescribe.
- (4) The EMC will cease the classification of a generation facility as an embedded generation facility and its assignment to an EGF group, and/or the grant of price neutralisation to that EGF group, if conditions set out in section 5.5.10.1 and/or section 5.5.11.1 (as the case may be) cease to be satisfied or if the Authority notifies the EMC of the Authority's approval(s) for such cessation(s).

5.5.1 If the *EMC* receives notification from the *Authority* of the *Authority's* approval for a *generation facility* to be classified as an *embedded generation facility* and assigned to an *EGF group*, the *EMC* shall, subject to sections 5.5.2, 5.5.3 and 5.5.4, effect such classification and assignment of that *generation facility* as stated in such notification from the *Authority*:

5.5.1.1 upon the registration of that *generation facility* as a *commissioning generation facility*, a *generation registered facility* or a *generation settlement facility*, if at the date of the *EMC's* receipt of such notification from the *Authority*:

- a. an application had been submitted for that *generation facility* to be so registered; and
- b. such application was then still pending; or

5.5.1.2 within ten *business days* from the date of the *EMC's* receipt of such notification from the *Authority*, if at the date of the *EMC's* receipt of such notification from the *Authority*, the *generation facility* is already registered as a *commissioning generation facility*, a *generation registered facility* or a *generation settlement facility*.

- 5.5.1A Notwithstanding section 5.5.1, the *EMC* may, subject to sections 5.5.2 and 5.5.3, classify an *intermittent generation facility* as an *embedded generation facility* and assign it to an *EGF group* upon the registration of that *intermittent generation facility* as a *generation settlement facility*, if that *intermittent generation facility* comprises only of embedded *intermittent generation facilities*, and such *generation settlement facility* is not one which is registered as such under section 5.4A.3.

Explanatory Note: For the purposes of this section 5.5.1A, intermittent generation facilities are embedded intermittent generation facilities only if they meet the eligibility conditions for embedded intermittent generation sources as specified in the Authority's Clarification Paper on Enhancements to the Regulatory Framework for Intermittent Generation Sources in the National Electricity Market of Singapore dated 24 February 2015.

- 5.5.2 Notwithstanding section 5.5.1 or 5.5.1A, the classification and assignment in respect of a *generation facility* of any person under sections 5.5.1 or 5.5.1A shall be subject to:
- 5.5.2.1 that person at all times being a *market participant*; and
 - 5.5.2.2 that *generation facility* at all times being either a *commissioning generation facility*, a *generation registered facility* or a *generation settlement facility* of such *market participant*.
- 5.5.3 Notwithstanding any other provision in this section 5.5, the *EMC* shall not put into effect any classification, assignment or grant under sections 5.5.1, 5.5.1A, 5.5.6 or 5.5.7 earlier than the date notified by the *market support services licensee* to the *EMC* as being the date by which the *market support services licensee* will be ready to provide the *EMC* with all relevant *settlement data* as may be required, if and when such classification, assignment or grant (as the case may be) is effective, under the *market rules*.
- 5.5.4 Notwithstanding section 5.5.1, the *EMC* shall only effect the classification and assignment in respect of a *generation facility* under section 5.5.1 if, in the *Authority's* notification to the *EMC* referred to in section 5.5.1 in respect of that *generation facility*:
- 5.5.4.1 that *generation facility* is to be assigned to a group which contains only *embedded generation facilities*; and
 - 5.5.4.2 all *generation facilities* assigned or to be assigned to that group are all *generation facilities* of the same *market participant*.

- 5.5.5 Upon the classification of a *market participant's generation facility* as an *embedded generation facility* and its assignment to an *EGF group* under section 5.5.1 or 5.5.1A:
- 5.5.5.1 consumption of *electricity* by that *market participant's load facilities*, or such other *load facilities*, as the *Authority* may permit shall be assigned as the associated *load* of that *EGF group*; and
 - 5.5.5.2 the associated *load* of that *EGF group* shall be associated with the *settlement account* of that *market participant* for that *EGF group*, another *market participant's settlement account*, or a combination of two or more such *settlement accounts*.
- 5.5.6 If the *EMC* receives notification from the *Authority* of the *Authority's* approval for a group of one or more *generation facilities* to be granted *price neutralisation*, and if an *EGF group* has not yet been created for all such *generation facilities* at the date of the *EMC's* receipt of such notification from the *Authority*, the *EMC* shall, subject to section 5.5.3, grant *price neutralisation* to that group with effect on and from the date of creation of that *EGF group*.
- 5.5.6A Notwithstanding section 5.5.6, the *EMC* may grant *price neutralisation* to an *EGF group* created under section 5.5.1A with effect on and from the date of creation of that *EGF group*.
- 5.5.7 If the *EMC* receives notification from the *Authority* of the *Authority's* approval for an existing *EGF group* to be granted *price neutralisation*, the *EMC* shall, subject to section 5.5.3, grant *price neutralisation* to that *EGF group* with effect on and from a date falling within ten *business days* from the date of the *EMC's* receipt of such notification from the *Authority*.
- 5.5.8 In this section 5.5, the reference to the creation of an *EGF group* is a reference to the assignment of the first *embedded generation facility* to such *EGF group*.
- 5.5.9 A *market participant* shall, as long as its *generation facility* is classified by the *EMC* as an *embedded generation facility* and assigned to an *EGF group*, ensure that the associated *load* of that *EGF group* in each successive 12-month period (the first of such 12-month periods shall commence from the day that the first *embedded generation facility* in that *EGF group* is classified by the *EMC* as an *embedded generation facility* and assigned to that *EGF group*) is at least half of the *generation* of that *EGF group* in the same 12-month period.
- 5.5.9A This section 5.5.9 does not apply to *generation facilities* that are classified by the *EMC* as *embedded generation facilities* under section 5.5.1A.

5.5.10 The *EMC* shall cease the classification of a *generation facility* as an *embedded generation facility* and its assignment to an *EGF group*:

5.5.10.1 if any of the conditions in section 5.5.2 ceases to be met; or

5.5.10.2 no later than ten *business days* after the *EMC* receives a notification from the *Authority* of the *Authority's* approval for such cessation.

Explanatory Note: If the registration of an embedded generation facility is transferred from a market participant to another market participant, the EMC will cease to classify that facility as an embedded generation facility and its assignment to its then assigned EGF group. This does not prevent the transferee market participant from seeking fresh approval from the Authority for that facility to be classified as an embedded generation facility of the transferee or assignment to an EGF group.

5.5.11 The *EMC* shall cease the grant of *price neutralisation* to an *EGF group*:

5.5.11.1 if there ceases to be any *embedded generation facility* assigned to that *EGF group*; or

5.5.11.2 no later than ten *business days* after the *EMC* receives a notification from the *Authority* of the *Authority's* approval for such cessation.

Explanatory Note: If the registration of an embedded generation facility is transferred from a market participant to another market participant, the EMC will cease to classify that facility as an embedded generation facility and its assignment to its then assigned EGF group. If that EGF group has been granted price neutralisation, the cessation of assignment of that generation facility to that EGF group will also mean that any price neutralisation which may be granted to the EGF group will no longer include such generation facility. The foregoing does not prevent the transferee market participant from seeking fresh approvals from the Authority for that facility to be classified as an embedded generation facility of the transferee, and assigned to an EGF group, and for the grant of price neutralisation to that EGF group.

5.5.12 To the extent that a *generation facility* had been classified as a *non-injecting generation facility* (as defined in the *market rules* effective immediately before 28 June 2011) effective immediately before 28 June 2011, such *generation facility* shall be deemed to be classified as an *embedded generation facility* and assigned to an *EGF group* under section 5.5.1 with effect on and from 28 June 2011 until cessation of classification and assignment is required under section 5.5.10.

- 5.5.13 To the extent that a *generation facility* had been classified as an embedded *generation facility* and authorised and assigned to a group for the purposes of price neutralisation under the *market rules* effective immediately before 28 June 2011, then with effect on and from 28 June 2011:
- 5.5.13.1 that *generation facility* shall be deemed to be an *embedded generation facility* to which the *EMC* has assigned to the aforementioned group as an *EGF group* until cessation of classification and assignment is required under section 5.5.10; and
- 5.5.13.2 that *EGF group* shall be granted *price neutralisation* until cessation of grant of *price neutralisation* is required under section 5.5.11.

5.5A CLASSIFICATION OF PSEUDO GENERATION SETTLEMENT FACILITIES AS EMBEDDED GENERATION FACILITIES

- 5.5A.1 Notwithstanding the provisions in section 5.5, the *EMC* shall classify a *pseudo generation settlement facility* as an *embedded generation facility* and assign it to an *EGF group* upon the classification of that *generation facility* as a *pseudo generation settlement facility*.
- 5.5A.2 Upon the classification of a *pseudo generation settlement facility* as an *embedded generation facility* and its assignment to an *EGF group* under section 5.5A.1:
- 5.5A.2.1 consumption of *electricity* by the *load facilities* of the contestable *consumers* who are owners or lessees of the *generation facilities* comprising the *pseudo generation settlement facility* shall be assigned as the associated *load* of that *EGF group*; and
- 5.5A.2.2 the associated *load* of that *EGF group* shall be associated with either the *settlement account* of that *market support services licensee* for that *EGF group*, a *settlement account of a market participant*, or a combination of two or more such *settlement accounts*.
- 5.5A.3 Upon the classification of a *pseudo generation settlement facility* as an *embedded generation facility* and its assignment to an *EGF group* under section 5.5A.1, the *EMC* shall grant *price neutralisation* to that *EGF group*.
- 5.5A.4 Upon the classification of a *pseudo generation settlement facility* as an *embedded generation facility* and its assignment to an *EGF group* under

section 5.5A.1, the *EMC* shall grant *net AFP treatment* to that *EGF group* if the *market support services licensee* for that *EGF group* represents, warrants and undertakes (as continuing representations, warranties and undertakings) to the *EMC* in writing that, at all times:

5.5A.4.1 every *intermittent generation facility* as may from time to time be comprised in such *pseudo generation settlement facility* is for the purpose of *supplying electricity to residential premises*; and

5.5A.4.2 such *pseudo generation settlement facility* shall not be comprised of any *intermittent generation facility* directly or indirectly *connected* to a given substation of the *transmission licensee* (if any) for the purposes of *supplying electricity* to a given contestable *consumer*, if such *intermittent generation facility* together with all other *intermittent generation facilities* directly or indirectly *connected* to that given substation for the purposes of *supplying electricity* to that given contestable *consumer*, have an aggregate name-plate rating of 1 MW or more.

5.6 PUBLICATION OF FACILITY DATA

5.6.1 The *EMC* shall establish, maintain, update and *publish* a list containing the information specified in sections 5.6.2 and 5.6.3.

5.6.2 The list referred to in section 5.6.1 shall contain the following information most currently available to the *EMC* in respect of each *generation facility* registered with the *EMC* under sections 5.2, 5.3, 5.4 and 5.4A:

5.6.2.1 the identity of the *market participant* or *market support services licensee* in respect of which such *generation facility* is registered;

5.6.2.2 the identity of such *generation facility*;

5.6.2.3 the type of registration of such *generation facility*, that is whether such *generation facility* is registered as a:

a. *generation registered facility*;

b. *commissioning generation facility*; or

c. *generation settlement facility*;

5.6.2.4 whether such *generation facility* is classified as an *embedded generation facility*;

- 5.6.2.5 the type of *generation facility*;
 - 5.6.2.6 the maximum *generation capacity* of such *generation facility*;
 - 5.6.2.7 the maximum *reserve capacity* for each *reserve class* that such *generation facility* is registered to provide;
 - 5.6.2.8 the maximum *regulation capacity* that such *generation facility* is registered to provide;
 - 5.6.2.9 whether such *generation facility* is frequency responsive, that is, whether it has a positive maximum *reserve capacity* for primary *reserve*; and
 - 5.6.2.10 the minimum stable load level registered for such *generation facility*, if any.
- 5.6.3 The list referred to in section 5.6.1 shall contain the following information (where applicable) most currently available to the *EMC* in respect of each *load registered facility*:
- 5.6.3.1 the identity of the *market participant* under which such *load registered facility* is registered;
 - 5.6.3.2 the identity of such *load registered facility*;
 - 5.6.3.3 the maximum *reserve capacity* for each *reserve class* that such *load registered facility* is registered to provide; and
 - 5.6.3.4 the maximum *load curtailment capacity* in respect of such *load registered facility* if it is an *LRF with REB*.

Explanatory Note: Load curtailment, in respect of an LRF with REB, refers to the reduction in the withdrawal of energy (from the transmission system and/or from an embedded generation facility otherwise than through the transmission system) in a dispatch period by such load registered facility based on the load registered facility's restricted energy bid submission to the EMC for that same dispatch period. It is generally calculated as the difference between the quantity in the load registered facility's restricted energy bid submitted and the quantity of energy scheduled to be withdrawn as aforesaid by such load registered facility in a dispatch period.

- 5.6.4 The *EMC* shall establish, maintain, update and *publish* a list containing the following information in respect of each *non-exporting embedded intermittent generation facility*:

- 5.6.4.1 the identity of the *market participant* under which such *non-exporting embedded intermittent generation facility* is registered;
- 5.6.4.2 the identity of such *non-exporting embedded intermittent generation facility*; and
- 5.6.4.3 the name-plate rating of such *non-exporting embedded intermittent generation facility*.

6 CANCELLATION AND TRANSFER OF REGISTRATION OF FACILITIES

6.1 CANCELLATION OF REGISTRATION

- 6.1.1 If a *market participant* wishes to cancel the registration of a *registered facility*, it shall:
- 6.1.1.1 file with the *EMC* a request to cancel the registration of the facility in the form specified in the applicable *market manual*; and
 - 6.1.1.2 at the same time provide a copy of the request to each of the *transmission licensee* and the *PSO*.
- 6.1.2 The *PSO* shall determine if a technical assessment of the impact of the cancellation of the registration of a *registered facility* on the *reliability* or *security* of the *PSO controlled system* is required. Such determination shall be made within ten *business days* of the *PSO's* receipt of a request to cancel the registration of the *registered facility*. The *PSO* shall notify the relevant *market participant* of its determination.
- 6.1.3 If the *PSO* determines that a *technical assessment* of a *market participant's registered facility* is required and notifies the *market participant* of its determination, it shall also indicate the expected completion date of the *technical assessment*. This date shall be no later than 45 days from the date that the *PSO* notifies that *market participant* of the determination, or such later date that the *PSO* and the *market participant* may agree.
- 6.1.4 If the *PSO* conducts a *technical assessment* of a *market participant's registered facility* and concludes that the cancellation of the registration of that *registered facility*:
- 6.1.4.1 will not, or is unlikely to, have an unacceptable impact on the *reliability* or *security* of the *PSO controlled system*, it shall notify the *market participant* of this conclusion; or
 - 6.1.4.2 will, or is likely to, have an unacceptable impact on the *reliability* or *security* of the *PSO controlled system*, the *PSO* and the *market participant* shall begin the process described in section 8.5 of Chapter 5 with a view to concluding a *reliability must-run service* contract for that *registered facility*. The registration of that *registered facility* shall not be cancelled during this process.

- 6.1.5 A *market participant* shall file with the *EMC* a notice stating the date that it wishes the *EMC* to cancel the registration of its *registered facility* if:
- 6.1.5.1 the *PSO* notifies that *market participant* that a *technical assessment* of that *registered facility* is not required under section 6.1.2; or
 - 6.1.5.2 the *PSO* conducts a *technical assessment* and notifies that *market participant* under section 6.1.4.1 that the cancellation of the registration of that relevant *registered facility* will not, or is not likely to, have an unacceptable impact on the *reliability* or *security* of the *PSO controlled system*.
- The date stated shall be at least five *business days* after the date of the *market participant's* receipt of the notice described in section 6.1.5.1 or 6.1.5.2.
- 6.1.6 The *EMC* shall cancel the registration of a *market participant's registered facility* if that *market participant* files a notice in respect of that *registered facility* with the *EMC* in accordance with section 6.1.5. The date of such cancellation shall be the date stated in such notice.
- 6.1.7 The *EMC* shall notify a *market participant*, the *market support services licensee*, the *transmission licensee* and the *PSO* of the cancellation of registration of the *market participant's registered facility*.

6.2 TRANSFER OF REGISTRATION

- 6.2.1 A *market participant* that wishes to transfer the registration of a *registered facility* (“transferor”) to another person shall file with the *EMC* a request to transfer the registration of that *registered facility*, and shall at the same time provide a copy of that request to the *transmission licensee* and the *PSO*. That request shall:
- 6.2.1.1 be filed with the *EMC* at least ten *business days* before the transfer is proposed to take effect;
 - 6.2.1.2 be in the form required by the applicable *market manual*;
 - 6.2.1.3 state the identity of the proposed transferee which shall, as at the date of that request, be either:
 - (a) a *market participant*, and not a *suspended market participant*; or

- (b) a *participation applicant* which, to the *EMC*'s satisfaction, is likely to be able to meet, on or before the date that the transfer is proposed to take effect, all the requirements in section 1.2.2 and the applicable *market manual*, for registration by the *EMC* as a *market participant*;
- 6.2.1.4 state the date that the transfer is proposed to take effect; and
- 6.2.1.5 be accompanied by a written declaration and undertaking by the proposed transferee, in such form as may be prescribed by the *EMC*, stating (among other things) that, with effect on and from the date of the transfer of the registration under section 6.2.2 of the *registered facility* to which that request relates:
- (a) it is willing and able to assume, and will assume, control of the *registered facility*; and
- (b) it will comply with all provisions of these *market rules*, and any *contracted ancillary services* contract, as applicable to the *registered facility*, as if the proposed transferee is the transferor.
- 6.2.2 If the conditions in section 6.2.3 are satisfied, the *EMC* shall, on the effective date of transfer, transfer the registration of a *registered facility* for which a request has been filed under section 6.2.1.
- For the purposes of sections 6.2.2 and 6.2.3, "effective date of transfer", in relation to the transfer of the registration of a *registered facility* for which a request has been filed under section 6.2.1, means the later of:
- 6.2.2.1 the date referred to in section 6.2.1.4; or
- 6.2.2.2 the 10th *business day* from when the *EMC* is satisfied that the request satisfies all the requirements of section 6.2.1 and of the applicable *market manual* (other than the conditions referred to in section 6.2.3),
- unless the *EMC* has agreed with the transferor and the proposed transferee to effect such transfer on a different date, in which case "effective date of transfer" shall mean such agreed date.
- 6.2.3 Notwithstanding section 6.2.2, the *EMC* shall only transfer the registration of a registered facility if, on the effective date of transfer, the *EMC* is satisfied that the proposed transferee:
- (a) is a *market participant* and is not a *suspended market participant*; and

(b) has satisfied all other conditions prescribed in the applicable *market manual*, being conditions which are required to be satisfied by the proposed transferee on the effective date of transfer.

6.2.4 The *EMC's* communication regarding its satisfaction of the matters referred to in section 6.2.1.3 (b) shall be regarded merely as a statement of its own belief, and the *EMC* shall have no liability whatsoever to any person for any reliance upon such communication. No communication by the *EMC* regarding its satisfaction of the matters referred to in section 6.2.1.3(b) shall be regarded as (i) the *EMC's* endorsement of the proposed transferee; (ii) a representation, warranty or assurance that the proposed transferee will fulfill the requirements referred to in section 6.2.1.3(b); or (iii) a representation, warranty or assurance that the proposed transferee will be registered as a *market participant*.

6.3 APPLICABILITY TO GENERATION SETTLEMENT FACILITY AND NON-EXPORTING EMBEDDED INTERMITTENT GENERATION FACILITY

6.3.1 All references in section 6 to a *registered facility* shall also include references to a *generation settlement facility* and a *non-exporting embedded intermittent generation facility*.

7 PRUDENTIAL REQUIREMENTS

7.1 PURPOSE AND GENERAL MARKET PARTICIPANT OBLIGATION

- 7.1.1 This section 7 sets forth the nature and amount of *credit support* that must be provided by *market participants* as a condition of participation in the *real-time markets* or of causing or permitting a *physical service* to be conveyed into, through or out of the *transmission system* and the manner in which *market participants* must provide and maintain such *credit support* on an on-going basis in order to protect the *EMC* and other *market participants* from payment defaults.
- 7.1.2 Each *market participant* shall initially and continually satisfy the obligations set forth in this section 7 with regard to the provision of *credit support* as a condition of transacting in the *real-time markets* or of causing or permitting a *physical service* to be conveyed into, through or out of the *transmission system*.
- 7.1.3 This section 7 does not apply to the *transmission licensee*.
- 7.1.4 This section 7 applies to a *market support services licensee* that has been granted authorisation to participate by the *EMC* pursuant to section 3 and, for such purposes, all references in this section 7 to a *market participant* shall be deemed to include references to a *market support services licensee*.

7.2 CURRENT EXPOSURE AND ESTIMATED NET EXPOSURE

- 7.2.1 A *market participant's* current exposure shall be determined by the *EMC* each *business day* and shall be a dollar amount determined in accordance with the procedure specified in the *market manual*.
- 7.2.2 A *market participant's* estimated net exposure shall be determined by the *EMC* each *business day* and shall be a dollar amount determined in accordance with the procedure specified in the *market manual*.

7.3 ESTIMATED AVERAGE DAILY EXPOSURE AND CREDIT SUPPORT VALUE

- 7.3.1 Each *participation applicant* shall provide to the *EMC*, in or with its *participant registration application* or as may otherwise be required by the *EMC*, the estimated average daily exposure (as defined in the applicable *market manual*) and any other information as the *EMC* may

reasonably require, for the purpose of determining the *participation applicant's credit support value* that will apply immediately when it begins participating in the *wholesale electricity market*.

- 7.3.2 A *market participant* who intends to participate in the *wholesale electricity market* shall determine and provide *credit support* to the *EMC* in accordance with the form as specified in section 7.6.2 that is thirty times the estimated average daily exposure (as defined in the applicable *market manual*) of the *market participant*. For the avoidance of doubt, the *credit support value* of a *market participant* shall be calculated in accordance with the following formula:

$$\text{Credit Support Value} = \text{Estimated Average Daily Exposure} \times 30 \text{ days}$$

- 7.3.3 As and when necessary in the sole and absolute discretion of the *EMC*, the *EMC* will review and revise the *credit support value* required of each *market participant* in accordance with section 7.3.2. The *EMC* shall promptly notify the *market participant* of any such revision in its *credit support value*. Any revision to a *market participant's credit support value* shall apply with effect from such time, not being earlier than the time of notification to the *market participant* of the revised *credit support value*, as the *EMC* may specify in the notice.
- 7.3.4 A *market participant* who has received notification from the *EMC* that its *credit support value* has been revised as a result of an increase in the *market participant's credit support value* pursuant to section 7.3.3, shall, within 5 *business days* of the time when the revised *credit support value* becomes effective in accordance with section 7.3.3, provide to the *EMC* revised *credit support* in accordance with the form as specified in section 7.6.2.

7.4 MARGIN CALLS

- 7.4.1 The *EMC* shall notify a *market participant* when the estimated net exposure of the *market participant* reaches sixty percent of the value of the *credit support* currently provided by that *market participant*.
- 7.4.2 The *EMC* shall issue a margin call to a *market participant* when the estimated net exposure of the *market participant* reaches a value equal to or greater than seventy percent of the value of the *credit support* currently provided by that *market participant*.
- 7.4.3 Upon a *market participant's* receipt of a margin call under section 7.4.2, if such *market participant* has a reasonable basis for believing that there is a manifest error in the determination of its estimated net exposure by the *EMC* for the purposes of section 7.4.2 and that such error if absent,

- 7.4.3.1 would not have required the issuance of such margin call by the *EMC* under section 7.4.2; and/or
- 7.4.3.2 would have resulted in its estimated net exposure (if correctly determined) to be either greater than 110%, or lesser than 90%, of its estimated net exposure originally determined for the purposes of section 7.4.2,

that *market participant* may request the *EMC* to reassess its estimated net exposure. Such request for reassessment shall be made in such form as may be specified in the applicable *market manual* and shall clearly state, with supporting material, the nature of such error and the proposed correction to the relevant estimated net exposure. All requests for reassessments shall be made to the *EMC* no later than 12pm on the first *business day* following the date of such margin call issued by the *EMC* under section 7.4.2.

Explanatory Note: Manifest errors in the determination of a market participant's estimated net exposure can be caused by metering, human input or system calculation errors.

- 7.4.4 The *EMC* shall consider the merits of each request for reassessment of estimated net exposure made to the *EMC* in accordance with section 7.4.3, and notify the *market participant* to which such request relates, by no later than the end of the first *business day* following the date of the relevant margin call issued by the *EMC* under section 7.4.2 to which such request for reassessment relates, that:
 - 7.4.4.1 such margin call is revoked, if the *market participant's* reassessed estimated net exposure is less than seventy percent of the value of the *credit support* currently provided by the *market participant*;
 - 7.4.4.2 (except where section 7.4.4.1 applies) such margin call is to be revised (together with the particulars of such revision) if the *market participant's* reassessed estimated net exposure is either greater than 110%, or lesser than 90%, of its estimated net exposure originally determined for the purposes of section 7.4.2; or
 - 7.4.4.3 the *EMC* will take no further action and such margin call shall continue to apply if neither section 7.4.4.1 nor section 7.4.4.2 applies. In this case, the *EMC* shall not be obliged to carry out any further reassessment of such estimated net exposure.
- 7.4.5 Where the *market participant's* estimated net exposure is reassessed, and consequently, its margin call is also revised by the *EMC*, under section 7.4.4.2, then all references in section 7.5.1 to “estimated net exposure”

and “estimated net exposure, determined at the time the margin call was issued” in respect of that *market participant* shall be deemed to be references to the estimated net exposure as so reassessed under section 7.4.4.

7.5 MARGIN CALL REQUIREMENTS

7.5.1 Subject to section 7.4.5, a *market participant* must satisfy a margin call (if not revoked by the *EMC*) within the time prescribed in section 7.5.2 by:

7.5.1.1 providing to the *EMC credit support* or additional *credit support* in the form as specified in section 7.6.2 such that the *market participant's* estimated net exposure determined at the time the margin call was issued is no greater than fifty percent of the total value of the *credit support* provided to the *EMC* by the *market participant*; or

7.5.1.2 prepaying such amount to the *EMC* as would be sufficient to reduce the *market participant's* estimated net exposure to a value no greater than fifty percent of the value of the *credit support* provided to the *EMC* by that *market participant*.

7.5.2 The time within which a margin call (unless revoked by the *EMC*) must be satisfied under section 7.5.1 shall be the close of banking business of the bank at which the *EMC's bank accounts* are held on the second *business day* following the date of the margin call issued under section 7.4.2 (whether or not such margin call is subsequently revised under section 7.4.4.2).

7.6 OBLIGATION TO PROVIDE CREDIT SUPPORT

7.6.1 Each *market participant* shall provide to the *EMC* and shall at all times maintain adequate *credit support* in a form permitted by section 7.6.2 by ensuring that the value of *credit support* shall not be less than the *market participant's credit support value*, which obligation shall be determined in accordance with the relevant provision of the *market manual*. For this purpose, the total value of the *credit support* available at any one moment in time shall be the sum equivalent of the value of the undrawn or unclaimed amounts of *credit support* provided by the *market participant*.

7.6.2 A *market participant's credit support value* must be met through the provision to the *EMC* and the maintenance of *credit support* in one or more of the following forms:

7.6.2.1 a guarantee or irrevocable standby letter of credit that must be in the form defined in section 7.6.3.1 (d) and section 7.6.3.1 (c)

respectively and provided by a financial institution which satisfies such criteria as prescribed by the *EMC* in the applicable *market manual*;

7.6.2.2 [Deleted and Intentionally Left Blank]

7.6.2.3 cash deposits made with or assigned to the *EMC* by or on behalf of the *market participant*; or

7.6.2.4 Singapore Government Treasury bills assigned to *EMC* by or on behalf of the *market participant*. Such Treasury bills shall be valued as cash at their current market value less than 2 percent to take into account the potential eroding effects of interest rate increases.

7.6.3 The following terms and conditions shall apply in respect of the *credit support* provided by a *market participant* pursuant to section 7.6.2:

7.6.3.1 *credit support* provided in accordance with section 7.6.2.1 shall:

- a. be an obligation in writing;
- b. be governed by the laws of Singapore;
- c. where the *credit support* is in the form of an irrevocable standby letter of credit:
 - i. be valid for a term of at least one year or provide for automatic renewal, subject only to the right of the issuing financial institution to advise the *EMC* at least thirty days prior to the date of renewal that the letter of credit will not be renewed;
 - ii. name the *EMC* as beneficiary and constitute valid and binding obligations to pay to the *EMC* amounts in accordance with its terms which relate to the obligations of the relevant *market participant* under the *market rules*;

- iii. not include any conditions on the ability of the *EMC* to draw or make claims thereon other than the condition that the *EMC* deliver a certificate of an officer of the *EMC* indicating that a specified amount is owing by the *market participant* to the *EMC* and that, in accordance with these *market rules*, the *EMC* is entitled to payment of that specified amount as of the date of delivery of such certificate;
 - iv. not prohibit partial draws and permit drawings or claims by the *EMC* on demand up to the amount stated in the *credit support*; and
 - v. be executed in the manner as set out in the applicable *market manual*; and
- d. where the *credit support* is in the form of a guarantee, be executed as a deed and in the manner as set out in the applicable *market manual*, permit drawings or claims by the *EMC* and provide for payment by the guarantor on demand up to the amount stated in the *credit support*.

7.6.3.2 [Deleted and Intentionally Left Blank]

7.6.3.3 *credit support* provided in accordance with section 7.6.2.3 and section 7.6.2.4 shall:

- a. constitute valid and binding unsubordinated obligations to pay to the *EMC* amounts in accordance with its terms which relate to the obligations of the relevant *market participant* under the *market rules*;
- b. be accompanied by an assignment by the *market participant* to the *EMC* of all of the *market participant's* present and future right, title and interest in and to such *credit support* as general and continuing security and as a pledge to secure all indebtedness, obligations and liabilities of any kind, direct or indirect, absolute or contingent, joint or several, of the *market participant* to the *EMC* in respect of the *market participant's* transactions in the *real-time markets*;
- c. if cash, be reflected in a written instrument; and

- d. if Treasury Bills, permit drawings or claims by the *EMC* on demand up to the amount of the Treasury Bills.

7.6.4 [Deleted and Intentionally Left Blank]

7.6.5 [Deleted and Intentionally Left Blank]

7.6.6 If *credit support* for the time being held by the *EMC* in respect of a *market participant* pursuant to this section 7 (the *existing support*) is due to expire or terminate and, upon expiry or termination of the *existing support* the total *credit support* held by the *EMC* in respect of that *market participant* will be less than the *market participant's credit support value* then, at least ten *business days* prior to the time at which the *existing support* is due to expire or terminate, the *market participant* must provide to the *EMC* a replacement *credit support* as defined in accordance with section 7.6.2, which will become effective no later than the expiry or termination of the *existing support*, such that the total *credit support* provided is at least equal to the *market participant's credit support value*.

7.6.7 Where any part of the *existing support* held by the *EMC* in respect of a *market participant* otherwise ceases to be current or valid for any reason, the *market participant* must immediately so notify the *EMC* and provide to the *EMC*, within two *business days* of the date on which the *existing support* ceases to be current or valid, a replacement *credit support* as defined in accordance with section 7.6.2, such that the total *credit support* provided is at least equal to the *market participant's credit support value*.

7.7 EXERCISE OF RIGHTS TO CREDIT SUPPORT

7.7.1 Subject to section 9.2.2 of this chapter and to section 7.3.3 of Chapter 3, upon the occurrence of an *event of default* by or in relation to a *market participant*, the *EMC* shall, without prejudice to any other rights and remedies that the *EMC* may have under these *market rules* or *applicable law* or in equity, be entitled to:

7.7.1.1 make demand under any guarantee provided pursuant to section 7.6.2.1 and pursue all rights and remedies under *applicable law* or in equity against any such guarantor; and

7.7.1.2 draw on any letter of credit issued to the *EMC* pursuant to section 7.6.2.1; and

7.7.1.3 set off and apply any and all *credit support* held in the form of cash or Treasury Bills against the indebtedness, obligations and liabilities referred to in section 7.6.3.3(b).

- 7.7.2 Each of the rights and remedies referred to in section 7.7.1 is intended to be a separate right and remedy and in no way is a limitation on or substitute for any one or more of the other rights and remedies otherwise available to the *EMC*. The rights and remedies referred to in section 7.7.1 shall be cumulative and not exclusive, and such rights and remedies may be exercised concurrently or individually without the necessity of any election.
- 7.7.3 A *market participant* shall pay to the *EMC* forthwith on demand all costs, charges, expenses and fees, including legal fees on a solicitor and client basis, of or incurred by or on behalf of the *EMC* in:
- 7.7.3.1 the enforcement or recovery of payment of any amounts owing to the *EMC* by the *market participant* in respect of its transactions in the *real-time markets*; and
- 7.7.3.2 the realisation of the *credit support* provided by the *market participant*.
- 7.7.4 The costs, charges, expenses and fees referred to in section 7.7.3 shall be secured by the *credit support* provided by the *market participant*.
- 7.7.5 Except as may otherwise be provided in section 9.8, all monies received by the *EMC* in respect of the realisation of the *credit support* provided by a *market participant* may, notwithstanding any appropriation by the *market participant* or any other person, be appropriated by the *EMC* to such parts of the component parts of the *market participant's* estimated net exposure, any interest thereon owing pursuant to these *market rules* or any costs, charges, expenses and fees referred to in section 7.7.3 and in such order as the *EMC* determines appropriate.
- 7.7.6 If, as a result of the *EMC* exercising its rights under *credit support* provided by a *market participant* in accordance with this section 7.7 and section 7.3.3 of Chapter 3, the remaining *credit support* held by the *EMC* in respect of that *market participant* is less than the *market participant's credit support value*, the *market participant* must, within five *business days* of receiving notice of the exercise by the *EMC* of such rights, provide the *EMC* with additional *credit support* such that the total *credit support* provided is at least equal to the *market participant's credit support value*.
- 7.7.7 For the avoidance of doubt, the *EMC* shall be entitled to all rights, in respect of any and all *credit support* previously provided by a person, whose registration as a *market participant* has expired pursuant to section 4.1.4 or who is a *terminated market participant*, and retained by the *EMC* in accordance with the *market rules* after the expiration or termination of such person's registration as a *market participant*. In this regard, a non-

payment by such person of any sums due and payable by it under section 9 of this Chapter or under section 5.8.6 of Chapter 7 shall for the purposes of the *market rules* be deemed to be an *event of default* by or of that person as a *market participant* notwithstanding the expiration or termination of its registration as a *market participant*.

7.8 RETURN OF CREDIT SUPPORT

- 7.8.1 Where a *market participant's credit support value* has been reduced pursuant to section 7.3.3 and the *EMC* is holding *credit support* that is in excess of that *market participant's credit support value*, the *EMC* shall, provided that the *market participant* is not then in default of its obligations or liabilities under these *market rules*:
- 7.8.1.1 where the *credit support* is in a form described in sections 7.6.2.3 and 7.6.2.4, return to the *market participant*, within two *business days* a portion of the cash deposit or Treasury Bills equal to the reduction in the *market participant's credit support value*; and
- 7.8.1.2 in all other cases, return to the *market participant* the *credit support* as soon as possible following receipt by the *EMC* of the replacement *credit support* that complies with section 7.6.2.
- 7.8.2 Subject to section 4.1.6 of this Chapter and section 7.4.14 of Chapter 3 as applicable, the *EMC* shall be entitled to retain the whole or part of the *credit support* previously provided by a person, whose registration as a *market participant* has expired pursuant to section 4.1.4 or who is a *terminated market participant*, to such extent as the *EMC* reasonably determines to be necessary to secure all financial obligations and liabilities of such person under the *market rules*, including a liability under section 9 of this Chapter or an actual, contingent or prospective liability under section 5.8.6 of Chapter 7. In determining an appropriate amount of *credit support* to be retained by the *EMC* in respect of any actual, contingent or prospective liability of that person under section 5.8.6 of Chapter 7, the *EMC* shall take into account, among other things, the previous transactions of that person as a *market participant* on the *wholesale electricity markets* and previous instances of *metering errors* known to the *EMC*.

8 TECHNICAL REQUIREMENTS

8.1 TECHNICAL REQUIREMENTS

8.1.1 Each *market participant* shall, in addition to ensuring that its facilities and equipment meet all other applicable technical requirements set forth in these *market rules*, any *market manual* or the *system operation manual*, ensure that its facilities:

8.1.1.1 meet the applicable technical requirements of Appendix 2A; and

8.1.1.2 are capable of meeting the technical requirements necessary for *connection* contained or referred to in any applicable *connection agreement* and the *transmission code*.

8.2 CERTIFICATION, TESTING AND INSPECTION FOR AUTHORISATION

8.2.1 Each *participation applicant* shall, as a condition of obtaining registration as a *market participant* pursuant to section 3, certify to the *EMC* that its:

8.2.1.1 voice communication facilities and equipment;

8.2.1.2 monitoring and control facilities and equipment; and

8.2.1.3 electronic communication facilities and equipment,

comply with the applicable technical requirements of Appendix 2A.

8.2.2 Each *participation applicant* shall, as a condition of obtaining registration as a *market participant* pursuant to section 3, successfully complete such testing and permit such inspection as the *EMC* may reasonably require for the purposes of testing or inspecting whether the *participation applicant's* facilities and equipment referred to in sections 8.2.1.1 to 8.2.1.3 meet all applicable technical requirements set forth in Appendix 2A.

8.2.3 Each *market support services licensee* that applies for authorisation to participate shall, as a condition of obtaining authorisation pursuant to section 3:

8.2.3.1 certify to the *EMC* that its facilities and equipment meet all applicable technical requirements set forth in the applicable *market manual*; and

- 8.2.3.2 successfully complete such testing and permit such inspection as the *EMC* may reasonably require for the purposes of testing or inspecting whether the *market support services licensee's* facilities and equipment meet all applicable technical requirements set forth in the applicable *market manual*.

8.3 CERTIFICATION, TESTING AND INSPECTION FOR REGISTRATION OF FACILITIES

- 8.3.1 Each *market participant* shall, as a condition of obtaining the registration of a facility as a *registered facility* pursuant to section 5.2:
 - 8.3.1.1 provide the certifications referred to in sections 5.2.4.5 and 5.2.4.6; and
 - 8.3.1.2 successfully complete the testing and permit the inspection referred to in section 5.2.4.7.
- 8.3.2 Each *market participant* shall, as a condition of obtaining the registration of a facility as a *generation settlement facility* pursuant to section 5.4:
 - 8.3.2.1 provide the certifications referred to in sections 5.4.3.5 and 5.4.3.6; and
 - 8.3.2.2 successfully complete the testing and permit the inspection referred to in section 5.4.3.7.
- 8.3.3 Each *market participant* shall, as a condition of obtaining the registration of a facility as a *non-exporting embedded intermittent generation facility* pursuant to section 5.4B:
 - 8.3.3.1 provide the certifications referred to in sections 5.4B.2.6 and 5.4B.2.7; and
 - 8.3.3.2 successfully complete the testing and permit the inspection referred to in section 5.4B.2.8.

9 **DEFAULT LEVY**

9.1 **POWER TO IMPOSE DEFAULT LEVY**

- 9.1.1 The *EMC* shall be entitled to recover, by means of the imposition of a *default levy* on *non-defaulting market participants* in accordance with this section 9, the aggregate of any amounts owing to the *EMC* under the *market rules* which have not been paid in full by a *defaulting market participant* and the costs and expenses reasonably incurred by the *EMC* in investigating the default in payment, in realising on any applicable *credit support* and in implementing the *default levy*.
- 9.1.2 The imposition of a *default levy* or a *multiple default levy* pursuant to this section 9 shall in no way waive, excuse or relieve a *defaulting market participant* of its obligations under the *market rules* and shall be without prejudice to:
- 9.1.2.1 such rights or remedies which the *EMC* may otherwise have to recover all amounts owing by the *defaulting market participant*; and
- 9.1.2.2 the right of the *EMC* to take such other action, including but not limited to the issuance of a *suspension order*, as may be provided for in these *market rules* in respect of the *defaulting market participant's* default in payment.
- 9.1.3 The provisions of this section 9 apply only to a default in payment by a *defaulting market participant* in the *real-time markets*.
- 9.1.4 For the purposes of this section 9, the *transmission licensee* shall not be a *non-defaulting market participant*.
- 9.1.5 This section 9 applies to a *market support services licensee* that has been granted authorisation to participate by the *EMC* pursuant to section 3 and, for such purposes, all references in this section 9 to:
- 9.1.5.1 a *defaulting market participant* shall be deemed to include references to a *defaulting market support services licensee*;
- 9.1.5.2 a *non-defaulting market participant* shall be deemed to include references to a *non-defaulting market support services licensee*; and
- 9.1.5.3 a *market participant payment date* shall be interpreted in accordance with section 5.2.6 of Chapter 7.

- 9.1.6 Notwithstanding any other provision in these *market rules*, a *non-defaulting market participant* shall be liable to pay for the costs and expenses incurred by the *EMC* in connection with or in relation to a *default levy* as specified in section 9.3.2.1 and section 9.5.2.2 and any *default recovery measures* in respect of which a *multiple default levy* has been implemented under section 9.10 to the extent that such costs and expenses have been incurred by the *EMC* whilst such *non-defaulting market participant* is still registered as such. For the avoidance of doubt, the *EMC* shall be deemed to have incurred such costs and expenses if and when such costs and expenses have been actually incurred by the *EMC*. Accordingly, if the registration of a *non-defaulting market participant* expires pursuant to section 4.1.4 on or after the occurrence of any default by a *defaulting market participant* in respect of which a *default levy* or a *multiple default levy* has been implemented, then for the purposes of section 9.6.1 and section 9.10.4, in allocating among the *non-defaulting market participants* any costs and expenses incurred by the *EMC* after the *trading day* on which such registration expired (regardless of the date on which any claim relating thereto may be made, subject only to any applicable provision of the Limitation Act (Cap. 163)):
- 9.1.6.1 the *non-defaulting market participant* whose registration so expires shall not be allocated or obliged to pay any such costs and expenses; and
- 9.1.6.2 for the purposes of the allocation of such costs and expenses amongst the remaining *non-defaulting market participants*, all net *invoice* amounts of the *non-defaulting market participant* whose registration so expires shall not be included in the calculation of the applicable net transaction dollar amount for the purposes of section 9.6.1 or section 9.10.4 (as the case may be).

9.2 NOTICE OF FIRST DEFAULT LEVY

- 9.2.1 Where a *market participant* has failed to remit to the *EMC settlement clearing account* the full amount due by that *market participant* by the *close of banking business* of the bank at which the *EMC settlement clearing account* is held on a *market participant payment date*:
- 9.2.1.1 the *EMC* shall, within one *business days* of the *market participant payment date*, issue a *default notice* to the *defaulting market participant* in accordance with section 7.3.3 of Chapter 3;
- 9.2.1.2 the *EMC* shall take such steps as may be required to enable the *EMC* to realise, under section 9.2.2.2, any *credit support* held in respect of the *defaulting market participant*; and

- 9.2.1.3 the *EMC* may take such steps as may be permitted by section 5.12.4 of Chapter 7.
- 9.2.2 Where a *defaulting market participant* has failed to remit to the *EMC settlement clearing account* the full amount due by that *market participant* within the time specified in the *default notice*, the *EMC* shall:
- 9.2.2.1 issue a *first notice of default levy* in accordance with section 9.2.3; and
- 9.2.2.2 take such steps as may be required to realise any *credit support* held in respect of the *defaulting market participant*.
- 9.2.3 A *first notice of default levy* shall be issued to each *non-defaulting market participant* that transacted in the *real-time markets* during the *trading day* to which such default relates and shall identify:
- 9.2.3.1 the name of the *defaulting market participant*;
- 9.2.3.2 the *real-time market* and the *trading day* in respect of which the default in payment by the *defaulting market participant* has occurred;
- 9.2.3.3 the *defaulting market participant's default amount*, calculated in accordance with section 9.3.1;
- 9.2.3.4 the amount of the first *default levy* calculated in accordance with section 9.3.2;
- 9.2.3.5 the value of all *credit support* held in respect of the *defaulting market participant*;
- 9.2.3.6 the estimated amount of any second *default levy* that may have to be imposed pursuant to section 9.4 in the event of the inability by the *EMC* to realise all of the *credit support* referred to in section 9.2.3.5 prior to the time noted in section 9.4.1;
- 9.2.3.7 the *non-defaulting market participant's* share of the first *default levy*, calculated in accordance with section 9.6.1; and
- 9.2.3.8 the *non-defaulting market participant's* share of the estimated amount of any second *default levy* referred to in section 9.2.3.6.
- 9.2.4 The *first notice of default levy* shall be issued at least ten days prior to the date on which the *invoice* imposing the first *default levy* on *non-defaulting market participants* is issued by the *EMC* in accordance with section 9.6.2.

9.3 CALCULATION OF DEFAULT AMOUNT AND FIRST DEFAULT LEVY

9.3.1 The *defaulting market participant's default amount* shall be the aggregate of:

9.3.1.1 the net *invoice* amount payable by the *defaulting market participant* in respect of the *real-time markets* for the *trading day* in respect of which payment has not been received within the time specified in section 9.2.2, exclusive of any amounts payable on account of financial penalties or damages; and

9.3.1.2 any *default interest* payable in respect of the amount referred to in section 9.3.1.1 that has accrued since the *market participant payment date* referred to in section 9.2.1 in accordance with section 5.12 of Chapter 7.

9.3.2 The amount of the first *default levy* shall be:

9.3.2.1 the aggregate of:

a. the *defaulting market participant's default amount*, calculated in accordance with section 9.3.1; and

b. any costs and expenses reasonably incurred to the date of issuance of the first *notice of default levy* by the *EMC* in investigating the default in payment to which the *default levy* relates, in realising on any applicable *credit support* held in respect of the *defaulting market participant* and in implementing the *default levy*;

9.3.2.2 less the aggregate unclaimed or undrawn dollar amount of all *credit support* held in respect of the *defaulting market participant*.

9.3.3 The first *default levy* shall be apportioned amongst and *invoiced* to *non-defaulting market participants* in accordance with sections 9.6.1 and 9.6.2.

9.4 NOTICE OF SECOND DEFAULT LEVY

9.4.1 Unless the amount of the first *default levy* is equal to the *defaulting market participant's default amount* the *EMC* shall, on the seventh *business day* following the issuance of *invoices* imposing the first *default levy*, issue a second *notice of default levy* in accordance with section 9.4.2.

- 9.4.2 The second *notice of default levy* shall be issued to each *non-defaulting market participant* on whom a first *default levy* has been imposed and shall identify:
- 9.4.2.1 the name of the *defaulting market participant*;
 - 9.4.2.2 the *real-time market* and the *trading day* in respect of which the default in payment by the *defaulting market participant* has occurred;
 - 9.4.2.3 the *defaulting market participant's residual default amount*, calculated in accordance with section 9.5.1;
 - 9.4.2.4 the amount of the first *default levy*;
 - 9.4.2.5 the amount of any *credit support* held in respect of the *defaulting market participant* that has been realised;
 - 9.4.2.6 the amount of any *credit support* held in respect of the *defaulting market participant* that remains to be realised;
 - 9.4.2.7 the amount of the second *default levy*, calculated in accordance with section 9.5.2; and
 - 9.4.2.8 the *non-defaulting market participant's* share of the second *default levy*, calculated in accordance with section 9.6.1.

9.5 CALCULATION OF RESIDUAL DEFAULT AMOUNT AND SECOND DEFAULT LEVY

- 9.5.1 The *defaulting market participant's residual default amount* shall be:
- 9.5.1.1 the aggregate of:
 - a. the net *invoice* amount payable by the *defaulting market participant* in respect of the *real-time markets* for the *trading day* in respect of which payment has not been received as of the date of issuance of the second *notice of default levy*, exclusive of any amounts payable on account of financial penalties or damages; and
 - b. any *default interest* payable in respect of the amount referred to in section 9.5.1.1(a) that has accrued since the date of issuance of the first *notice of default levy* in accordance with section 5.12 of Chapter 7;
 - 9.5.1.2 less the aggregate of:

- a. the amount of the first *default levy*; and
- b. any amount that has been recovered by the *EMC* since the date of issuance of the first *notice of default levy* under any *credit support* held in respect of the *defaulting market participant*.

9.5.2 The amount of the second *default levy* shall be the aggregate of:

9.5.2.1 the *defaulting market participant's residual default amount*, calculated in accordance with section 9.5.1; and

9.5.2.2 any costs and expenses reasonably incurred by the *EMC* in investigating the default in payment to which the *default levy* relates, in realising any applicable *credit support* and in implementing the *default levy* since the date on which the first *default levy* was calculated.

9.5.3 The second *default levy* shall be apportioned and *invoiced* to *non-defaulting market participants* in accordance with sections 9.6.1 and 9.6.2.

9.6 APPORTIONMENT AND INVOICING OF DEFAULT LEVY

9.6.1 Subject to section 9.1.6, the amount of a *default levy* shall be apportioned amongst all *non-defaulting market participants* to whom a *notice of default levy* has been issued in accordance with section 9.2.3 or 9.4.2 by allocating to each *non-defaulting market participant* a share of the *default levy* calculated as follows:

<p>[<i>default amount</i> or <i>residual default amount</i> x (absolute value of the <i>non-defaulting market participant's net invoice</i> amount, exclusive of any amounts payable on account of financial penalties or damages, in the <i>real-time markets</i> for the <i>trading day</i> to which the default in payment by the <i>defaulting market participant</i> relates)]</p>	<p>divided by</p>	<p>the net transaction dollar amount</p>
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where the net transaction dollar amount is:

<p>Σ the absolute value, in dollars, of each <i>market participant's</i> and each <i>market support services licensee's</i> net <i>invoice</i> amount, exclusive of any amounts payable on account of financial penalties or damages, in the <i>real-time markets</i> for the <i>trading day</i> to which the default in payment by the <i>defaulting market participant</i> relates</p>	<p>minus</p>	<p>the absolute value, in dollars, of the <i>defaulting market participant's</i> net <i>invoice</i> amount, exclusive of any amounts payable on account of financial penalties or damages, for such <i>trading day</i></p>
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9.6.2 Subject to sections 9.2.4 and 9.6.3, a *non-defaulting market participant's* share of a *default levy* shall be included in or with the first *invoice* scheduled to be issued to the *non-defaulting market participant* pursuant to Chapter 7 following the issuance of the *notice of default levy* referred to in section 9.2.3 or 9.4.1, as the case may be, in respect of each *real-time market* to which the *default levy* relates.

9.6.3 Where, for any reason, no *invoice* is scheduled to be issued to a *non-defaulting market participant* to whom a second *notice of default levy* has been issued under section 9.4.2, the *EMC* shall issue an *invoice* to that *non-defaulting market participant* comprising the amount of that *non-defaulting market participant's* share of the second *default levy*. Any such *non-defaulting market participant* shall pay to the *EMC* the *invoice* amount on the second *business day* following receipt of the *invoice*.

9.7 ALLOCATION OF DEFAULT LEVY

9.7.1 The *EMC* shall allocate amounts received from *non-defaulting market participants* in respect of a *default levy*:

9.7.1.1 first, to pay the reasonable costs and expenses referred to in section 9.3.2.1(b) and 9.5.2.2;

9.7.1.2 second, to repay any short-term funds borrowed by the *EMC* pursuant to section 5.12.4 of Chapter 7 on account of the *defaulting market participant's* default in payment;

9.7.1.3 third, to replenish any funds transferred from the *EMC settlement reserve account* pursuant to section 5.12.6 of Chapter 7 on account of the *defaulting market participant's* default in payment;

- 9.7.1.4 fourth, to the payment of amounts owed by the *defaulting market participant* to the *EMC* on account of the *EMC's* and the *PSO's* administrative costs referred to in section 4.2 of Chapter 7; and
- 9.7.1.5 fifth, to the payment of all other *settlement amounts* owed by the *defaulting market participant* to the *EMC*.

9.8 OTHER RECOVERY OF DEFAULT AMOUNTS

- 9.8.1 Notwithstanding the imposition of a *default levy*, the *EMC* shall subject to section 9.9 take all reasonable steps to recover from the *defaulting market participant*, including by means of the realisation of any *credit support* held in respect of a *defaulting market participant* that has not been realised as at the date of calculation of a second *default levy*, all amounts owing to the *EMC* under the *market rules* in respect of the *defaulting market participant's* transactions in the *real-time market* in which the default in payment occurred and any costs and expenses incurred by the *EMC* in connection with or in relation to the recovery of such amounts owing by the *defaulting market participant* (including but not limited to costs and expenses incurred by the *EMC* in investigating the default in payment, in realising any applicable *credit support*, in implementing the *default levy* or *multiple default levy*, and in taking any steps under this section 9.8.1). The *EMC* may, but shall not be obliged to, follow the dispute resolution process set forth in section 3 of Chapter 3 for the purpose of obtaining such recovery.
- 9.8.2 Subject to section 9.8.3 and section 9.11.4, any full or partial recovery of the *default amount*, *default interest* and costs or expenses made by the *EMC* pursuant to section 9.8.1 shall be distributed to each *non-defaulting market participant* that remitted payment to the *EMC* on account of a *default levy* or a *multiple default levy* (as the case may be) on a prorated basis according to the amount so remitted by the *non-defaulting market participant*. Where the *non-defaulting market participant* is, at the relevant time, still a *market participant*, any such amount shall appear as a credit on the next *invoice* scheduled to be issued to that *non-defaulting market participant* under Chapter 7. Where the *non-defaulting market participant* is no longer a *market participant* at the relevant time, any such amount shall be paid to the *non-defaulting market participant* in such manner as the *EMC* determines appropriate.
- 9.8.3 In the event that the *EMC* cannot, after taking all reasonable steps to do so, locate a *non-defaulting market participant* that has remitted payment to the *EMC* on account of a *default levy* or a *multiple default levy* (as the case may be), any amount that would otherwise be distributed to such *non-defaulting market participant* under section 9.8.2 shall:

- 9.8.3.1 be allocated and distributed to other *non-defaulting market participants* in the manner described in section 9.8.2; or
 - 9.8.3.2 where other *non-defaulting market participants* have already been fully reimbursed in respect of a *default levy* or a *multiple default levy* (as the case may be) and are therefore not entitled to payment of any amounts under section 9.8.2, be used to offset the *EMC*'s administrative costs referred to in section 4.2 of Chapter 7.
- 9.8.4 Any costs and expenses reasonably incurred by the *EMC* in recovering amounts from a *defaulting market participant* under section 9.8.1 that have not been included in a *default levy* under section 9.3.2.1(b) or 9.5.2.2 shall subject to section 9.9.5 be recovered by the *EMC* from the *non-defaulting market participants* through one or more *multiple default levies* as the *EMC* deems fit.

9.9 APPROVAL OF COSTS FOR RECOVERY OF DEFAULT AMOUNTS

- 9.9.1 The provisions of this section 9.9 apply only for the purposes of the implementation of *multiple default levies* for the recovery (to the extent permitted under section 9.9.5) of costs and expenses incurred by the *EMC* in connection with or in respect of *default recovery measures*. The provisions of this section 9.9 shall not:
- 9.9.1.1 restrict the power, authority or discretion of the *EMC* to effect any *default recovery measures* under section 9.8.1 in its absolute discretion;
 - 9.9.1.2 affect the validity of any *default recovery measures* taken by the *EMC* under section 9.8.1; or
 - 9.9.1.3 require any *default recovery measures* to be taken only with the approval of the *rule change panel*.
- 9.9.2 The *EMC* shall submit in writing for the approval of the *rule change panel* an estimate of the costs and expenses which it anticipates incurring in connection with or in relation to the *EMC* effecting any *default recovery measures*. Such estimate of costs and expenses shall be accompanied by a brief description or summary in writing of the *default recovery measures* which the *EMC* proposes to effect in respect of which such costs and expenses may be incurred.
- 9.9.3 The *rule change panel* shall consider each estimate of costs and expenses submitted for its approval by the *EMC* under section 9.9.2 and shall either:

- 9.9.3.1 approve such estimate of costs and expenses submitted by the *EMC* under section 9.9.2; or
- 9.9.3.2 decline to approve such estimate of costs and expenses submitted by the *EMC* under section 9.9.2; or
- 9.9.3.3 approve a lesser amount of costs and expenses than that stated in such estimate of costs and expenses submitted by the *EMC* under section 9.9.2;

and shall inform the *EMC* in writing of its decision.

- 9.9.4 If the *rule change panel* declines to approve any estimate, the *EMC* shall be released and discharged from its obligations to effect *default recovery measures* under section 9.8.1. If the *rule change panel* approves a lesser amount of costs and expenses pursuant to section 9.9.3.3, the *EMC* shall be obliged to effect *default recovery measures* under section 9.8.1 only to the extent of such lesser amount of costs and expenses so approved and shall be released and discharged from its obligation to take any further action to effect, pursue or complete any *default recovery measures* to the extent that the same would result in the *EMC* incurring any costs or expenses in excess of the amount of costs and expenses so approved.
- 9.9.5 The *EMC* may recover from the *non-defaulting market participants* the costs and expenses for the time being incurred by the *EMC* in effecting any *default recovery measures* by way of one or more *multiple default levies* under section 9.10 as the *EMC* deems fit provided that, and only to the extent that, such costs and expenses have been approved by the *rule change panel* under section 9.9.3.
- 9.9.6 If the estimate of costs and expenses (and its accompanying description or summary of the proposed *default recovery measures*) submitted by the *EMC* under section 9.9.2 relates to a *defaulting market participant* whose representative is a member of the *rule change panel*, the *EMC* and the other members of the *rule change panel* shall not disclose to that member of the *rule change panel* who is a representative of the relevant *defaulting market participant* any information relating to the *default recovery measures* proposed to be taken by the *EMC*. Such member of the *rule change panel* who is a representative of the relevant *defaulting market participant* shall not be entitled to attend, speak or vote at any meeting of the *rule change panel* convened for the purposes of this section 9.9.

9.10 MULTIPLE DEFAULT LEVY

- 9.10.1 Subject to section 9.8.4 and section 9.9, the *EMC* shall be entitled to recover, by means of the imposition of a *multiple default levy* on *non-defaulting market participants* in accordance with this section 9.10, the

aggregate of any costs and expenses for the time being incurred by the *EMC* in connection with or in relation to the effecting of *default recovery measures* by the *EMC*.

9.10.2 Where costs and expenses have been incurred by the *EMC* in connection with or in relation to any *default recovery measures* and such costs and expenses have not been recovered from the *defaulting market participant*, the *EMC* may issue a notice of *multiple default levy* to the *non-defaulting market participants*, and in such notice shall identify:

9.10.2.1 the name of the *defaulting market participant*;

9.10.2.2 all the *real-time markets* and the *trading days* in respect of which the defaults in payment by the *defaulting market participant* has occurred;

9.10.2.3 the amount of the *multiple default levy*, being (subject to section 9.9.5) the aggregate sum of the costs and expenses for the time being incurred by the *EMC* in connection with or in relation to such *default recovery measures*; and

9.10.2.4 the *non-defaulting market participant's* share of the *multiple default levy*, calculated in accordance with section 9.10.4.

9.10.3 The notice of *multiple default levy* shall be issued at least ten days prior to the date on which the *invoice* imposing the *multiple default levy* on *non-defaulting market participants* is issued by the *EMC* in accordance with section 9.10.5.

9.10.4 Subject to section 9.1.6, the amount of a *multiple default levy* shall be apportioned amongst all *non-defaulting market participants* to whom a notice of *multiple default levy* has been issued in accordance with section 9.10.2 by allocating to each *non-defaulting market participant* a share of the *multiple default levy* calculated as follows:

<p>[the amount of the <i>multiple default levy</i> x (the sum of the absolute values of all of the <i>non-defaulting market participant's</i> net <i>invoice</i> amounts, exclusive of any amounts payable on account of financial penalties or damages, in the <i>real-time markets</i> for the <i>trading days</i> to which the default(s) in payment by the <i>defaulting market participant</i> relate)]</p>	<p>divided by</p>	<p>the net transaction dollar amount</p>
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where the net transaction dollar amount is:

Σ the absolute value, in dollars, of each <i>market participant's</i> and each <i>market support services licensee's</i> net <i>invoice</i> amounts, exclusive of any amounts payable on account of financial penalties or damages, in the <i>real-time markets</i> for the <i>trading day(s)</i> to which the default(s) in payment by the <i>defaulting market participant</i> relates	minus	the absolute value, in dollars, of the defaulting market participant's net invoice amount, exclusive of any amounts payable on account of financial penalties or damages, for all such <i>trading day(s)</i> on which the default(s) occurred
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- 9.10.5 Subject to section 9.10.3, a *non-defaulting market participant's* share of a *multiple default levy* shall be included in or with the first *invoice* scheduled to be issued to the *non-defaulting market participant* pursuant to Chapter 7 following the issuance of the *notice of multiple default levy* referred to in section 9.10.2.
- 9.10.6 Where, for any reason, no *invoice* is scheduled to be issued to a *non-defaulting market participant* to whom a notice of *multiple default levy* has been issued under section 9.10.2, the *EMC* shall issue an *invoice* to that *non-defaulting market participant* comprising the amount of that *non-defaulting market participant's* share of the *multiple default levy*. Any such *non-defaulting market participant* shall pay to the *EMC* the *invoice* amount on the second *business day* following receipt of the *invoice*.

9.11 VOLUNTARY FINANCIAL ASSISTANCE FOR DEFAULT RECOVERY MEASURES

- 9.11.1 If the *rule change panel* declines to approve any estimate of costs and expenses submitted for its approval pursuant to section 9.9.3.2, any one or more *non-defaulting market participants*, who is or are liable to pay any amount under any *default levy* or *multiple default levy*, may request the *EMC* to effect, pursue and/or complete the *default recovery measures* proposed to be effected by the *EMC* as referred to in section 9.9.2.
- 9.11.2 If a *non-defaulting market participant* requests the *EMC*, and the *EMC* agrees, to effect, pursue and/or complete any *default recovery measures* under section 9.11.1, all costs and expenses which may be incurred by the *EMC* in effecting, pursuing and/or completing any such *default recovery*

measures (other than any costs or expenses which may be recovered by way of *multiple default levies*) shall be borne by that *non-defaulting market participant* and the *non-defaulting market participant* shall pay to the *EMC* such amounts as the *EMC* may from time to time require to enable the *EMC* to meet all such costs and expenses which the *EMC* may incur or anticipates incurring. For the avoidance of doubt, the *EMC* may require all payments to be made by the *non-defaulting market participant* under this section, and such *non-defaulting market participant* shall make such payments, prior to the *EMC* effecting, or incurring any such costs or expenses in relation to effecting, any *default recovery measures* under section 9.11.1.

- 9.11.3 If two or more *non-defaulting market participants* request, and the *EMC* agrees, to effect, pursue and/or complete any *default recovery measures* under section 9.11.1, all costs and expenses which may be incurred by the *EMC* in effecting, pursuing and/or completing any such *default recovery measures* (other than any costs or expenses which may be recovered by way of *multiple default levies*) shall be borne by those *non-defaulting market participants* in such proportions as such *non-defaulting market participants* and the *EMC* may agree and such *non-defaulting market participants* shall pay to the *EMC* in their respective agreed proportions such amounts as the *EMC* may from time to time require to enable the *EMC* to meet all such costs and expenses which the *EMC* may incur or anticipates incurring. For the avoidance of doubt, the *EMC* may require all payments to be made by the *non-defaulting market participants* under this section, and such *non-defaulting market participants* shall make such payments, prior to the *EMC* effecting, or incurring any such costs or expenses in relation to effecting, any *default recovery measures* under section 9.11.1.
- 9.11.4 If the *EMC* effects any *default recovery measures* pursuant to the request of any *non-defaulting market participant* under this section 9.11, then notwithstanding section 9.8.2, any full or partial recovery of the *default amount*, *default interest*, and costs and expenses incurred by the *EMC* in respect of such *default recovery measures* shall:
- 9.11.4.1 first be applied towards the reimbursement of the *non-defaulting market participant* referred to in section 9.11.2 who effected payment to the *EMC* pursuant to section 9.11.2 to the extent of such payment or each of the *non-defaulting market participants* referred to in section 9.11.3 who effected payment to the *EMC* pursuant to section 9.11.3 to the extent of, and in proportion to, their respective payments; and
- 9.11.4.2 any remaining amounts shall thereafter be distributed amongst the *non-defaulting market participants* in accordance with section 9.8.2.

10 EMC BUDGET

- 10.1.1 Subject to sections 10.1.2 and 10.1.8, the *EMC* shall, no less than 100 days prior to the beginning of each *EMC* fiscal year that commences after the *market commencement date*:
- 10.1.1.1 submit in such form and detail as may required by section 11 its proposed expenditure and revenue requirements for, and a schedule of the fees that it proposed to charge during, the following *EMC* fiscal year to the *rules change panel* for review; and
 - 10.1.1.2 *publish* notice of its proposed expenditure and revenue requirements for, and a schedule of the fees that it proposed to charge during, the following *EMC* fiscal year, inviting interested persons to make submissions with respect thereto to the *rules change panel* within the time prescribed in the notice.
- 10.1.2 Sections 10.1.1 and 11.1.1 shall not apply in respect of the first fiscal year of the *EMC* that commences after the *market commencement date* if:
- 10.1.2.1 the *EMC* has, prior to the *market commencement date*, obtained the approval of the *Authority* for its proposed expenditure and revenue requirements and of the schedule of fees that it proposes to charge; and
 - 10.1.2.2 the *Authority* has approved the proposed expenditure and revenue requirements and the schedule of fees referred to in section 10.1.2.1 and has consented to their being in effect for such first fiscal year.
- 10.1.3 The *rules change panel* shall review the *EMC*'s proposed statement of expenditure and revenue requirements for, and a schedule of the fees that it proposed to charge during, the applicable fiscal year:
- 10.1.3.1 using such procedures;
 - 10.1.3.2 in consultation with such persons; and
 - 10.1.3.3 by means of such meetings,
- as it considers appropriate.
- 10.1.4 Following the conclusion of the review referred to in section 10.1.3, the *rules change panel* shall, within the time referred to in section 10.1.5, submit a written report to the *EMC Board* indicating:

- 10.1.4.1 the views of the *rules change panel* with respect to the subject-matter of the review; and
 - 10.1.4.2 a summary of any material submissions filed pursuant to section 10.1.1.2.
- 10.1.5 The report referred to in section 10.1.4 shall be submitted to the *EMC Board* no later than the date that is 75 days before the beginning of the applicable *EMC* fiscal year.
- 10.1.6 The *EMC* shall *publish* and consider, but shall not be bound by, the contents of the report referred to in section 10.1.4 in finalising its proposed expenditure and revenue requirements for, and a schedule of the fees that it proposed to charge during, the fiscal year to which the report relates.
- 10.1.7 Where the *EMC* is required by its *electricity licence* to seek the approval of the *Authority* in respect of its proposed expenditure and revenue requirements for, or a schedule of the fees that it proposed to charge during, a given fiscal year, or both, the *EMC* shall provide the *Authority* with a copy of the report referred to in section 10.1.4 that relates to such fiscal year at the same time as it files with the *Authority* its proposed expenditure and revenue requirements for, or a schedule of the fees that it proposed to charge during, that fiscal year, or both.
- 10.1.8 Nothing in this section 10 or in section 11 shall be construed as requiring the *EMC* to submit to the *rules change panel* for review or to the *Authority* for approval any fees levied by the *EMC* that are:
- 10.1.8.1 calculated on the basis of a formula set forth in these *market rules*, including the price of any *physical service* and monthly *energy* uplift charges, but excluding the *EMC's* administrative costs;
 - 10.1.8.2 levied to recover the *PSO's* administrative costs in accordance with section 4.2 of Chapter 7;
 - 10.1.8.3 levied to recover amounts paid under *contracted ancillary services* contracts; or
 - 10.1.8.4 levied in respect of *vesting contracts*.

11 APPROVAL AND PUBLICATION OF EMC BUDGET

11.1.1 Subject to sections 10.1.2 and 10.1.8, the *EMC* shall, no less than sixty days prior to the beginning of each *EMC* fiscal year that commences after the *market commencement date*, submit, in accordance with the requirements of this section 11:

11.1.1.1 it's proposed expenditure and revenue requirements for; and

11.1.1.2 either:

- a. a schedule of the fees that it proposes to charge during; or
- b. a statement of the methodology that it proposed to use to determine the fees that it proposes to charge during,

the following *EMC* fiscal year to the *Authority* for approval.

11.1.2 Subject to the provisions of the *EMC's electricity licence* and to any direction issued to the *EMC* by the *Authority*, the *EMC's* proposed expenditure and revenue requirements referred to in section 11.1.1(a) shall include the following:

11.1.2.1 a statement of the revenues anticipated to be earned by the *EMC* in the applicable *EMC* fiscal year;

11.1.2.2 a statement of the costs anticipated to be incurred by the *EMC* in the applicable *EMC* fiscal year, in the aggregate;

11.1.2.3 a statement of the costs anticipated to be incurred by the *EMC* in the applicable *EMC* fiscal year for each of the *EMC's* activities or services, classified into such categories as may be required or permitted by the *Authority*; and

11.1.2.4 an identification of the sources that are driving each of the costs referred to in section 11.1.2.3.

11.1.3 The proposed schedule of fees or statement of methodology referred to in section 11.1.1.2 shall be accompanied by the *EMC's* assessment of the impact of the schedule of fees or methodology on:

11.1.3.1 each class of *market participant*;

11.1.3.2 *market support services licensees* as a class; and

- 11.1.3.3 any other classes of persons on whom the EMC proposes to levy fees.
- 11.1.4 The *Authority* shall notify the *EMC* of its approval or non-approval of the *EMC's* proposed schedule of fees or statement of methodology, and shall provide reasons for any non-approval. Where the *Authority* does not grant its approval, the *EMC* shall submit revised proposed schedule of fees or statement of methodology until such time as the approval of the *Authority* is granted.
- 11.1.5 Where the *Authority* approves the *EMC's* proposed schedule of fees or statement of methodology:
- 11.1.5.1 such schedule of fees or methodology shall apply and supersede any previous schedule of fees or methodology as of the date specified by the *Authority* when granting its approval; and
- 11.1.5.2 the *EMC* shall:
- a. where the *Authority* has approved a statement of methodology rather than a schedule of fees, prepare where feasible a statement of fees determined on the basis and in accordance with the statement of methodology;
 - b. *publish* the proposed schedule of fees or statement of methodology, as the case may be, approved by the *Authority* and the statement of fees referred to in section 11.1.5.2(a);
 - c. make a copy of the documents referred to in section 11.1.5.2(b) available to any person on request; and
 - d. not, on or after the date referred to in section 11.1.5.1, charge to any person any fees other than fees that have been approved as part of a proposed schedule of fees approved by the *Authority* or that have been determined on the basis of and in accordance with a proposed statement of methodology approved by the *Authority*, as the case may be, without the further approval of the *Authority*.
- 11.1.6 Where section 10.1.2 applies, the *EMC* shall *publish* the schedule of fees referred to in that section, as approved by the *Authority*, as soon as reasonably practicable following the receipt of the *Authority's* approval.

12 PSO BUDGET

- 12.1.1 The *PSO* shall, no less than 60 days before the beginning of each consecutive period of 5 consecutive fiscal years of the *Authority* (each such period referred to as “5-fiscal year period” and each fiscal year of the *Authority* referred to as “*Authority* fiscal year” respectively, in this section 12 and in section 4.2.3 of Chapter 7), publish on the *Authority*’s web site:
- 12.1.1.1 the *PSO*’s proposed expenditure and revenue requirements, and a schedule of the fees that the *PSO* proposes to charge for the recovery of the *PSO*’s administrative costs, in respect of that 5-fiscal year period, and
 - 12.1.1.2 an invitation to all interested persons to make written submissions to the *PSO* in respect of such proposed expenditure and revenue requirements and schedule of fees, within a reasonable period specified in the invitation.
- 12.1.2 The *PSO* and the *Authority* shall consider, but shall not be bound by, the written submissions made pursuant to in section 12.1.1 in finalising the *PSO*’s expenditure and revenue requirements and schedule of fees for any 5-fiscal year period to which the written submissions relates.
- 12.1.3 Once the *Authority* has finalised the *PSO*’s expenditure and revenue requirements and schedule of fees for a given 5-fiscal year period, the *PSO* shall, prior to the start of that 5-fiscal year period, publish on the *Authority*’s web site such finalised expenditure and revenue requirements and schedule of fees and provide a copy of such published schedule of fees to the *EMC*.
- 12.1.4 As soon as reasonably practicable after the end of each *Authority* fiscal year, the *PSO* shall determine whether, due to events, circumstances or factors not anticipated by the *Authority* or the *PSO* at the time that the *PSO*’s expenditure and revenue requirements and schedule of fees applicable to such *Authority* fiscal year were published pursuant to section 12.1.3, the *PSO*’s actual expenditure for such *Authority* fiscal year is:
- 12.1.4.1 more than the *PSO*’s published expenditure requirements applicable to such *Authority* fiscal year (referred to in this section 12 as “under-recovery”); or
 - 12.1.4.2 less than the *PSO*’s published expenditure requirements applicable to such *Authority* fiscal year (referred to in this section 12 as “over-recovery”).

- 12.1.5 If there is any under-recovery or over-recovery as described in section 12.1.4, the *PSO* shall seek recovery of the under-recovery through increased *PSO*'s fees, or seek to apply the over-recovery towards reduction of *PSO*'s fees, over the remainder of the current 5-fiscal year period, or such longer period of time as the *Authority* may approve. If the prevailing schedule of fees for the remainder of the current 5-fiscal year period is required to be revised for this purpose, the *PSO* shall, as soon as reasonably practicable, with the *Authority*'s approval, revise and publish on the *Authority*'s web site, the *PSO*'s revised expenditure and revenue requirements and schedule of fees. The *PSO* shall provide a copy of such published revised schedule of fees to the *EMC*. Each such revised schedule of fees shall, when published by the *PSO*, take effect with respect to the remainder of the relevant 5-fiscal year period and shall, for the remainder of the relevant 5-fiscal year period, supersede any prior schedule of fees published by the *PSO* in respect of the remainder of the relevant 5-fiscal year period.