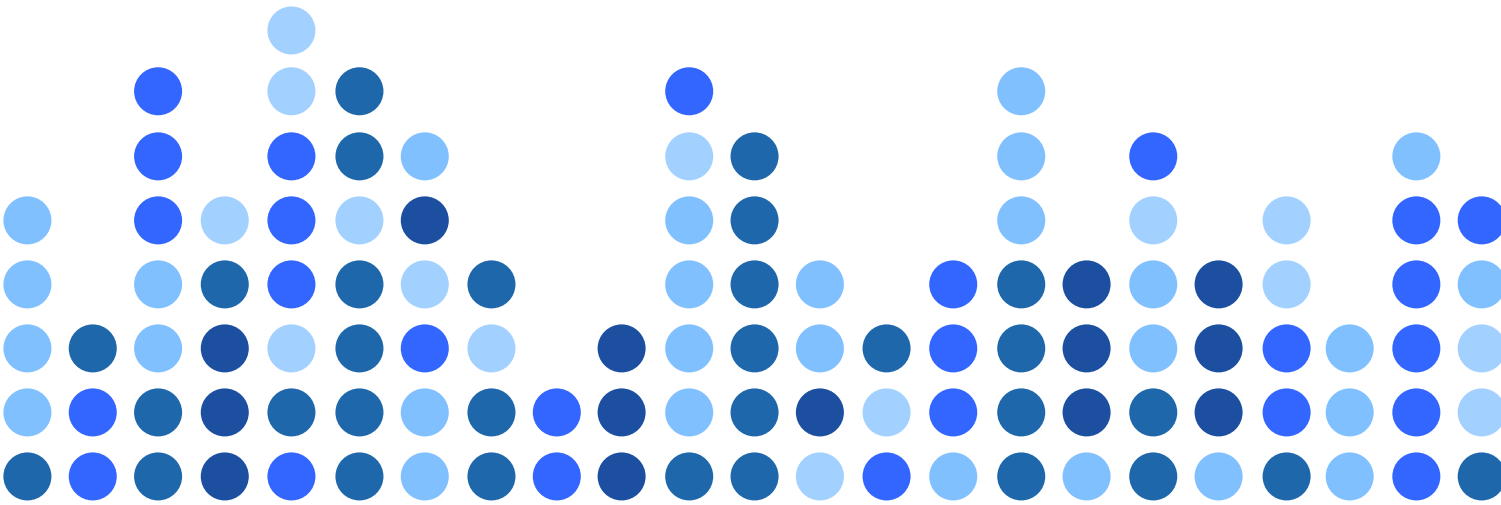
MARKET OPERATIONS MARKET MANUAL

Standing Offers, Standing Bids,
Offer Variations, Bid Variations and
Standing Capability Data
(Chapter 6 Market Rules)

~~01~~ 26 ~~OCTOBER~~ January ~~2017~~ 2022



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1 Definitions

All terms in italics used in this *market manual* shall have the same meaning as ascribed to them under the *market rules*.

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2 Standing offers and standing bids

2.1 What is a "standing offer" and a "standing bid"?

A *standing offer* refers to (i) an *energy offer*, a *reserve offer* or a *regulation offer* required to be submitted to the *EMC* in respect of a *generation registered facility*, ~~or~~ (ii) an *energy offer* required to be submitted to the *EMC* in respect of an *import registered facility*, or (iii) a *reserve offer* required to be submitted to the *EMC* in respect of a *load registered facility* that is registered to provide *reserve*.

A *standing bid* refers to an *energy bid* required to be submitted to the *EMC* in respect of a *load registered facility* that is registered to be scheduled for *energy* withdrawal for the purposes of *load curtailment*.

Unless the context otherwise requires, references to "*standing offer*" or "*standing bid*" in this *market manual* also include references to "revised *standing offer*" or "revised *standing bid*" respectively.

A *standing offer* –

- shall be submitted to the *EMC* by the *dispatch coordinator* via the *electronic communications system*, secure email or any other means, in such file format, as may be permitted by the *EMC*;
- shall contain *offers* that comply with the file and data formats in section 2.6, for each *dispatch period* in each of the seven days of the week;
- may be revised at any time by the *dispatch coordinator* by modifying *offers* comprising the *standing offer* for one or more *dispatch periods* within the seven days covered by the *standing offer*;
- shall, if accepted by the *EMC*, be stored by the *EMC* and be used in the scheduling process unless and until revised by the *dispatch coordinator* and accepted by the *EMC*; and
- shall be used in the production of any *market outlook scenarios*, *pre-dispatch schedule scenarios*, *short-term schedules* or *real-time schedules* for those *dispatch periods* for which no valid *offer variations* are held by the *EMC*.

A *standing bid* –

- shall be submitted to the *EMC* by the *dispatch coordinator* via the *electronic communications system*, secure email or any other means, in such file format, as may be permitted by the *EMC*;
- shall contain *bids* that comply with the file and data formats in section 2.6, for each *dispatch period* in each of the seven days of the week;
- may be revised at any time by the *dispatch coordinator* by modifying *bids* comprising the *standing bid* for one or more *dispatch periods* within the seven days covered by the *standing bid*;
- shall, if accepted by the *EMC*, be stored by the *EMC* and be used in the scheduling process unless and until revised by the *dispatch coordinator* and accepted by the *EMC*; and

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- shall be used in the production of any *market outlook scenarios*, *pre-dispatch schedule scenarios*, *short-term schedules* or *real-time schedules* for those *dispatch periods* for which no valid *bid variations* are held by the *EMC*.

2.2 Methods for submission of standing offers and standing bids

A *standing offer* may be submitted to the *EMC* in accordance with this *market manual* via:

- the *electronic communications system*, using WebOffer Application, WebOffer Service or any other application that is provided or permitted by the *EMC*;
- secure email in a CSV or XML file format; or
- any other means, in such file format, as may be permitted by the *EMC*.

A *standing bid* may be submitted to the *EMC* in accordance with this *market manual* via:

- the *electronic communications system*, using WebBid Application, WebBid Service or any other application that is provided or permitted by the *EMC*;
- secure email in a CSV or XML file format; or
- any other means, in such file format, as may be permitted by the *EMC*.

The **NEMS[1] system** refers to the set of computer systems used by the *EMC* for the purpose of forecasting and scheduling *generation* and *load* in the *wholesale electricity markets*.

WebOffer Application is a Web-based *offer* application compatible with the *EMC's* NEMS system that *market participants* may use to create and submit an *offer* to the *EMC*.

WebBid Application is a Web-based *bid* application compatible with the *EMC's* NEMS system that *market participants* may use to create and submit a *bid* to the *EMC*.

WebOffer Service is a Web-service *offer* platform compatible with the *EMC's* NEMS system that *market participants* may use to transfer files containing *offers* to the *EMC*.

[1] NEMS refers to National Electricity Market of Singapore.

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WebBid Service is a Web-service *bid* platform compatible with the *EMC's* NEMS system that *market participants* may use to transfer files containing *bids* to the *EMC*.

CSV (Comma-Separated Values) or **XML (Extensible Markup Language) file format** shall be used for *intertie* submissions. *Market participants* can also use it to make *standing offer* or *standing bid* submissions in the event of an *electronic communications system* failure.

2.3 Description of submission process for standing offers and standing bids

2.3.1 Submission process for standing offers and standing bids

A *dispatch coordinator* may submit a *standing offer* for a *registered facility* to the *EMC* via the *electronic communications system* using WebOffer Application, WebOffer Service or any other application that is provided or permitted by the *EMC*.

A *dispatch coordinator* may submit a *standing bid* for a *load registered facility* to the *EMC* via the *electronic communications system* using WebBid Application, WebBid Service or any other application that is provided or permitted by the *EMC*.

If a *dispatch coordinator* is unable to submit a *standing offer* to the *EMC* via the *electronic communications system* using WebOffer Application, or WebOffer Service for any reason whatsoever or is unable to submit a *standing bid* to the *EMC* via the *electronic communications system* using WebBid Application or WebBid Service for any reason whatsoever,

(a) the *dispatch coordinator* shall notify the *EMC* Helpdesk via phone (see section 6 for contact details); and

(b) the *dispatch coordinator* may submit the *standing offer* or *standing bid* to the *EMC* (in CSV or XML file format) via a password-protected zip file via email addressed to helpdesk@emcsg.com. The *EMC* Market Operations personnel will thereafter obtain the password from the *dispatch coordinator* via phone call. In the event that the *dispatch coordinator* is unable to submit the *standing offer* or *standing bid* to the *EMC* via a password-protected zip file, the *dispatch coordinator* may submit the *standing offer* or *standing bid* to the *EMC* via any secure portable data storage device or apparatus.

Where the *dispatch coordinator* submits the *standing offer* via the *electronic communications system* using WebOffer Application or WebOffer Service, or submits the *standing bid* via the *electronic communications system* using WebBid Application or WebBid Service, upon receipt of the *standing offer* or *standing bid*, the *EMC* shall timestamp and validate the *standing offer* or *standing bid* and within five minutes of such receipt:

- confirm the receipt of the *standing offer* or *standing bid*;
- notify the status of the *standing offer* or *standing bid*; and
- give reasons for any rejection of the *standing offer* or *standing bid*

via the *electronic communications system* to the *dispatch coordinator.*

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Where the *dispatch coordinator* submits the *standing offer* or *standing bid* via any means (as may be permitted by the *EMC*) other than the *electronic communications system* using WebOffer/WebBid Application or WebOffer/WebBid Service as aforesaid, the *EMC* shall treat the *standing offer* or *standing bid* as submitted by the *dispatch coordinator* and received by the *EMC* only when the *EMC* is able to upload (and has uploaded) such *standing offer* or *standing bid* into the NEMS system, and the *EMC* shall timestamp (as of the time of such uploading) and validate such *standing offer* or *standing bid* and within five minutes of such uploading:

- confirm the receipt of the *standing offer* or *standing bid*;
- notify the status of the *standing offer* or *standing bid*; and
- give reasons for any rejection of the *standing offer* or *standing bid*

via the *electronic communications system* to the *dispatch coordinator*.

A *dispatch coordinator* that does not receive the confirmation or notification shall immediately notify the *EMC* Helpdesk via phone. The *EMC* shall, where the problem lies with the *electronic communications system*, take steps to rectify the problem as soon as possible and inform the *dispatch coordinator* once the problem with the *electronic communications system* has been resolved.

If the *EMC* permits a *market participant* to submit *standing offers* or *standing bids* via the *electronic communications system* through the use of any alternative application (other than WebOffer/WebBid Application and WebOffer/WebBid Service), the submission of *standing offers* or *standing bids* through the use of such alternative application must comply with all such requirements as the *EMC* may impose from time to time.

Submission of a revised *standing offer* or revised *standing bid* must be made at least 65 minutes immediately before the *dispatch period* (gate closure) to which that revised *standing offer* or revised *standing bid* is intended to apply. Any revised *standing offer* or revised *standing bid* submitted after gate closure shall be reported to the *market surveillance and compliance panel* by the *EMC*.

A flowchart outlining the submission process in respect of *standing offers* and *standing bids* is set out in the following section.

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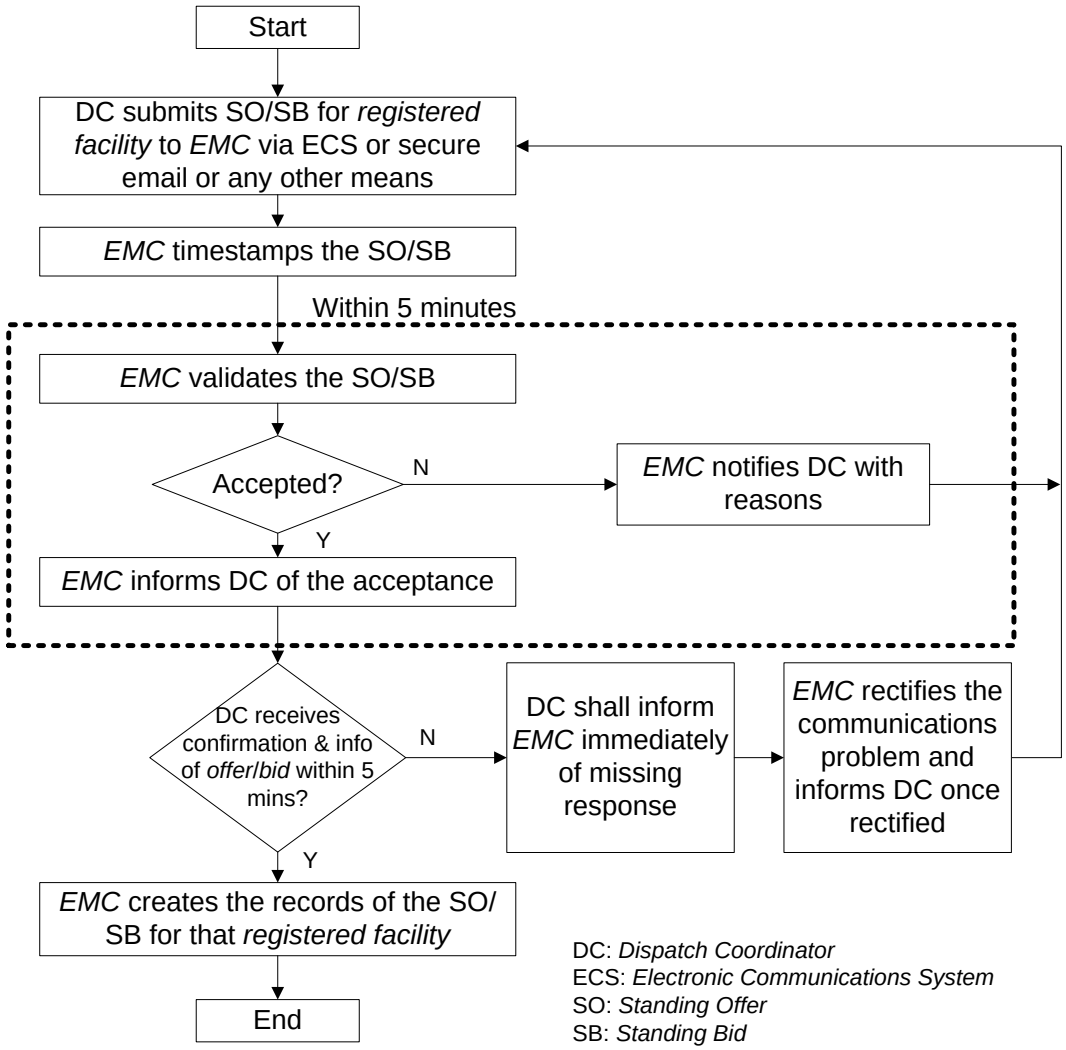
2.3.2 Standing offer and standing bid submission process flowchart



DC: *Dispatch Coordinator*
ECS: *Electronic Communications System*
SO: *Standing Offer*
SB: *Standing Bid*

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2.4 Timeline for standing offer and standing bid submission

Day	Time of Day	Event	Period Covered	Frequency
Prior to facility registration	Any	First *standing offer* or *standing bid* submitted.	Until superseded or (if applicable) invalidated, whichever is earlier	Once
Any time, until D	T-65 minutes ("gate closure")	Deadline before which a revised *standing offer* or revised *standing bid* may be submitted without being reported to the *market surveillance and compliance panel.*	Until superseded or (if applicable) invalidated, whichever is earlier	Ongoing/as required
Any time, until D	T-5 minutes	Deadline before which a revised *standing offer* or revised *standing bid* must be accepted as valid in order to be used in the production of the *real-time schedule* but which shall be reported to the *market surveillance and compliance panel* if that *standing offer* or *standing bid* was submitted after gate closure.	Until superseded or (if applicable) invalidated, whichever is earlier	Ongoing/as required

"D" refers to a *trading day*; and

"T" refers to the beginning of a *dispatch period* on *trading day* D.

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2.5 Triggers for standing offer and standing bid submission

A *standing offer*, *standing bid* or both (as may be required) must be submitted to the *EMC* prior to registration of a *registered facility* with the *EMC*.

A revised *standing offer* for a *registered facility* that is registered to provide *energy*, *reserve* or *regulation* must be submitted to the *EMC* when any of the following conditions arise:

(1) The *registered facility* is not *synchronised* and there are no *offer variations*. The *dispatch coordinator* for that *registered facility* shall submit to the *EMC* a revised *standing offer* where all quantities *offered* for any of *energy*, *reserve* and *regulation* that the *registered facility* is registered to provide shall be zero. These *offered* quantities should be submitted for all *dispatch periods* until the earliest *dispatch period* when it would be possible for that *registered facility* to be *synchronised*.

(2) The *standing capability data* associated with the *registered facility* is revised and approved. The *dispatch coordinator* for that *registered facility* shall, to the extent necessary for consistency with the revised and approved *standing capability data*, submit to the *EMC* revised *standing offers* that apply from the time at which the revised and approved *standing capability data* takes effect.

A revised *standing bid* for an *LRF with REB* must be submitted when any of the following conditions arise:

(1) The *LRF with REB* is not able to be subject to be scheduled for *energy* withdrawal for the purposes of *load curtailment* and there are no *bid variations*. The *dispatch coordinator* for that *LRF with REB* shall submit a revised *standing bid* where all quantities *bidden* for *energy* withdrawal shall be zero. These *bidden* quantities should be submitted for all *dispatch periods* until the earliest *dispatch period* in which it would be possible for that *LRF with REB* to be subject to be scheduled for *energy* withdrawal for the purposes of *load curtailment*.

(2) The *standing capability data* associated with the *LRF with REB* is revised and approved. The *dispatch coordinator* for that *LRF with REB* shall, to the extent necessary for consistency with the revised and approved *standing capability data*, submit to the *EMC* revised *standing bids* that apply from the time at which the revised and approved *standing capability data* takes effect.

(3) The Balance Vesting Price (BVP) is revised for a given calendar quarter, resulting in an increase in REBPriceMin, which is the lower price limit on *energy* prices in *standing bids*, for that given calendar quarter. The *dispatch coordinator* for an *LRF with REB* shall, to the extent necessary for consistency with such revised lower price limit, revise and re-submit to the *EMC* all *standing bids* for that given calendar quarter.

2.6 Required form of a standing offer and standing bid

The *standing offer* or *standing bid* submitted by a *market participant* must comply with the relevant file and data formats described in this *market manual*. If a *standing offer* or *standing bid* submission fails to comply with

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either the prescribed file or data format, the *EMC* shall reject the submission and notify the *market participant* within five minutes of receipt of the *standing offer* or *standing bid* submission.

There are three types of *standing offers*:

- *energy standing offer*;
- *reserve standing offer*; and
- *regulation standing offer*.

There are two classes of *reserve standing offer*[2]:

- primary *reserve*; and
- contingency *reserve*.

The *reserve standing offer* may be submitted for either a *generation registered facility* or a *load registered facility* that is registered to provide *reserve*.

The following tables show the CSV file and data formats for *energy standing offers*, *standing bids*, *reserve standing offers* and *regulation standing offers*.

[2] As referred to in section A.2 of Appendix 5A of the *market rules*.

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Table 1 CSV file and data formats of energy standing offers and standing bids

Item No	Field	Data Format	Remarks
1	Participant	Alphanumeric	
2	Type	Alphanumeric	The value must be: EGO[3] or EGB[4]
3	Unit	Alphanumeric	
4	Day	Mon to Sun	
5	Period	1 to 48	
6	Ramp Up	0 to 999999999999.9[5] or 999999999999.999[6]	This value is expressed in MW/minute.
7	Ramp Down	0 to 999999999999.9[5] or 999999999999.999[6]	This value is expressed in MW/minute.
8	Capacity[7]/Total Load[8]	0 to 9999999999.9	This value is expressed in MW.
9	Band 1: Price	-99999999999.99 to 99999999999.99	*Energy standing offers* and *standing bids* require 10 *price-quantity pairs*[9]. Prices are expressed in $/MWh. Quantities are expressed in MW.
10	Band 1: Quantity	0 to 9999999999.9	
11	External Reference	Alphanumeric	(Optional) Free text allowing a reference or comment to be supplied for this particular *offer* or *bid*.

[3] "EGO" refers to *energy offer*.

[4] "EGB" refers to *energy bid*.

[5] Up to 1 decimal place for EGO.

[6] Up to 3 decimal places for EGB.

[7] "Capacity" refers to the maximum combined capacity referred to in section 5.2.2.5 of Chapter 6 of the *market rules*. The WebOffer Application and WebOffer Service accepts two different formats: one where "Capacity" is placed between "Ramp Down" and "Band1: Price" (as shown in table above); and one where "Capacity" is placed between "Period" and "Ramp Up".

[8] "Total Load" refers to the total *load* capacity referred to in section 5.2A.2.4 of Chapter 6 of the *market rules*.

[9] For *energy standing offers* for a *generation registered facility* that is an *embedded generation facility* (notwithstanding sections 5.2.4.3 and 5.2.6 of Chapter 6 of the *market rules*):

(i) subject to section 5.2.5 of Chapter 6 of the *market rules*, the quantity (if any) in the first *price-quantity pair* shall be the quantity of *electricity* that the *embedded generation facility* is intended to *generate* for the associated *load* of its *EGF group*; and

(ii) the price in the first *price-quantity pair* shall be set to equal 95% of cost of decommitment (CDC), where CDC shall be as specified in section J.2 of Appendix 6J of the *market rules*.

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Table 2 CSV file and data formats of all classes of reserve standing offers

Item No	Field	Data Format	Remarks
1	Participant	Alphanumeric	
2	Type	Alphanumeric	The value must be: RVO[10]
3	Unit	Alphanumeric	
4	Day	Mon to Sun	
5	Period	1 to 48	
6	Reserve Proportion[11]	0 to 99.999	*Dispatch coordinators* of *generation registered facilities* must take special note of section 5.3.8 of Chapter 6 of the *market rules* when specifying the *reserve* proportion.
7	Reserve Class	PRI / CON[12]	
8	Band 1: Price	0 to 99999999999.99	A *reserve standing offer* for any *reserve class* requires 1 to 5 *price-quantity pairs.* Prices are expressed in $/MWh. Quantities are expressed in MW.
9	Band 1: Quantity	0 to 9999999999.9	
10	External Reference	Alphanumeric	(Optional) Free text allowing a reference or comment to be supplied for this particular *offer*.

[10] "RVO" refers to *reserve offer*.

[11] This field is not applicable for *standing offers* in respect of *load registered facilities*.

[12] PRI – primary *reserve*; CON – contingency *reserve*.

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Table 3 CSV file and data formats of regulation standing offers

Item No	Field	Data Format	Remarks
1	Participant	Alphanumeric	
2	Type	Alphanumeric	The value must be: RGO[13]
3	Unit	Alphanumeric	
4	Day	Mon to Sun	
5	Period	1 to 48	
6	Band 1: Price	0 to 99999999999.99	*A regulation standing offer* requires 1 to 5 *price-quantity pairs.* Prices are expressed in $/MWh. Quantities are expressed in MW.
7	Band 1: Quantity	0 to 9999999999.9	
8	External Reference	Alphanumeric	(Optional) Free text allowing a reference or comment to be supplied for this particular *offer*.

The XML file and data formats for *standing offers* and *standing bids* are provided in the Data Services Specification published by the *EMC*. Please refer to the Data Services Specifications Guide, which is available on the *EMC's* website at www.emcsg.com.

All information permitted to be included by *market participants* under the "External Reference" field in any *standing offer* or *standing bid* submitted to the *EMC*, are so permitted by the *EMC* solely for the convenience of the *market participants.* Any such information included by any *market participant* shall only be information solely for that *market participant*'s internal use only. All such information may be wholly disregarded by the *EMC* and shall not be used by the *market clearing engine* or for the *dispatch* process, or for scheduling or *settlement* purposes. Notwithstanding actual receipt, knowledge or notice of any such information by the *EMC*, the *EMC* shall be deemed not to have any notice or knowledge of the same, and shall have no responsibility or liability whatsoever and howsoever arising in connection with or in respect of any such information. The *market participant* submitting such information, or on whose behalf such information is submitted, shall indemnify, hold harmless and keep the *EMC* indemnified against any and all liabilities, losses, damages, costs and expenses (including legal costs on a full indemnity basis) suffered or incurred by the *EMC* as a result of, in connection with, or in respect of any such information.

[13] "RGO" refers to *regulation offer*.

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2.7 Rules for validation of standing offers and standing bids

The validation of *standing offers* and *standing bids* ensures that data submitted is (among other things) in the form required for the *market clearing engine*.

Upon receiving a *standing offer* or *standing bid* in the manner prescribed in the provisions of this section 2 above, the NEMS system performs the following validation steps:

1. confirmation that the *standing offer* or *standing bid* submission batch record is "well-formed";
2. confirmation that the *standing offer* or *standing bid* record is "well-formed"; and
3. validation of the *standing offer* or *standing bid* record against the *standing capability data*, the relevant price limits, the relevant quantity limits, and any other applicable requirements set out in the *market rules*.

A "well-formed" *standing offer* or *standing bid* submission batch record or a *standing offer* or *standing bid* record means that the record meets the applicable requirements specified in this *market manual*.

Market participants may use WebOffer Application or WebOffer Service to submit *standing offers*. WebOffer Application or WebOffer Service automatically generates the *standing offer* submission batch in the correct format and this shall be visible to the user.

Market participants may use WebBid Application or WebBid Service to submit *standing bids*. WebBid Application or WebBid Service automatically generates the *standing bid* submission batch in the correct format and this shall be visible to the user.

A *market participant* who is using an alternative application or wishes to develop an alternative application through which a *standing offer* or *standing bid* may be submitted via the *electronic communications system* should ensure that the submissions produced by such alternative application meet the applicable requirements specified in this *market manual*.

In steps 2 and 3 above, the NEMS system shall validate each *standing offer* and *standing bid* submission record according to each of rules one to twelve below as applicable.

Rule 1: Validate that all relevant *price-quantity pairs* are populated i.e. not null

Example 1: Invalid

Quantity_1	Price_1	Quantity_2	Price_2 …
50.0	10.00		

Example 2: Valid

Quantity_1	Price_1	Quantity_2	Price_2 …
10.0	50.00	0.0	0.00

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Rule 2: Validate that the ramp rates for *energy offers* and *energy bids* are not greater than the relevant *standing capability data* maximum values

This rule only relates to *energy offers* and *energy bids*. There are no ramp rate validations for *reserve offers* or *regulation offers*.

For an *energy offer*, the *energy* ramp-up and *energy* ramp-down values in the *energy offer* must be less than or equal to the maximum *energy* ramp-up and maximum *energy* ramp-down rates of the *registered facility* respectively.

Each of the *energy* ramp-up and *energy* ramp-down values in the *energy offer* must be expressed in MW/minute up to one decimal place and must not be less than 0.0MW/minute.

Example 1: Invalid

Assume Facility A's *standing capability data* specifies that its maximum *energy* ramp-up rate is 10MW/minute and its maximum *energy* ramp-down rate is 15 MW/minute.

Facility A's *energy offer* would be invalid if:

Max_ramp_up	Max_ramp_down
15.0	10.0

Example 2: Valid

Assume Facility A's *standing capability data* specifies that its maximum *energy* ramp-up rate is 10MW/minute and its maximum *energy* ramp-down rate is 15 MW/minute.

Facility A's *energy offer* would be valid if:

Max_ramp_up	Max_ramp_down
7.0	10.0

For an *energy bid*, the *energy* ramp-up and *energy* ramp-down values in the *energy bid* must be less than or equal to the maximum *energy* ramp-up and maximum *energy* ramp-down rates of the *registered facility* respectively.

Each of the *energy* ramp-up and *energy* ramp-down values in the *energy bid* must be expressed in MW/minute up to three decimal places and must not be less than 0.000MW/minute.

Example 3: Invalid

Assume Load Facility B's *standing capability data* specifies that its maximum *energy* ramp-up rate is 10MW/minute and its maximum *energy* ramp-down rate is 15 MW/minute.

Load Facility B's *energy bid* would be invalid if:

Max_ramp_up	Max_ramp_down
15.000	10.000

Example 4: Valid

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Assume Load Facility B's *standing capability data* specifies that its maximum *energy* ramp-up rate is 10MW/minute and its maximum *energy* ramp-down rate is 15MW/minute.

Load Facility B's *energy bid* would be valid if:

Max_ramp_up	Max_ramp_down
7.000	10.000

Rule 3: Validate that the total quantity *offered* or *bidden* does not exceed the *standing capability data* maximum values for *generation capacity*/*import capacity* or maximum *load curtailment* capacity

- For an *energy offer,* the total quantity of *energy offered* for a *dispatch period* (i.e. the sum of all 10 quantity fields in the *energy offer*) must not exceed:
  - the *registered facility's* maximum *generation capacity* or *import capacity* indicated in its *standing capability data* for that *dispatch period*; and
  - the *registered facility's* stated maximum combined capacity for *energy, reserve* and *regulation* for that *dispatch period*.

Example 1: Invalid

Facility A's maximum *generation capacity* indicated in its *standing capability data* is 130MW. Facility A's stated maximum combined capacity for *energy*, *reserve* and *regulation* is 80MW. Facility A's *energy offer* would be invalid if:

Quantity_1	Quantity_2	Quantity_3	…
50.0	40.0	40.0	

Example 2: Valid

Facility A's maximum *generation capacity* indicated in its *standing capability data* is 130MW. Facility A's stated maximum combined capacity for *energy, reserve* and *regulation* is 80MW. Facility A's *energy offer* would be valid if:

Quantity_1	Quantity_2	Quantity_3	…
50.0	10.0	10.0	

- For an *energy bid,* the total quantity of *energy bid* for a *dispatch period* (i.e. the sum of all 10 quantity fields in the *energy bid*) must not exceed:
  - the *registered facility's* maximum *load curtailment* capacity indicated in its *standing capability data* for that *dispatch period*; and
  - the *registered facility's* total *load* capacity stated in the *energy bid* for that *dispatch period*.

Example 3: Invalid

Load Facility B's maximum *load curtailment* capacity indicated in its *standing capability data* is 13MW. Load Facility B's stated total *load* capacity for *energy* is 8MW. Load Facility B's *energy bid* would be invalid if:

Quantity_1	Quantity_2	Quantity_3 …

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5.0	4.0	4.0

Example 4: Valid

Load Facility B's maximum *load curtailment* capacity indicated in its *standing capability data* is 13MW. Load Facility B's stated total *load* capacity for *energy* is 8MW. Load Facility B's *energy bid* would be valid if:

Quantity_1	Quantity_2	Quantity_3	…
5.0	1.0	1.0	

Rule 4: Validate that the total quantity *offered* does not exceed the *standing capability data* maximum values for *reserve and regulation capacity*

- For a *reserve offer,* the total quantity of *reserve offered* for a *reserve class* for a *dispatch period* (i.e. the sum of all 5 quantity fields in the *reserve offer*) must not exceed the *registered facility's* maximum *reserve* capacity for that *reserve class* indicated in its *standing capability data* for that *dispatch period*.
- For a *regulation offer,* the total quantity of *regulation offered* for a *dispatch period* (i.e. the sum of all 5 quantity fields in the *regulation offer*) must not exceed the *registered facility's* maximum *regulation* capacity indicated in its *standing capability data* for that *dispatch period.*

Example 1: Invalid

Facility A's maximum *reserve* capacity for a given *reserve class* indicated in its *standing capability data* is 10MW. Facility A's *reserve offer* for that *reserve class* would be invalid if:

Quantity_1	Quantity_2	Quantity_3	…
5.0	4.0	4.0	

Facility A's maximum *regulation* capacity indicated in its *standing capability data* is 10MW. Facility A's *regulation offer* would be invalid if:

Quantity_1	Quantity_2	Quantity_3	…
5.0	4.0	4.0	

Example 2: Valid

Facility A's maximum *reserve* capacity for a given *reserve class* indicated in its *standing capability data* is 10MW. Facility A's *reserve offer* for that *reserve class* would be valid if:

Quantity_1	Quantity_2	Quantity_3	…
5.0	4.0	1.0	

Facility A's maximum *regulation* capacity indicated in its *standing capability data* is 10MW. Facility A's *regulation offer* would be valid if:

Quantity_1	Quantity_2	Quantity_3	…
5.0	4.0	1.0	

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Rule 5: Validate that prices are increasing or decreasing as appropriate

- For each *offer*, all *price-quantity pairs* must be stated in increasing order of price (i.e. the price in each *price-quantity pair* must be greater than the price in the preceding *price-quantity pair*).

Example 1: Invalid

In Facility A's *offer*:

Price_1	Price_2 …
50.00	40.00

Example 2: Valid

In Facility A's *offer*:

Price_1	Price_2 …
40.00	50.00

- For each *bid*, all *price-quantity pairs* must be stated in decreasing order of price (i.e. the price in each *price-quantity pair* must be lower than the price in the preceding *price-quantity pair*).

Example 3: Invalid

In Load Facility B's *bid*:

Price_1	Price_2 …
540.00	550.00

Example 4: Valid

In Load Facility B's *bid*:

Price_1	Price_2 …
550.00	540.00

Rule 6: Validate that non-zero prices are attached to non-zero quantities

A *price-quantity pair* in an *offer* or *bid* must specify a price value of zero if it has a quantity value of zero.

Example 1: Invalid

Quantity_1	Price_1	Quantity_2	Price_2 …
50.0	100.00	0.0	50.00

Example 2: Valid

Quantity_1	Price_1	Quantity_2	Price_2 …
50.0	100.00	0.0	0.00

The above provisions of this Rule 6 do not apply to the first *price-quantity pair* of an *energy offer* for a *generation registered facility* that is an *embedded*

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generation facility. The price in such first *price-quantity pair* shall be set to equal 95% of CDC, where CDC shall be as specified in section J.2 of Appendix 6J of the *market rules*.

Rule 7: Validate that quantity values are within market boundaries

All *offered or bidden* quantities must lie within the market boundaries.

- The quantity value of each *price-quantity pair* shall be validated against lower and upper limits for quantity. At present, the *market rules* only define a lower limit of zero for quantities. The upper limit is constrained by the maximum quantities that are validated in Rule 3 or Rule 4.
- The quantity value of each *price-quantity pair* shall be expressed up to one decimal place only, in accordance with the *market rules*.

Rule 8: Validate that price values are within market boundaries

All *offered* or *bidden* prices must be within the market boundaries.

- For *energy offers*, the upper and lower limits on *energy* prices are EnergyPriceMax and EnergyPriceMin respectively.
- For *energy bids*, the upper and lower limits on *energy* prices are REBPriceMax and REBPriceMin respectively.
- For *reserve offers*, the respective upper limit on *reserve prices* for each *reserve class* is as follows: (1) for primary *reserve* – ResPriPriceMax; and (2) for contingency *reserve* – ResConPriceMax. The lower limit on *reserve prices* is zero.
- For *regulation offers*, the upper limit on *regulation prices* is RegPriceMax. The lower limit on *regulation prices* is zero.

The above provisions of this Rule 8 do not apply to the first *price-quantity pair* of an *energy offer* for a *generation registered facility* that is an *embedded generation facility.* The price in such first *price-quantity pair* shall be set to equal 95% of CDC, where CDC shall be as specified in section J.2 of Appendix 6J of the *market rules*.

Rule 9: Validate that the *reserve class* is correctly specified

- For *reserve offers*, the *reserve class* should be specified accordingly as per item 7 in Table 2.

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Rule 10: Validate the facility and its eligibility for the type (and class) of service referred to in the *offer* or *bid* submitted

This rule concerns the validation of an *offer* or *bid* submitted for a facility against that facility's registration and its *standing capability data*. Two main checks are performed. The first check ensures that the facility referenced in the *offer* or *bid* submission is a *registered facility*. The second check ensures that (in respect of a *bid*) the facility is registered to be scheduled for *energy* withdrawal for the purposes of *load curtailment* and (in respect of an *offer*) the facility is registered to provide the type of service referenced in the *offer* submission (*energy*, *reserve* or *regulation*) and, in the case of *reserve offer,* the *reserve class* referenced in the *offer* submission.

Rule 11: Validate that the *reserve* proportion is within the *standing capability data* limits

The *reserve* proportion must be stated for *reserve offers* made for each *generation registered facility.* The *reserve* proportion stated in each *reserve offer* must be within the *standing capability data* limits of the *generation registered facility*.

For *reserve offers* made for a *generation registered facility*, the *reserve* proportion must not be less than zero and must not exceed the *reserve* proportion defined in the *standing capability data* of the *generation registered facility*.

This Rule 11 does not apply to *reserve offers* made for *load registered facilities*.

Rule 12: Validate that there is no duplicate *standing offer* or *standing bid* submissions in the same batch of submission

There should be no duplicate *standing offer* or *standing bid* in the same batch of submission. This could occur where the *market participant* erroneously creates and submits the same submission more than once.

Rule 13: Validate that the total *load* capacity is zero when the sum of quantity *bidden* is zero.

If the sum of quantities in all *price-quantity pairs* of an *energy bid* for a *dispatch period* (i.e. the sum of all 10 quantity fields in the *energy bid*) is zero, the *registered facility's* total *load* capacity stated in that *energy bid* for that *dispatch period* must also be zero.

Assume that Load Facility B's *energy bid* is:

Quantity_1	Quantity_2	Quantity_3 …
0.0	0.0	0.0

Example 1: Invalid

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Load Facility B's *energy bid* would be invalid if its stated total *load* capacity for *energy* is 8MW.

Example 2: Valid

Load Facility B's *energy bid* would be valid if its stated total *load* capacity for *energy* is 0MW.

2.8 Revalidation of standing bids

The *EMC* shall determine if all last accepted valid *bids* remain valid for the *dispatch periods* in the upcoming calendar quarter in accordance with this section 2.8.

Prior to the start of the upcoming calendar quarter, if the price in any *price-quantity pair* of any given last accepted valid *bid* is lower than the lower price limit applicable to *bids* for the upcoming calendar quarter, such *bid* shall be invalidated for the *dispatch periods* in the upcoming calendar quarter. The *EMC* shall notify the *dispatch coordinator* of the *load registered facility* which last accepted valid *bid* has been so invalidated by the *EMC*.

Where a last accepted valid *bid* has been invalidated as aforesaid, the *dispatch coordinator* shall, in order to ensure that the *load registered facility* shall have at all times a valid *standing bid* for each *dispatch period* of each day of the week for the upcoming calendar quarter, promptly submit a revised *standing bid* for that *load registered facility*.

2.9 Use of validated standing offer and standing bids

Once a *standing offer*, *standing bid*, revised *standing offer* or *revised standing bid* has been successfully validated, it shall be used in the production of *market schedules* for those *dispatch periods* where no valid *offer variations* or *bid variations* are held by the *EMC*. If there is a valid *offer variation* or *bid variation* applicable for the given *dispatch period*, then such *offer variation* or *bid variation* shall be used instead. The foregoing is however subject to the following exceptions:

(a) if the *offer* or *bid* for a *dispatch period* was accepted as valid before the scheduled production of a *market schedule* containing that *dispatch period*, as stipulated in Appendix 6A of the *market rules*, that *offer* or *bid* (in the case of the *bid*, if it has not been invalidated in accordance with the revalidation process described in section 2.8) shall be used by the *EMC* in the production of that *market schedule*; and

(b) if an *offer variation* or *bid variation* for a *dispatch period* was submitted after that *dispatch period* had begun, the *EMC* shall not use that *offer variation* or *bid variation* in the production of any *market schedule* containing that *dispatch period*.

2.10 Intertie submissions

The *intertie* submissions shall be taken as zero MW unless the *EMC* is otherwise informed by the *PSO*. The *EMC* requires two *business days'* notice to incorporate any *intertie* submissions that is provided by the *PSO*. The *EMC*

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shall confirm receipt and update these into the *market clearing engine* as soon as practical.

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3 Offer variations and bid variations

3.1 What is an "offer variation" and a "bid variation"?

Offer variation refers to (i) an *energy offer*, a *reserve offer* or a *regulation offer* submitted to the *EMC* in respect of a *generation registered facility* ~~or~~, (ii) an *energy offer* submitted to the *EMC* in respect of an *import registered facility, or (iii)* a *reserve offer* submitted to the *EMC* in respect of a *load registered facility* that varies the terms of a previous *energy offer, reserve offer* or *regulation offer*, as the case may be, submitted to the *EMC* in respect of that *generation registered facility*, *import registered facility* or *load registered facility* that is registered to provide *reserve* for the same *dispatch period*.

Bid variation refers to an *energy bid* submitted to the *EMC* in respect of a *load registered facility* that is registered to be scheduled for *energy* withdrawal for the purposes of *load curtailment* that varies the terms of a previous *energy bid* submitted to the *EMC* in respect of that *load registered facility* for the same *dispatch period*.

The *offer variation* or *bid variation* is used as a means to make an *offer* or *bid* which is different from the current *standing offer* or *standing bid*. The *offer variation* or *bid variation* applies to a specific *dispatch period* on a specific date only, without affecting the applicability of the existing *standing offer(s)* or *standing bid(s)* for other dates or other *dispatch periods*.

3.2 Method for submission of offer variations and bid variations

An *offer variation* may be submitted to the *EMC* in accordance with this *market manual* via:

- the *electronic communications system*, using WebOffer Application, WebOffer Service or any other application that is provided or permitted by the *EMC*;
- secure email in a CSV or XML file format; or
- any other means, in such file format, as may be permitted by the *EMC*.

A *bid variation* may be submitted to the *EMC* in accordance with this *market manual* via:

- the *electronic communications system*, using WebBid Application, WebBid Service or any other application that is provided or permitted by the *EMC*;
- secure email in a CSV or XML file format; or
- any other means, in such file format, as may be permitted by the *EMC*.

3.3 Description of submission process of offer variations and bid variations

3.3.1 Submission process for offer variations and bid variations

A *dispatch coordinator* may submit an *offer variation* for a *registered facility* to the *EMC* via the *electronic communications system* using WebOffer Application, WebOffer Service or any other application that is provided or permitted by the *EMC*.

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A *dispatch coordinator* may submit a *bid variation* for a *registered facility* to the *EMC* via the *electronic communications system* using WebBid Application, WebBid Service or any other application that is provided or permitted by the *EMC*.

If a *dispatch coordinator* is unable to submit an *offer variation* to the *EMC* via the *electronic communications system* using WebOffer Application or WebOffer Service for any reason whatsoever or is unable to submit a *bid variation* to the *EMC* via the *electronic communications system* using WebBid Application or WebBid Service for any reason whatsoever,

(a) the *dispatch coordinator* shall notify the *EMC* Helpdesk via phone (see section 6 for contact details); and

(b) the *dispatch coordinator* may submit the *offer variation* or *bid variation* to the *EMC* (in CSV or XML file format) via a password-protected zip file via email addressed to helpdesk@emcsg.com. The *EMC* Market Operations personnel will thereafter obtain the password from the *dispatch coordinator* via phone call. In the event that the *dispatch coordinator* is unable to submit the *offer variation* or *bid variation* to the *EMC* via a password-protected zip file, the *dispatch coordinator* may submit the *offer variation or bid variation* to the *EMC* via any secure portable data storage device or apparatus.

Where the *dispatch coordinator* submits the *offer variation* via the *electronic communications system* using WebOffer Application or WebOffer Service, or submits the *bid variation* via the *electronic communications system* using WebBid Application or WebBid Service, upon receipt of the *offer variation* or *bid variation*, the *EMC* shall timestamp and validate the *offer variation or bid variation* and within five minutes of such receipt:

- confirm the receipt of the *offer variation* or *bid variation*;
- notify the status of the *offer variation* or *bid variation*; and
- give reasons for any rejection of the *offer variation* or *bid variation*,

via the *electronic communications system* to the *dispatch coordinator.*

Where the *dispatch coordinator* submits the *offer variation* or *bid variation* via any means (as may be permitted by the *EMC*) other than the *electronic communications system* using WebOffer/WebBid Application or WebOffer/WebBid Service as aforesaid, the *EMC* shall treat the *offer variation* or *bid variation* as submitted by the *dispatch coordinator* and received by the *EMC* only when the *EMC* is able to upload (and has uploaded) such *offer variation* or *bid variation* into the NEMS system, and the *EMC* shall timestamp (as of the time of such uploading) and validate such *offer variation* or *bid variation* and within five minutes of such uploading:

- confirm the receipt of the *offer variation* or *bid variation*;
- notify the status of the *offer variation* or *bid variation*; and
- give reasons for any rejection of the *offer variation* or *bid variation,*

via the *electronic communications system* to the *dispatch coordinator.*

A *dispatch coordinator* that does not receive the confirmation or notification shall immediately notify the *EMC* Helpdesk via phone. The *EMC* shall, where the problem lies with the *electronic communications system*, take steps to rectify the problem as soon as possible and inform the *dispatch coordinator*

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once the problem with the *electronic communications system* has been resolved.

If the *EMC* permits a *market participant* to submit *offer variations* or *bid variations* via the *electronic communications system* through the use of any alternative application (other than WebOffer/WebBid Application and WebOffer/WebBid Service), the submission of *offer variations* or *bid variations* through the use of such alternative application must comply with all such requirements as the *EMC* may impose from time to time.

Submission of an *offer variation* or *bid variation* must be made at least 65 minutes immediately before the *dispatch period* (gate closure) to which that *offer variation* or *bid variation* is intended to apply. Any *offer variation* or *bid variation* submitted after gate closure shall be reported to the *market surveillance and compliance panel* by the *EMC*.

A flowchart outlining the submission process in respect of *offer variations* and *bid variations* is set out in the following section.

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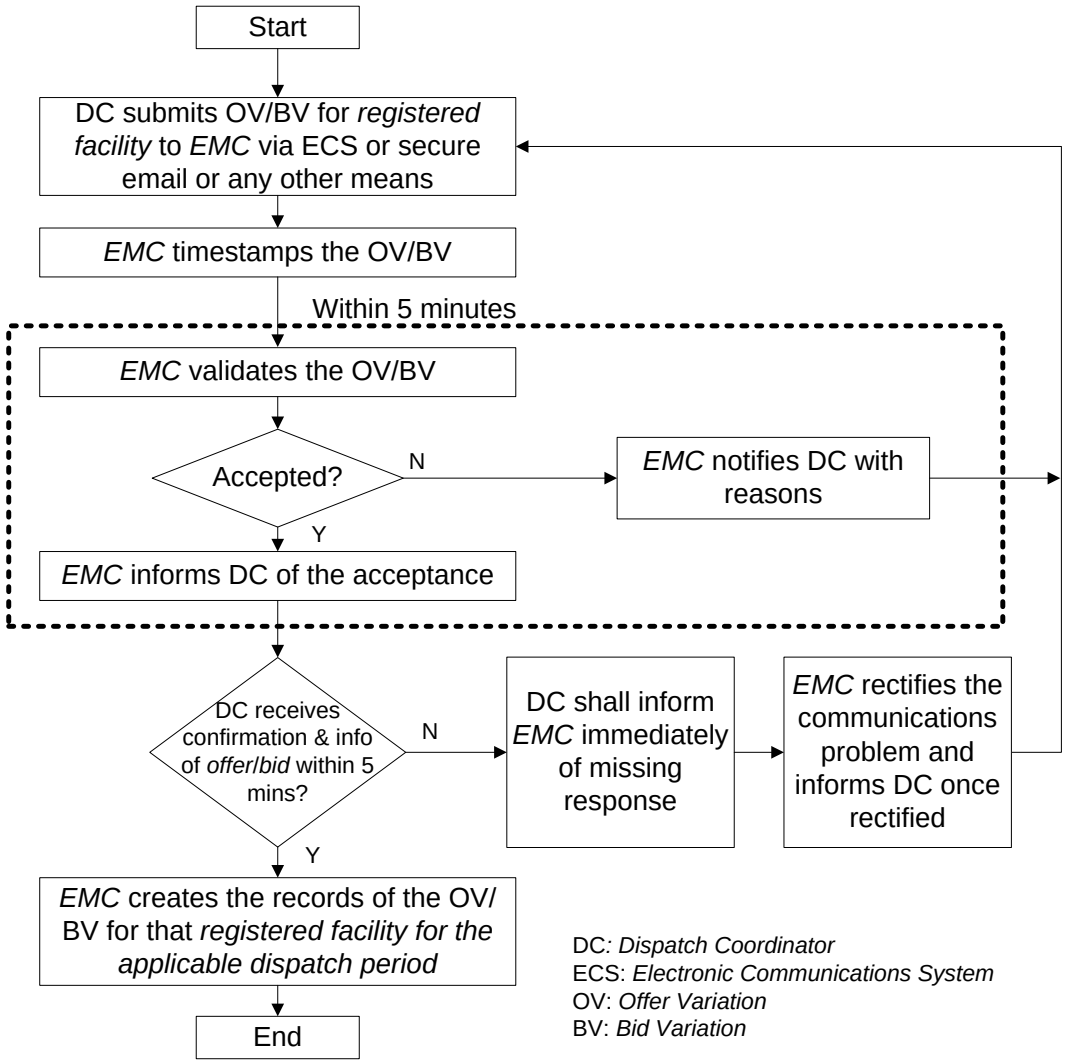
3.3.2 Offer variation and bid variation submission process flowchart



DC*: Dispatch Coordinator*
ECS: *Electronic Communications System*
OV: *Offer Variation*
BV: *Bid Variation*

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3.4 Timeline for offer variation and bid variation submission

Day	Time of Day	Event	Period Covered	Frequency
D – 8 days	09:00	The *EMC* begins accepting *offer variations* or *bid variations* for *dispatch periods* during *trading day* D.	D	Ongoing
D-8 days to D	From 09:00 on D-8, within 5 minutes of receipt	Notification of acceptance/rejection of *offer variation* or *bid variation.*	D	Ongoing
D	T-65 minutes ("gate closure")	Deadline before which an *offer variation* or *bid variation* may be submitted without being reported to the *market surveillance and compliance panel*.	T + 30 minutes	Ongoing
D	T-5 minutes	Deadline before which an *offer variation* or *bid variation* must be accepted as valid in order to be used in production of the *real-time schedule* but which shall be reported to the *market surveillance and compliance panel* if the *offer variation* or *bid variation* was submitted after gate closure.	T + 30 minutes	Ongoing

"D" refers to a *trading day*; and

"T" refers to the beginning of a *dispatch period* on *trading day* D.

3.5 Triggers for mandatory offer variation and bid variation submission

An *offer variation* or a *bid variation* must be submitted by the *dispatch coordinator* of a *registered facility* to the *EMC* when any of the following conditions arise:

(1) The quantity currently *offered* in a valid *offer* for a *registered facility* exceeds the quantity that the *registered facility's dispatch coordinator* reasonably expects to be available from the *registered facility* by more than the greater of:

- 10 MW; or
- 5 percent of the quantity currently *offered*,

for any *dispatch period* in the current *market outlook horizon*. In such a case, an *offer variation* must be immediately submitted by the *dispatch coordinator* of the *registered facility* to the *EMC* for that *dispatch period.*

The quantity currently *bidden* in a valid *bid* for an *LRF with REB* exceeds the quantity that the *LRF with REB's dispatch coordinator* reasonably expects to be withdrawn by the *LRF with REB* by more than the greater of

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- 0.5 MW; or
- 5 percent of the quantity currently *bidden*,

for any *dispatch period* in the current *market outlook horizon*. In such a case, a *bid variation* must be immediately submitted by the *dispatch coordinator* of the *LRF with REB* to the *EMC* for that *dispatch period*.

In the case where a *generation registered facility* has been derated, the *dispatch coordinator* must immediately submit an *offer variation* reflecting the reduced capacity of the facility to the *EMC*. It is essential to note that in such a case it is not necessary for the maximum *generation capacity* and maximum combined *generation capacity* and *reserve* capacity in the *standing capability data* of the *generation registered facility* to be revised.

(2) There are existing *offer variations* for each *dispatch period* that the *registered facility* is not *synchronised*.

In such a case, the *dispatch coordinator* for that *registered facility* shall submit to the *EMC* an *offer variation* for each such *dispatch period* until the earliest *dispatch period* in which it would be possible for the *registered facility* to be *synchronised*, so that all *offered quantities* for *energy*, *reserve* and *regulation* are zero.

(3) There are existing *bid variations* for each *dispatch period* that an *LRF with REB* is not able to be subject to be scheduled for *energy* withdrawal for the purposes of *load curtailment*.

In such a case, the *dispatch coordinator* for that *LRF with REB* shall submit to the *EMC* a *bid variation* for each such *dispatch period* until the earliest *dispatch period* in which it would be possible for that *LRF with REB* to be subject to be scheduled for *energy* withdrawal for the purposes of *load curtailment*, so that all *bidden* quantities are zero.

(4) The *standing capability data* associated with the *registered facility* is revised and approved. The *dispatch coordinator* for that *registered facility* shall, to the extent necessary for consistency with the revised and approved *standing capability data*, submit to the *EMC* a revised *standing offer* or revised *standing bid* (as per section 2.5) and *offer variations* or *bid variations* that apply from the time at which the revised and approved *standing capability data* takes effect.

3.6 Required form of an offer variation and bid variation

An *offer variation* or a *bid variation* submitted by a *market participant* must comply with the relevant file and data formats described in this *market manual*. If an *offer variation* or a *bid variation* submission fails to comply with either the prescribed file or data format, the *EMC* shall reject the submission and notify the *dispatch coordinator* within five minutes of receipt of the *offer variation* or *bid variation* submission.

The *offer variation and bid variation* file and data formats are very similar to the file and data formats for *standing offers* and *standing bids*.

There are also three types of *offer variation* types:

- *offer variation* for *energy*;

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- *offer variation* for *reserve*; and
- *offer variation* for *regulation*.

The difference between a *standing offer* (or *standing bid*) and an *offer variation* (or *bid variation*) is that the latter shall only be applied to a specific *dispatch period*. The “day” field in the *standing offer* or *standing bid* submission is therefore replaced by a “date” field in the case of an *offer variation* or *bid variation*.

The following tables show the CSV file and data formats for an *offer variation* for each of *energy*, *reserve* and *regulation*, and a *bid variation*.

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Table 4 CSV file and data formats of energy offer variations and bid variations

Item No	Field	Data Format	Remarks
1	Participant	Alphanumeric	
2	Type	Alphanumeric	The value must be: EGO[14] or EGB[15]
3	Unit	Alphanumeric	
4	Date	dd/mm/yyyy	
5	Period	1 to 48	
6	Ramp Up	0 to 999999999999.9[16] or 999999999999.999[17]	This value is expressed in MW/minute.
7	Ramp Down	0 to 999999999999.9[16] or 999999999999.999[17]	This value is expressed in MW/minute.
8	Capacity[18]/Total Load[19]	0 to 9999999999.9	This value is expressed in MW.
9	Band 1: Price	-99999999999.99 to 99999999999.99	*An energy offer variation* and a *bid variation* each require 1 to 10 *price-quantity pairs*[20]. Prices are expressed in $/MWh. Quantities are expressed in MW.
10	Band 1: Quantity	0 to 9999999999.9	
11	External Reference	Alphanumeric	(Optional) Free text allowing a reference or comment to be supplied for this particular *offer* or *bid*.

[14] "EGO" refers to *energy offer*.

[15] "EGB" refers to *energy bid*.

[16] Up to 1 decimal place for EGO.

[17] Up to 3 decimal places for EGB.

[18] "Capacity" refers to the maximum combined capacity referred to in section 5.2.2.5 of Chapter 6 of the *market rules*. The WebOffer Application and WebOffer Service accepts two different formats: one where "Capacity" is placed between "Ramp Down" and "Band1: Price" (as shown in table above); and one where "Capacity" is placed between "Period" and "Ramp Up".

[19] "Total Load" refers to the total *load* capacity referred to in section 5.2A.2.4 of Chapter 6 of the *market rules*.

[20] For an *energy offer variation* for a *generation registered facility* that is an *embedded generation facility* (notwithstanding sections 5.2.4.3 and 5.2.6 of Chapter 6 of the *market rules*):

(i) subject to section 5.2.5 of Chapter 6 of the *market rules*, the quantity (if any) in the first *price-quantity pair* shall be the quantity of *electricity* that the *embedded generation facility* is intended to *generate* for the associated *load* of its *EGF group*; and

(ii) the price in the first *price-quantity pair* shall be set to equal 95% of cost of decommitment (CDC), where CDC shall be as specified in section J.2 of Appendix 6J of the *market rules*.

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Table 5 CSV file and data formats of all classes of reserve offer variations

Item No	Field	Data Format	Remarks
1	Participant	Alphanumeric	
2	Type	Alphanumeric	The value must be: RVO[21]
3	Unit	Alphanumeric	
4	Date	dd/mm/yyyy	
5	Period	1 to 48	
6	Reserve Proportion[22]	0 to 99.999	*Dispatch coordinators* of *generation registered facilities* must take special note of section 5.3.8 of Chapter 6 of the *market rules* when specifying the *reserve* proportion.
7	Reserve Class	PRI / CON[23]	
8	Band 1: Price	0 to 99999999999.99	A *reserve offer variation* for any *reserve class* requires 1 to 5 *price-quantity bands.* Prices are expressed in $/MWh. Quantities are expressed in MW.
9	Band 1: Quantity	0 to 9999999999.9	
10	External Reference	Alphanumeric	(Optional) Free text allowing a reference or comment to be supplied for this particular offer.

[21] "RVO" refers to *reserve offer*.

[22] This field is not applicable for *offer variations* in respect of *load registered facilities*.

[23] PRI – primary *reserve*; CON – contingency *reserve*.

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Table 6 CSV file and data formats of regulation offer variations

Item No	Field	Data Format	Remarks
1	Participant	Alphanumeric	
2	Type	Alphanumeric	The value must be: RGO[24]
3	Unit	Alphanumeric	
4	Date	dd/mm/yyyy	
5	Period	1 to 48	
6	Quantity 1	0 to 999999999.9	*A regulation offer variation* requires 1 to 5 *price-quantity pairs.* Prices are expressed in $/MWh. Quantities are expressed in MW.
7	Price 1	0 to 999999999.99	
8	External Reference	Alphanumeric	(Optional) Free text allowing a reference or comment to be supplied for this particular offer.

The XML file and data formats for *offer variations* and *bid variations* are provided in the Data Services Specification published by the *EMC*. Please refer to the Data Services Specifications Guide, which is available on the *EMC's* website at www.emcsg.com.

All information permitted to be included by *market participants* under the "External Reference" field in any *offer variation* or *bid variation* submitted to the *EMC*, are so permitted by the *EMC* solely for the convenience of the *market participants.* Any such information included by any *market participant* shall only be information solely for that *market participant's* internal use only. All such information may be wholly disregarded by the *EMC* and shall not be used by the *market clearing engine* or for the *dispatch* process, or for scheduling or *settlement* purposes. Notwithstanding actual receipt, knowledge or notice of any such information by the *EMC*, the *EMC* shall be deemed not to have any notice or knowledge of the same, and shall have no responsibility or liability whatsoever and howsoever arising in connection with or in respect of any such information. The *market participant* submitting such information, or on whose behalf such information is submitted, shall indemnify, hold harmless and keep the *EMC* indemnified against any and all liabilities, losses, damages, costs and expenses (including legal costs on a full indemnity basis) suffered or incurred by the *EMC* as a result of, in connection with, or in respect of any such information.

[24] "RGO" refers to *regulation offer*.

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3.7 Rules for validation of offer variations and bid variations

All the validation rules set out in section 2.7 shall also apply to the validation of *offer variations* and *bid variations*. However, there shall be an additional rule (Rule 14) for validation of *offer variations* and *bid variations*, which is shown below.

Rule 14: Validate that the submission date is within the valid timeframe
A submission of an *offer variation* or a *bid variation* after the start of a *dispatch period* to which the *offer variation* or *bid variation* applies is not permitted. In practice, this rule prevents *market participants* from submitting an *offer variation* or a *bid variation* after the submission cut-off time for the current *trading period* or any prior *trading period*. The submission date must be greater than or equal to the current date. If the submission date is the current date, the submission period must not start prior to the current time less the submission cut-off time. If the period is the first period, the current time must be prior to midnight less the submission cut-off time.

3.8 Revalidation of bid variations

The process for the revalidation of *standing bids* set out in section 2.8 shall also apply to the revalidation of *bid variations*.

3.9 Use of validated offer variations and bid variations

Section 2.9 shall also apply to the use of validated *offer variations* and *bid variations* by the *EMC* in the production of a *market schedule*.

3.10 Intertie submissions

The *intertie* submissions shall be taken as zero MW unless the *EMC* is otherwise informed by the *PSO*. The *EMC* requires two *business days'* notice to incorporate any *intertie* submissions that is provided by the *PSO*. The *EMC* shall confirm receipt and update these into the *market clearing engine* as soon as practical.

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4 Standing capability data

4.1 Process for submission of standing capability data

4.1.1 Initial standing capability data submission

When a *market participant* applies to register a facility under section 5 of Chapter 2 of the *market rules*, it shall at the same time submit that facility's initial *standing capability data* to the *PSO* for approval.

If the initial *standing capability data* is approved by the *PSO*, the *PSO* shall forward the *standing capability data* to the *EMC*. Upon receipt of the initial *standing capability data*, the *EMC* shall confirm its receipt to both the *PSO* and the *market participant*. This confirmation of receipt shall be by way of email or facsimile transmission and shall be given as soon as practical.

If the *market participant* or the *dispatch coordinator* (as the case may be) does not receive such confirmation of receipt from the *EMC*, the *market participant* or the *dispatch coordinator* (as the case may be) shall immediately inform the *EMC* of the non-receipt by way of email or facsimile transmission.

If the *PSO* rejects the initial *standing capability data*, the *PSO* shall notify the *market participant* of the *PSO's* rejection and the reasons for its rejection as soon as practical.

4.1.2 Revised standing capability data submission

If there is a change in the physical capability of a *registered facility*, its *dispatch coordinator* shall submit revised *standing capability data* as necessary to reflect the change, to the *PSO* for approval.

If the *PSO* requires a *dispatch coordinator* to provide revised *standing capability data* under section 9.6.5 of Chapter 5 of the *market rules*, it shall do so within the time specified by the *PSO*.

If the revised *standing capability data* is approved by the *PSO*, the *PSO* shall forward the *standing capability data* to the *EMC*. Upon receipt of the revised *standing capability data*, the *EMC* shall confirm its receipt to both the *PSO* and the *dispatch coordinator*. This confirmation of receipt shall be by way of email or facsimile transmission and shall be given as soon as practical.

If the *PSO* rejects the revised *standing capability data*, the *PSO* shall notify the *dispatch coordinator* of the *PSO's* rejection and the reasons for its rejection.

4.1.3 Effective use of initial and revised standing capability data in the market clearing engine

The *EMC* shall, as soon as practicable and upon receiving any approved *standing capability data* in respect of a facility from the *PSO*, create or update its records of that facility's *standing capability data* to be used by the *market clearing engine*. Typically, it takes ten *business days*[25] for approved initial

[25] In the event where receipt of approved data is incomplete or is not in the required form, the date for effective use of the *standing capability data* shall be delayed. Hence, *market participants* are advised to ensure that the *standing capability data* submitted uses the latest business forms and the data provided is complete, clear and correct. The date for effective use of any initial or revised *standing capability data* is also dependent on the date from which the metering-related information (if applicable) can be provided by the *market support services licensee* to the *EMC*.

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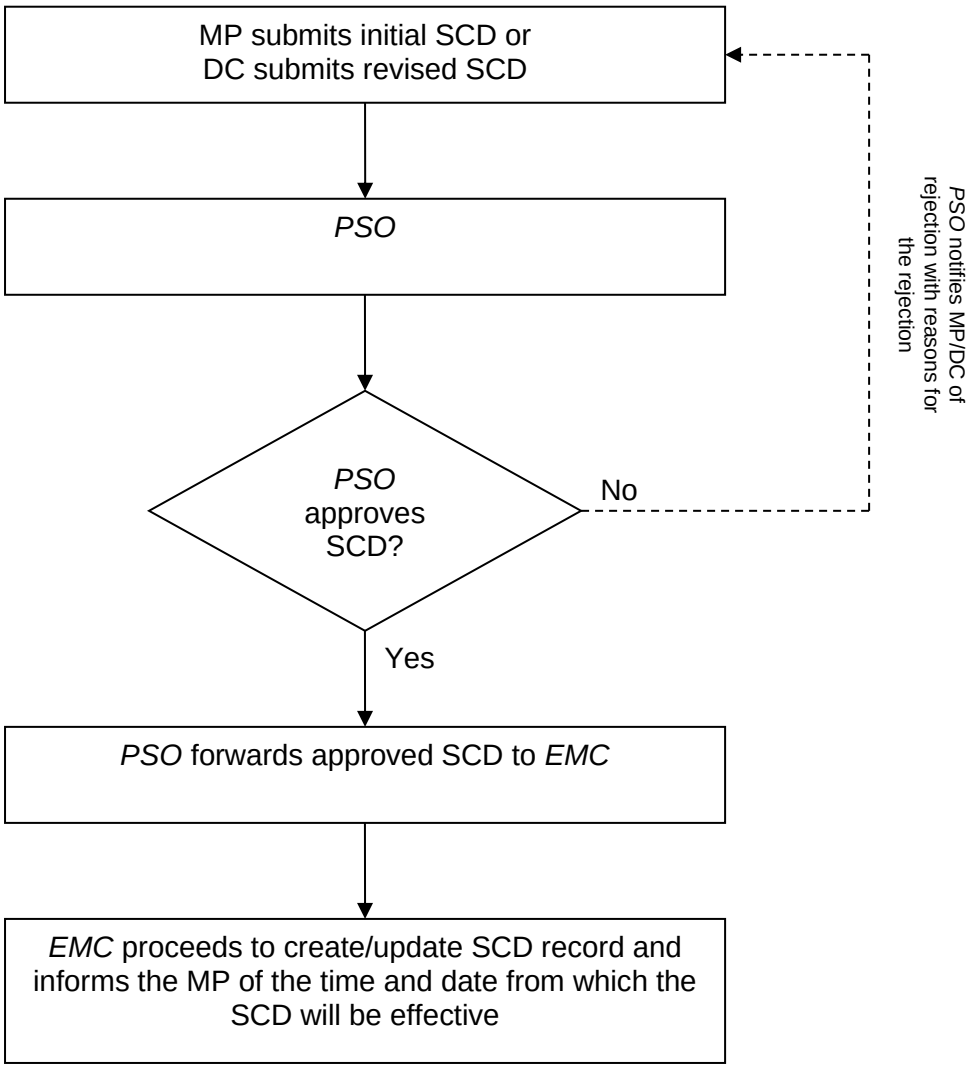
standing capability data to be updated into the NEMS system upon the *EMC's* receipt of the same from the *PSO*. The *EMC* shall notify the applicable *market participant* of the date and time on which the revised *standing capability data* shall be effective.

4.1.4 Submission process flowchart for initial and revised standing capability data



MP*: Market Participant*
DC*: Dispatch Coordinator*
SCD*: Standing Capability Data*

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4.2 Timeline for standing capability data submission

Day	Time of Day	Event	Period Covered	Frequency
Prior to facility registration	At the same time as the submission of an application for registration of the facility is submitted to the *EMC*	Provide initial *standing capability data* where such data shall have been provided to the *PSO* by a *market participant*, and approved by the *PSO*, in accordance with the *system operation manual*.	From first day of participation and until superseded.	Once
Before day D	Any time	Provide revised *standing capability data* where such data shall have been provided to the *PSO* by a *dispatch coordinator*, and approved by the *PSO*, in accordance with the *system operation manual.*	From day D until superseded	As required

"D" refers to a *trading day*.

4.3 Triggers for standing capability data submission

Initial *standing capability data* must be submitted to the *PSO* at the same time as when the application for registration of a facility is submitted to the *EMC*. The *PSO* may then approve such data and pass it on to the *EMC*.

Revised *standing capability data* must be submitted to the *PSO* if there is a change in the physical capability of a *registered facility*.

4.4 Required form of standing capability data

The *standing capability data is* derived from the following data sources:

SNo	**Type of *standing capability data***	**Data Sources**
1	Facilities Data	Facility registration forms *System Operation Manual* (SOM)
2	Network Model Data	*Transmission Licensee* *PSO* - Energy Management System (EMS) *System Operation Manual* (SOM)
3	System Requirement Data	*System Operation Manual* (SOM) Agreed *PSO – EMC* forms *Market rules*

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All *registered facilities* and *transmission licensees* shall submit their *standing capability data* to the *PSO* via the facility registration forms found in the *system operation manual*. The data from these forms are mapped to the forms used by the *EMC* to enter data into the *market clearing engine* as shown below.

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4.5 Forms used by the EMC to update standing capability data, network model data and system requirement data into the market clearing engine

4.5.1 Ancillary service provider (reserve) form

Ancillary Provider Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
ANCILLARY TYPE		N/A
FACILITY		N/A
ANCILLARY GROUP		N/A
MAX. RATING		MW
RSRV GENERATION MAX		MW
RESPONSE DELAY		Sec
RSV. PROPORTION		N/A
LOW LOAD		MW
LOW LOAD RESERVE		MW
MEDIUM LOAD RESERVE		MW
HIGH LOAD RESERVE		MW

4.5.2 Ancillary service provider (regulation) form

Ancillary Provider Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
ANCILLARY TYPE		N/A
FACILITY		N/A
ANCILLARY GROUP		N/A
MAX. RATING		MW
REGULATION MIN		MW
REGULATION MAX		MW

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4.5.3 Ancillary service form

Ancillary Service Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
ANCILLARY TYPE		N/A
NAME		N/A
RESERVE CLASS CODE[26]		N/A
DESCRIPTION		N/A
MINIMUM RISK		MW
RESPONSE PERIOD		Sec
MAXIMUM PRICE		$
PENALTY		N/A
MAX. IL PROPORTION – INTERTIE OFF[27]		N/A
MAX. IL PROPORTION – INTERTIE ON[28]		N/A

4.5.4 Zone form[29]

Zone Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
ZONE		N/A
ZONE LIMIT		MW

[26] Not applicable if ANCILLARY TYPE is Regulation.

[27] Not applicable if ANCILLARY TYPE is Regulation.

[28] Not applicable if ANCILLARY TYPE is Regulation.

[29] This form is not applicable to *generation registered facilities*.

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4.5.5 Substation form

Substation Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
SUBSTATION NAME		N/A
B1		N/A
B2		N/A
ZONE		N/A

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4.5.6 Branch (Line/Transformer) form

Branch Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
B1		N/A
B2		N/A
B3		N/A
BRANCH TYPE	Line / Transformer	N/A
RESISTANCE		p.u.
REACTANCE		p.u.
FIXED LOSS		MW
MAX. RATING FORWARD		MVA
MAX. RATING REVERSE		MVA
REDUND. FACTOR FWD	1	N/A
REDUND. FACTOR REV.	1	N/A
THERMAL RATING FWD.		MVA
THERMAL RATING REV.		MVA
PENALTY		N/A
CONNECTOR FROM		N/A
CONNECTOR TO		N/A
BUS FROM		N/A
BUS TO		N/A

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4.5.7 Branch (Phase Shifting Transformer) form

Branch Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
B1		N/A
B2		N/A
B3		N/A
BRANCH TYPE	PST	N/A
RESISTANCE		p.u.
REACTANCE		p.u.
FIXED LOSS		MW
MAX. RATING FORWARD		MVA
MAX. RATING REVERSE		MVA
REDUND. FACTOR FWD	1	N/A
REDUND. FACTOR REV.	1	N/A
THERMAL RATING FWD.		MVA
THERMAL RATING REV.		MVA
PENALTY		N/A
CONNECTOR FROM		N/A
CONNECTOR TO		N/A
BUS FROM		N/A
BUS TO		N/A
PST DEGREE SHIFT PER TAP		DEGREE
PST TAP ZERO		N/A
PST TAP MIN		N/A
PST TAP MAX		N/A

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4.5.8 Bus form

Bus Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
B1		N/A
B2		N/A
B3		N/A
REFERENCE NODE PRIORITY		N/A
FICTIONAL INDICATOR	Y / N	N/A
EXCESS PENALTY		N/A
DEFICIT PENALTY		N/A

4.5.9 Connector form

Connector Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
B1		N/A
B2		N/A
B3		N/A

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4.5.10 Generation Registered Facility and Import Registered Facility form

Facility Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
FACILITY TYPE	UNIT	N/A
UNIT TYPE	REGISTERED	N/A
B1		N/A
B2		N/A
B3		N/A
FACILITY NAME		N/A
GENERATION TYPE	CCGT / ST / GT / ~~RENEWABLE~~ IGS/Battery/Import-/OTHERS	N/A
GENERATION SUB TYPE	SINGLE / MULTI-GENERATING UNIT	N/A
INTERTIE INDICATOR	Y / N	N/A
NODE NAME		N/A
MAXIMUM RATING		MW
NORMAL RAMP DOWN		MW/m
REGULATED RAMP DOWN		MW/m
NORMAL RAMP UP		MW/m
REGULATED RAMP UP		MW/m
PRIMARY RISK	Y / N	N/A
SECONDARY RISK	Y / N	N/A
FAILURE PROBABILITY		%
DAMPING GENERATOR	Y / N	N/A
PENALTY NAME		N/A
MINIMUM STABLE LOAD LEVEL TO BE REGISTERED FOR MODELLING		MW

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4.5.11 Generation Settlement Facility form

Facility Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
FACILITY TYPE	UNIT	N/A
UNIT TYPE	SETTLEMENT	N/A
B1		N/A
B2		N/A
B3		N/A
FACILITY NAME		N/A
GENERATION TYPE	CCGT / ST / GT / RENEWABLE / OTHERS	N/A
NODE NAME		N/A
MAXIMUM RATING		MW
NORMAL RAMP DOWN		MW/m
REGULATED RAMP DOWN		MW/m
NORMAL RAMP UP		MW/m
REGULATED RAMP UP		MW/m
PRIMARY RISK	Y / N	N/A
SECONDARY RISK	Y / N	N/A
DAMPING GENERATOR	Y / N	N/A

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4.5.12 Dispatchable Load / Load registered facility (Reserve Provider) form

Facility Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
FACILITY TYPE	Dispatch Load	N/A
B1		N/A
B2		N/A
B3		N/A
INTERTIE INDICATOR	Y / N	N/A
NODE NAME		N/A
MAXIMUM RATING		MW
IL RECORDER ID		N/A

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4.5.13 Load registered facility (Load Curtailment) form

Facility Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
FACILITY TYPE	Dispatch Load	N/A
B1		N/A
B2		N/A
B3		N/A
FACILITY NAME		N/A
GENERATION TYPE	DR	N/A
INTERTIE INDICATOR	N	N/A
NODE NAME		N/A
MAX LOAD CURTAILMENT CAPACITY		MW
NORMAL RAMP DOWN		MW/m
REGULATED RAMP DOWN		MW/m
NORMAL RAMP UP		MW/m
REGULATED RAMP UP		MW/m
SUBSTATION	Station 1/Station 2/…	N/A

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4.5.14 Offtake Load facility form

Facility Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
FACILITY TYPE	Offtake load	N/A
B1		N/A
B2		N/A
B3		N/A
SETTLEMENT ACCT.		N/A
MAXIMUM RATING		MW
UNIT TRANSFORMER INDICATOR	Y / N	N/A

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4.5.15 Node form

Node Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
NODE NAME		N/A
NODE TYPE	GPOS / LPOS / IPOS / DPOS	N/A
SETTLEMENT ACCT.		N/A

4.5.16 Participant and Accounts form – Embedded Generator[30]

Participant Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
PARTICIPANT NAME		N/A
LICENCE NUMBER		N/A
PRUDENTIAL LIMIT		$
Settlement Accounts		
ACCOUNT NAME		N/A
ACCOUNT ID		N/A
PARTICIPANT TYPE	Embedded Generator	N/A
RETAILER ID[31]		N/A
NET SETTLEMENT	Y / N	N/A
PRICE NEUTRALISATION	Y / N	N/A

[30] I.e. a *market participant* whose *generation facility* is classified as an *embedded generation facility* (EGF) and assigned to an *EGF group*.

[31] Applicable only if the associated *load* of the *EGF group* of the *market participant* is associated with the *settlement account* of another *market participant* that is a *retail electricity licensee*.

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4.5.17 Participant and Accounts form – All other genres

Participant Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
PARTICIPANT NAME		N/A
LICENCE NUMBER		N/A
PRUDENTIAL LIMIT		$
Settlement Accounts		
ACCOUNT NAME		N/A
ACCOUNT ID		N/A
PARTICIPANT TYPE	Broker / EMC Internal Account / Generator / Interruptible Load / MSSL / PSO / PowerGrid / Retailer	N/A

4.5.18 Participation factors form

Day Types		
Field Names on Data Admin Screen	**DATA**	**Unit**
NAME		N/A
Custom Day Calendar		
SCHEDULED DATE		Date

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4.5.19 Penalty and tranches form

Penalty Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
PENALTY NAME		N/A
PENALTY TYPE	Ancillary Service / Bus Deficit / Bus Excess / Branch / Facility / Security Constraint	N/A
Penalty Tranches		
TRANCHE		N/A
QUANTITY		MW
AMOUNT		$

4.5.20 Reserve group and effectiveness form

Reserve Group Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
RESERVE CLASS		N/A
RESERVE GROUP		N/A
ANCILLARY TYPE		N/A
Group Effectiveness		
QUANTITY		MW
EFFECTIVENESS		N/A

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4.5.21 SCADA unit form - normal facility

SCADA Unit Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
UNIT TYPE	Independent	N/A
B1		N/A
B2		N/A
B3		N/A
MAPPING	R	N/A
MNN BUS		N/A
ALT BUS		N/A
DEFAULT BRANCH		N/A
UNIT TRANSFORMER MAPPING TYPE	NM / DM[32]	N/A
UNIT TRANSFORMER[33]		N/A
FACILITY		N/A
GSF LOAD[34]		N/A

[32] "NM" refers to "Not Mapped", which means that the SCADA unit does not have a mapped unit transformer *load* (for example, incineration generators);

"DM" refers to "Directly Mapped", which means that the SCADA unit is directly mapped to a unit transformer *load*.

[33] This field is applicable only if "DM" was selected for UNIT TRANSFORMER MAPPING TYPE.

[34] This field is applicable only if the SCADA unit relates to a given *generation settlement facility* (GSF).

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4.5.22 SCADA unit form - CCP - GT

SCADA Unit Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
UNIT TYPE	Independent	N/A
B1		N/A
B2		N/A
B3		N/A
MAPPING	I	N/A
MNN BUS		N/A
ALT BUS		N/A
DEFAULT BRANCH		N/A
PPF		N/A
UNIT TRANSFORMER MAPPING TYPE	DM/ IM[35]	N/A
UNIT TRANSFORMER[36]		N/A
DEPENDENT UNIT		N/A
FACILITY		N/A

[35] "IM" refers to "Indirectly Mapped", which means the SCADA unit is mapped to a unit transformer *load* via another SCADA unit within the same *generation facility*.

[36] This field is applicable only if "DM" was selected for UNIT TRANSFORMER MAPPING TYPE.

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4.5.23 SCADA unit form - CCP - ST

SCADA Unit Details		
Field Names on Data Admin Screen	**DATA**	**Unit**
UNIT TYPE	Dependent	N/A
B1		N/A
B2		N/A
B3		N/A
MAPPING	I	N/A
MNN BUS		N/A
ALT BUS		N/A
DEFAULT BRANCH		N/A
UNIT TRANSFORMER MAPPING TYPE	DM/ IM	N/A
UNIT TRANSFORMER[37]		N/A

[37] This field is applicable only if “DM” was selected for UNIT TRANSFORMER MAPPING TYPE.

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4.5.24 Control parameters form

Control Parameters		
Field Names on Data Admin Screen	**DATA**	**Unit**
9 SECOND RISK ADJUSTMENT FACTOR – INTERTIE ON		N/A
10 MINUTE RISK ADJUSTMENT FACTOR – INTERTIE ON		N/A
9 SECOND FREQUENCY DEVIATION -INTERTIE OFF		N/A
10 MINUTE FREQUENCY DEVIATION -INTERTIE OFF		N/A
9 SECOND ESTIMATED LOAD DAMPING		N/A
10 MINUTE ESTIMATED LOAD DAMPING		N/A
9 SECOND ESTIMATED GT OUTPUT DAMPING		N/A
10 MINUTE ESTIMATED GT OUTPUT DAMPING		N/A
ESTIMATED INTERTIE CONTRIBUTION		N/A
DPR AUTOMATIC RUN FLAG		N/A
DAR AUTOMATIC RUN FLAG		N/A
WAR AUTOMATIC RUN FLAG		N/A
DPR AUTOMATIC APPROVAL FLAG		N/A
DAR AUTOMATIC APPROVAL FLAG		N/A
WAR AUTOMATIC APPROVAL FLAG		N/A
LOAD FORECAST LOSS ADJUSTMENT FACTOR		%
LOAD SENSITIVITY FACTOR		MW
RESERVE ENVELOPE HIGH RESERVE		N/A
RESERVE ENVELOPE MEDIUM RESERVE		N/A

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4.5.25 Scheduled parameters – Station Load Factor

Scheduled Parameters – Parameter Details			
Field Names on Data Admin Screen	**DATA**		**Unit**
PARAMETER NAME	STATION LOAD FACTOR		N/A
START PERIOD			Date, Period
VALUE			%

4.5.26 Scheduled parameters – Risk Adjustment Factors

Scheduled Parameters – Parameter Details			
Field Names on Data Admin Screen	**DATA**		**Unit**
PARAMETER NAME	9 Second RAF / 10 minute RAF		N/A
START PERIOD			Date, Period
VALUE			N/A

4.5.27 Scheduled parameters – Maximum System Limit for Loads

Scheduled Parameters – Parameter Details			
Field Names on Data Admin Screen	**DATA**		**Unit**
PARAMETER NAME	MAXIMUM SYSTEM LIMIT FOR LOADS		N/A
START PERIOD			Date, Period
VALUE			MW

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4.5.28 Scheduled Tap Position

Scheduled Tap Position			
Field Names on Data Admin Screen	**DATA**		**Unit**
B1			N/A
B2			N/A
B3			N/A
START PERIOD			Date, Period
END PERIOD			Date, Period
TAP MIN			N/A
TAP MAX			N/A
TAP POSITION			N/A
USE NWSTAT	Y / N		N/A
COMMENT			N/A

4.5.29 Regulation Requirement

Regulation Requirement		
Field Names on Data Admin Screen	**DATA**	**Unit**
EFFECTIVE DATE		Date
EFFECTIVE PERIOD		Period
COMMENTS		N/A
REGULATION FOR EACH CORRESPONDING PERIOD 1-48		MW

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5 Electronic Communications System

5.1 Protocols and procedures for the use of the electronic communications system used for the submission of standing offers, standing bids, offer variations and bid variations

Please refer to Market Participant Offer Submission Guide which is available on the *EMC's* website at www.emcsg.com.

5.2 Communication protocols for standing offers, standing bids, offer variations and bid variations when the electronic communications system has failed

Please refer to Market Participant Backup Submission Guide which is available on the *EMC's* website at www.emcsg.com.

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6 Contact Details for EMC Helpdesk

Helpdesk Coordinator

Phone: +65 6557 2200

Fax: +65 6779 3030

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