

Notice of Market Rules Modification

Paper No.:	EMC/RCP/40/2008/281
Rule reference:	Market Rules version 1 January 2008 Chapter 6 Appendix 6A / Version 24 May 2004 Market Ops Market Manual – Standing Offers, Offer Variations and Standing Data Chapter 1 - 6
Proposer:	Market Admin, EMC
Date received by EMC:	15 September 2008
Category allocated:	3
Status:	Approved by EMA
Effective Date:	05 January 2009

Summary of proposed rule modification:

The Market Operations Market Manual - Standing Offers, Offer Variations and Standing Data (Chapter 6 Market Rules) was last updated and published on 24 May 2004. Since then, there have been changes to the Market Rules and market operations. A review and update exercise was made to update the Market Manual to align it with the current Market Rules. Some sections were rewritten for better readability and simplicity. This paper gives a summary of the changes made to the Market Manual and a proposed change to the Market Rules.

Essentially, most of the changes were for one of the following reasons:

1. Clarity
2. Logical presentation order
3. Consistency with the Market Rules
4. Provision for greater operational flexibility
5. Closer reflection of the actual operations
6. To align it to operational changes and updates

Proposed Rule Change

The proposed rule change is for Appendix 6A.2 of the Market Rules (Timetable for offer variations for energy, reserve and regulation). The following is the proposed modification and reason for it:

- The applicable period covered for offer variation of energy, reserve or regulation submitted at T-65 minutes and T-5 minutes should be amended to “T+30 minutes”.
- At present, it is represented as “T”, which is the start of a point in time.
- This is to be consistent with other sections in Appendix 6A.2 of the Market Rules.

Date considered by Rules Change Panel: 4 November 2008

Date considered by EMC Board: 27 November 2008

Date considered by Energy Market Authority: 19 December 2008

Proposed rule modification:

See attached paper.

Reasons for rejection/referral back to Rules Change Panel (if applicable):

PAPER NO. : **EMC/BD/06/2008/05(e)**

RCP PAPER NO. : **EMC/RCP/40/2008/281**

SUBJECT : **UPDATE OF MARKET OPERATIONS MARKET MANUAL
– Standing Offers, Offer Variations and Standing Data
(Chapter 6 Market Rules)**

FOR : **APPROVAL**

PREPARED BY : **HENRY WEE
ANALYST**

REVIEWED BY : **PAUL POH LEE KONG
SVP, MARKET ADMINISTRATION**

DATE OF MEETING : **27 NOVEMBER 2008**

Executive Summary

The Market Operations Market Manual was last updated and published in 24 May 2004. Since then, there have been changes to the Market Rules and market operations. A review and update exercise was made to update the Market Manual to align it with the current Market Rules. Some sections were rewritten for better readability and simplicity. This paper gives a summary of the changes made to the Market Manual and a proposed change to the Market Rules as a result of the review.

The proposal was put to a vote at the 40th RCP and the RCP unanimously recommend that the EMC Board adopt EMC's proposed modification to the Market Operations Market Manual – Standing Offers, Offer Variations and Standing Data (Chapter 6 Market Rules), and the proposed rule modification.

The RCP recommend that the EMC Board **adopt** this proposal.

1. Introduction

The Market Operations Market Manual - Standing Offers, Offer Variations and Standing Data (Chapter 6 Market Rules) was last updated and published on 24 May 2004. An effort had been made to update this Market Manual. This paper gives a summary of the changes made to the manual and a rule modification proposal.

2. Background

Since the last update and publication of the Market Operations Market Manual - Standing Offers, Offer Variations and Standing Data (Chapter 6 Market Rules) on 24 May 2004, there have been changes made to the Market Rules. Improvements and modifications have also been made to EMC's systems and operating procedures. In view of that, the manual was put through a review-and-update exercise by EMC. The intention was to update the market manual, align it with the current Market Rules and also take the opportunity to rewrite some sections for better readability and simplicity.

Arising from this update, we discovered that the timetable for submission of offer variations for energy, reserve and regulation, contained in Appendix 6A.2 of Chapter 6 of the Market Rules, should be amended for consistency with other sections in Appendix 6A.2 of Chapter 6 of the Market Rules.

3. Summary of Changes

Table 1 below gives a summary of the proposed changes made to the market manual and the reasons for making them. Please refer to Annex 1 for the proposed new Market Operations Market Manual - Standing Offers, Offer Variations and Standing Capability Data (Chapter 6 Market Rules. For comparison, Annex 2 contains marked-up changes to the current Market Operations Market Manual - Standing Offers, Offer Variations and Standing Capability Data (Chapter 6 Market Rules). For further information, Annex 3 contains an explanation of the uses of the forms in sections 4.5.1 to 4.5.26 of the proposed new Market Operations Market Manual.

Table 1: Summary of proposed changes to the Market Operations Market Manual

	Original Chapter/Section	Key Changes Made	Reasons for change
	Front Cover		
	Document Title	Updated publish date to 2008. Added "Capability" before "Data" in subtitle.	For clarity and consistency with Section 4 of Chapter 6 of the Market Rules.
	Chapter 1		
	Definition	Replaced "market rules" with the "Singapore Electricity Market Rules".	For clarity.
	Chapter 2		
	Section 2.1	Section moved to 2.2 Title changed from "Process for submission" to "Methods for	For clarity and logical drafting and presentation order.

	Original Chapter/Section	Key Changes Made	Reasons for change
		<p>submission...” Replaced “EasyOffer” with “WebOffer”</p> <p>Replaced “will” to “shall” for paragraph on “CSV (comma delimited) file format”</p> <p>Minor rewrite of bullet points on submission methods.</p> <p>Amendments made to provide for (i) other applications which may be provided or permitted by the EMC for use with the electronic communications system; and (ii) other means of communication and other file formats which may be permitted by the EMC, for the submission of standing offers to the EMC.</p>	<p>Changed to a term typically used by Market Participants for consistency.</p> <p>For consistency with Section 7.3 of Chapter 1 of the Market Rules.</p> <p>For clarity.</p> <p>To provide for greater operational flexibility.</p>
	Section 2.2	<p>Section moved to 2.1</p> <p>Title changed from “Definition of ...” to “What is...”</p> <p>Added statement that “standing offer” referred in the manual also refers to “revised standing offer”.</p> <p>Included reserve offer from load facility as part of standing offer.</p> <p>Amended the phrase “pre-dispatch schedule” to the phrase “pre-dispatch schedule scenario” in the last bullet point.</p>	<p>For clarity and logical order</p> <p>For consistency with Section 5.1.3 of Chapter 6 of the Market Rules.</p> <p>For consistency with the definition of “market schedule” and Section 5.8.2 of Chapter 6 of the Market Rules.</p>
	Section 2.3.1	<p>Append the word “for standing offers” at the end of this Section’s title.</p> <p>Updated and elaborated on the submission process for standing offers.</p> <p>“EasyOffer” is replaced with “WebOffer”. Paragraphs reworded for language and to reflect a more active tone.</p>	<p>For clarity and consistency with Section 5.1 of Chapter 6 of the Market Rules.</p>

	Original Chapter/Section	Key Changes Made	Reasons for change
		<p>Amendments added to provide for other applications which may be provided or permitted by the EMC for use with the electronic communications system for the submission of standing offers to the EMC.</p> <p>“will” is replaced with “shall” in sentences where adherence to rules or instructions apply.</p> <p>“four hours” for gate closure is updated to “65 minutes”</p>	<p>To provide for greater operational flexibility.</p> <p>For consistency with Section 7.3 of Chapter 1 of the Market Rules.</p> <p>For consistency with gate closure in Section 10.4 of Chapter 6 of the Market Rules.</p>
	Section 2.3.2	Flowchart redrawn	To more closely reflect the actual operational process.
	Section 2.4	<p>Updated gate closure time from “four hours” to “65 minutes”.</p> <p>Minor rephrasing in explanations for clarity.</p>	For consistency with gate closure in Section 10.4 of Chapter 6 of the Market Rules.
	Section 2.5	Clarified two conditions under which a revised standing offer must be submitted.	For clarity and consistency with Section 5.1.6.2 and Section 5.1.7 of Chapter 6 of the Market Rules.
	Section 2.6	<p>Referenced the three classes of reserve to the Market Rules, instead of the System Operations Manual.</p> <p>Updated data format of standing offers for energy, reserve and regulation.</p> <p>Added a remark for reader to note Section 5.3.8 of Chapter 6 of the Market Rules regarding reserve proportion.</p>	<p>For consistency with the Market Rules having higher priority, and prevailing, in the event of any inconsistency with the System Operation Manual as provided in Section 9.1.3 of Chapter 1 of the Market Rules.</p> <p>For clarity and consistency with Sections 5.2.2, 5.2.4, 5.2.5, 5.2.8, 5.2.9, 5.3.2, 5.3.4, 5.3.5, 5.3.9, 5.4.3, 5.4.5 and 5.4.6 of Chapter 6 of the Market Rules.</p>

	Original Chapter/Section	Key Changes Made	Reasons for change
	Section 2.7	<p>Changed “Process” for validation of standing offers to “Rules” for validation of standing offers.</p> <p>“will” is replaced with “shall” in sentences where adherence to rules or instructions apply.</p> <p>Rule1: Decimal places added for price and quantity offer data formats in examples.</p> <p>Rule2: Added a new sentence on ramp-up and ramp-down values to reflect the requirements in the Market Rules. Clarified the examples. Decimal places added for ramp-up and ramp-up data formats in examples.</p> <p>Rule3: Existing Rule 3 split into new rules 3 & 4, such that rule 3 applies to energy offers and rule 4 applies to reserve and regulation offers. Clarified the examples. Decimal places added for quantity offer data format in examples of Rule 3.</p> <p>Rule4: Renumbered as “Rule 5”. Elaborated on what is meant by “increasing order of price” Decimal places added for price offer data format in examples.</p> <p>Rule5: Renumbered as “Rule 6”. Rephrased for clarity. Decimal places added for price and quantity offer data format in examples.</p>	<p>For clarity.</p> <p>For consistency with Section 7.3 of Chapter 1 of the Market Rules.</p> <p>For greater clarity and consistency with Sections 5.2, 5.3, 5.4 and 5.7 of Chapter 6 of the Market Rules:</p> <p>Rule1: Section 5.2.4.1, 5.2.5, 5.3.4.1, 5.3.5, 5.4.5.1 and 5.4.6 of Chapter 6 of the Market Rules.</p> <p>Rule2: Section 5.2.9.1 and 5.2.9.2 of Chapter 6 of the Market Rules.</p> <p>Rule3: Section 5.2.5, 5.2.7.1 and 5.2.7.3 of Chapter 6 of the Market Rules.</p> <p>Rule4: Section 5.3.5, 5.3.7.1, 5.4.6 and 5.4.8.1 of Chapter 6 of the Market Rules.</p> <p>Rule5: Section 5.2.2.4, 5.2.4.1, 5.3.2.5, 5.3.4.1, 5.4.3.4 and 5.4.5.1 of Chapter 6 of the Market Rules.</p>

	Original Chapter/Section	Key Changes Made	Reasons for change
		<p>Rule6: Renumbered as “Rule 7”. Rephrased for clarity.</p> <p>Rule7: Renumbered as “Rule 8”. Rephrased for clarity.</p> <p>Rule8: Renumbered as “Rule 9”. Replaced “ancillary service” with “reserve class”. Energy offers and regulation offers are removed from the body text.</p> <p>Rule9: Renumbered as “Rule 10”. Rephrased to reflect clearly the validation of an offer against its facility’s standing capability data.</p> <p>Rule10: Renumbered as “Rule 11”. Rephrased for clarity.</p> <p>Rule11: Renumbered as “Rule 12”. Rephrased for clarity.</p>	<p>Rule6: Section 5.2.4.1, 5.2.5, 5.3.4.1, 5.3.5, 5.4.5.1, 5.4.6 of Chapter 6 of the Market Rules.</p> <p>Rule9: Section 5.3.2.3 of Chapter 6 of the Market Rules.</p>
	Section 2.8	<p>Added paragraph titled: “Use of validated standing offers”. This paragraph is moved from Section 2.3.1 into Section 2.8 and rephrased for clarity.</p> <p>The original Section 2.8 “Intertie submissions” is moved to Section 2.9 with minor rephrasing for clarity.</p>	For clarity and logical order.
Chapter 3			
	Section 3.1	<p>Section moved to the original Section 3.2 and title rephrased from “Definition of ...” to “What is...” Added another paragraph to describe offer variation.</p>	For clarity.
	Section 3.2	<p>Section moved to 3.1 and title modified from “Process for submission” to “Methods for submission...” Whole paragraph rephrased and condensed to 3 bullet points.</p>	For consistency with Section 2.1
	Section 3.3	<p>Section re-formatted as Section 3.3.1 The whole Section of 3.3.1 is reworded</p>	For consistency with Section 2.3.1.

	Original Chapter/Section	Key Changes Made	Reasons for change
		completely to make it similar to the paragraphs in Section 2.3.1	
	Section 3.3.1	Re- formatted as Section 3.3.2 with flowchart redrawn.	To more closely reflect the actual operational process.
	Section 3.4	<p>Updated gate closure time from “four hours” to “65 minutes”.</p> <p>Append “+30 minutes“ to “T”, the period covered for offer variations submitted at T-65 minutes (“gate closure”) and T-5 minutes.</p>	<p>For consistency with gate closure in Section 10.4 of Chapter 6 of the Market Rules.</p> <p><u>Rule change</u>: For consistency with the proposed change to Appendix 6A.2 of Chapter 6 of the Market Rules.</p>
	Section 3.5	<p>Clarified that this Section is for <u>mandatory</u> submission of offer variation.</p> <p>All 3 conditions are rephrased.</p>	For greater clarity and consistency with Section 5.1.5, 5.1.6 and 5.1.7 of Chapter 6 of the Market Rules.
	Section 3.6	<p>Rephrasing for clarity.</p> <p>Updated data format of offer variations for energy, reserve and regulation.</p> <p>Added a remark in Table 5 for reader to note Section 5.3.8 of Chapter 6 of the Market Rules regarding reserve proportion.</p>	For greater clarity and consistency with Sections 5.2.2, 5.2.4, 5.2.5, 5.2.8, 5.2.9, 5.3.2, 5.3.4, 5.3.5, 5.3.9, 5.4.3, 5.4.5 and 5.4.6 of Chapter 6 of the Market Rules.
	Section 3.7	<p>“will” is replaced with “shall” in sentences where adherence to rules or instructions apply.</p> <p>Rule12: Renumbered as “Rule 13”. Rephrased for clarity</p>	For consistency with Section 7.3 of Chapter 1 of the Market Rules.
	Section 3.8	<p>Re-formatted as Section 3.9 and minor drafting changes made for clarity.</p> <p>A new Section 3.8, with the heading “Use of validated offer variations”, is added which refers to Section 2.8 on the use of validated offer variations.</p>	<p>For clarity.</p> <p>For drafting consistency with Section 2.8 on standing offer.</p>
	Chapter 4		

	Original Chapter/Section	Key Changes Made	Reasons for change
	Section 4.1.1	New paragraphs added to elaborate on the process of initial standing capability data submission, confirmation and feedback.	For clarity and consistency with Sections 4.1.1, 4.3.1.1 and 4.3.2 of Chapter 6 of the Market Rules, as well as current operational practice.
	Section 4.1.2	Section rephrased for clarity. New paragraph added to elaborate on the process of submitting revised standing capability data submission and the timeline for confirmation and feedback.	For clarity and consistency with Sections 4.3.1.1 and 4.3.2 of Chapter 6 of the Market Rules.
	Section 4.1.3	<p>Included "initial standing capability data" into the Section.</p> <p>Added text to give an indication of the timeline needed for updates of such data.</p>	<p>For clarity and consistency with Sections 4.3.1.2 of Chapter 6 of the Market Rules.</p> <p>Reasons for taking 10 business days to update initial standing capability data:</p> <ol style="list-style-type: none"> 1) Verification and clarifications of approved standing data = 2 business days 2) Setup of test environment and testing of standing data in test environment including new network status file and offers submission (where applicable) = 5 business days 3) Preparation, confirmation and documentation of standing data inputs into production environment = 2 business days 4) Review and update of standing data into production environment = 1 business day

	Original Chapter/Section	Key Changes Made	Reasons for change
	Section 4.1.4	<p>Amended flowchart title to combine both initial and revised standing capability data submission process.</p> <p>Flowchart redrawn to create a generic flow that applies to both initial and revised standing capability data submission process.</p>	<p>For clarity. Combined because the process flow is the same.</p>
	Section 4.1.5	Flowchart removed.	<p>Replaced and merged with the new flowchart in Section 4.1.4.</p>
	Section 4.2	Timeline for submissions rephrased.	<p>For clarity and consistency with Appendix 6A.2 of the Market Rules.</p>
	Section 4.3	Paragraph elaborated to clarify that submission of initial standing capability data is at the same time as application for registration of a facility.	<p>For clarity.</p>
	Section 4.4	“will” is replaced with “shall” in sentences where adherence to rules or instructions apply.	<p>For consistency with Section 7.3 of Chapter 1 of the Market Rules.</p>
	Section 4.5	<p>New Sections added to include updated & new forms. Added Sections:</p> <p>Section 4.5.10 ; 4.5.13 ; 4.5.14 ; 4.5.15 ; 4.5.16 ; 4.5.23 ; 4.5.24 ; 4.5.25 ; 4.5.26 ;</p>	<p>Added to align it with operational changes and updates</p>
	Section 4.5.1	<p>Moved to Section 4.5.3 with fields updated. Old title: Ancillary service form New title: Ancillary service provider (reserve) form</p>	<p>Re-ordered and updated to align it with operational changes and updates</p>
	Section 4.5.2	<p>Moved to Section 4.5.1 with fields updated. Old title: Ancillary service provider (reserve) form New title: Ancillary service provider (regulation) form</p>	<p>Re-ordered and updated to align it with operational changes and updates</p>

	Original Chapter/Section	Key Changes Made	Reasons for change
	Section 4.5.3	Moved to Section 4.5.2 with fields updated. Old title: Ancillary service provider (regulation) form New title: Ancillary service form	Re-ordered and updated to align it with operational changes and updates
	Section 4.5.4	Moved to Section 4.5.18 fields updated and condensed. Old title: Ancillary group and effectiveness form New title: Ancillary zone form	Re-ordered and updated to align it with operational changes and updates
	Section 4.5.5	Moved to Section 4.5.4 with fields updated. Old title: Ancillary zone form New title: Branch (Line) form	Re-ordered and updated to align it with operational changes and updates
	Section 4.5.6	Moved to Section 4.5.9 with fields updated. Old title: Generation registered facility form New title: Branch (Transformer) form	Re-ordered and updated to align it with operational changes and updates
	Section 4.5.7	Moved into Section 4.5.11 & 4.5.12 with fields updated. Old title: Load registered facility form New title: Bus form	Re-ordered and updated to align it with operational changes and updates
	Section 4.5.8	Moved to Section 4.5.19 with fields updated. Old title: SCADA unit form - normal facility New title: Connector form	Re-ordered and updated to align it with operational changes and updates
	Section 4.5.9	Moved to Section 4.5.20 with with fields updated. Old title: SCADA unit form - CCP - GT New title: Generation Registered Facility form	Re-ordered and updated to align it with operational changes and updates
	Section 4.5.10	Moved to Section 4.5.21 with fields updated. Old title: SCADA unit form - CCP - ST New title: Generation Settlement Facility form	Re-ordered and updated to align it with operational changes and updates
	Section 4.5.11 & Section 4.5.12	Moved and condensed into Section 4.5.6 with fields updated. Section 4.5.11 Old title: HV transformer form New title: Dispatch Load registered facility form Section 4.5.12 Old title: LV transformer form New title: Offtake Load registered facility form	Re-ordered and updated to align it with operational changes and updates
	Section 4.5.13	Moved to Section 4.5.5 with fields updated. Old title: Transmission line form	Re-ordered and updated to align it with operational changes

Original Chapter/Section	Key Changes Made	Reasons for change
	New title: node form	and updates
Section 4.5.14	Moved to Section 4.5.7 with fields updated. Old title: Bus form New title: Participant and Accounts form – Embedded Generator	Re-ordered and updated to align it with operational changes and updates
Section 4.5.15	Moved to Section 4.5.8 Old title: Connector form New title: Participant and Accounts form – All others	Re-ordered and updated to align it with operational changes and updates
Section 4.5.16	Moved to Section 4.5.22 with fields updated. Old title: Control parameters form New title: Participation form	Re-ordered and updated to align it with operational changes and updates
Section 4.5.17	Partial rephrase fields updated & condensed. No change to title	For clarity.
Chapter 5		
Section 5.1	Added a paragraph to describe the 3-step process of submitting offers using WebOffer.	For clarity and to more accurately reflect the present operational procedures for using WebOffer.
Section 5.2	Minor rephrasing for clarity.	For clarity.
Chapter 6		
	No change	
END		

Table 2 below gives a summary of proposed changes to the Market Rules and the reasons for making them. Please refer to Annex 4 for the actual text of the proposed rule change.

Table 2 Summary of Proposed Rule Changes

	Original Chapter/Section	Key Changes Made	Reasons for change
	Appendix 6A.2 of Chapter 6	Append "+30 minutes" to "T", the period covered for offer variations submitted at T-65 minutes ("gate closure") and T-5 minutes.	For consistency with other sections in Appendix 6A.2 of Chapter 6 of the Market Rules.

4. Conclusion

The Market Operations Market Manual - Standing Offers, Offer Variations and Standing Data (Chapter 6 Market Rules) was revised, updated and aligned with the Market Rules (1 Jan 2008 version). Every opportunity is taken to improve the readability of the sections, as well as simplifying it as much as possible.

In the process of updating the Market Manual, it was identified that Appendix 6A.2 of Chapter 6 of the Market Rules that the timetable for offer variations for energy, reserve and regulation should be modified to be consistent with other sections of Appendix 6A.2 of the Market Rules. We have also included, in Annex 3, a brief explanation of what the forms in the market manual are used for.

5. Impact on market systems

There is no impact on market systems.

6. Implementation process

There is no system implementation required.

7. Consultation

We have published the Market Manual update and rule modification proposal on the EMC website for comments. We have received some comments from EMC Market Operations and have taken them into consideration.

8. Legal sign off

Text of the proposed new Market Operations Market Manual in Annex 1 has been vetted by EMC's external legal counsel whose opinion is that the modification reflects the intent of the update as expressed in section 3 of this paper.

9. Recommendations

The RCP unanimously recommends that the EMC Board

- a. **adopt** the EMC's proposed modification to the Market Operations Market Manual – Standing Offers, Offer Variations and Standing Data (Chapter 6 Market Rules) as set out in Annex 1 of this paper;
- b. **adopt** the rule modification proposal to amend Appendix 6A.2 of Chapter 6 as set out in Annex 4 of this paper; and
- c. **seek** EMA's approval for Market Operations Market Manual modification proposal and the rule modification proposal; and
- d. **recommend** that the rule modification proposal and the Market Operations Market Manual modification proposal come into force **one business day** after the date on which the approval of the Authority is published by the EMC.

ANNEX 1 – Proposed New Market Operations Market Manual

ANNEX 2 – Marked-up changes to the current Market Operations Market Manual

Annex 3 – Uses of forms 4.5.1 to 4.5.26 of the Market Operations Market Manual

Form No.	Title	Content	Used for
4.5.1	Ancillary service provider (reserve) form	Characteristics and capability of a reserve provider's facility in providing reserve.	Updating Standing Capability Data
4.5.2	Ancillary service provider (regulation) form	Characteristics and capability of a regulation provider's facility in providing regulation.	Updating Standing Capability Data
4.5.3	Ancillary service form	Details of each class of reserve & regulation.	Updating system requirement data for each class of reserve and regulation, i.e. what is its minimum.
4.5.4	Ancillary zone form	For Interruptible Load (IL) only. Information on which IL zone it is in and the applicable zonal limit.	Updating system requirement data for IL, i.e. zone limits for each reserve class applicable to IL only.
4.5.5	Branch (Line) form	Characteristics and capabilities of a transmission line.	Updating Network Model Data
4.5.6	Branch (Transformer) form	Characteristics and capabilities of a transformer.	Updating Network Model Data
4.5.7	Bus form	Characteristics of a bus	Updating Network Model Data
4.5.8	Connector form	Characteristics of a connector	Updating Network Model Data
4.5.9	Generation Registered Facility form	Characteristics and capabilities of a GRF	Updating Standing Capability Data
4.5.10	Generation Settlement Facility form	Characteristics and capabilities of a GSF	Updating Standing Capability Data
4.5.11	Dispatch Load registered facility form	Characteristics of a dispatchable load facility.	Updating Standing Capability Data
4.5.12	Offtake Load registered facility form	Characteristics of a non-dispatchable load facility.	Updating Standing Capability Data
4.5.13	Node form	For generation and load facilities(IL). Contains information on the network node assigned to each facility.	Updating Network Model Data

4.5.14	Participant and Accounts form– Embedded Generator	Information regarding an embedded generator market participant.	Updating Standing Capability Data
4.5.15	Participant and Accounts form – All others	Information regarding a market participant – non-embedded generator	Updating Standing Capability Data
4.5.16	Participation factors form	Information about the base set of load participation factor for each node	Updating Network Model Data
4.5.17	Penalty and tranches form	Details of violation penalty, which includes the type of penalty, value in dollars and in quantity.	Updating system requirement data
4.5.18	Reserve group and effectiveness form	Information about the reserve group effectiveness for each class of reserve of a generating facility	Updating Standing Capability Data
4.5.19	SCADA unit form- normal facility	Information about the SCADA unit of a normal generation facility	Updating Network Model Data
4.5.20	SCADA unit form - CCP - GT	Information about the SCADA unit of a CCP – GT	Updating Network Model Data
4.5.21	SCADA unit form - CCP - ST	Information about the SCADA unit of a CCP – ST	Updating Network Model Data
4.5.22	Control parameters form	Information about the reserve requirements settings and load sensitivity factor	Updating system requirement data
4.5.23	Scheduled parameters – Station Load Factor	Information about the value of the estimated station load factor for a generation facility	Updating Network Model Data
4.5.24	Scheduled parameters – Risk Adjustment Factors	Information about the risk adjustment factor to be applied to the system which affects reserve requirement.	Updating system requirement data
4.5.25	Scheduled Tap Position	Information on the status and characteristics of a phase-shift transformer.	Updating Network Model Data
4.5.26	Regulation Requirement	Amount of regulation to be scheduled.	Updating system requirement data

ANNEX 4 – Proposed Rule Modification

Existing Rules (Release 1 Jan 2008)							
Appendix 6A.2 of Chapter 6 of the Market Rules: (Timetable for offer variations for energy, reserve and regulation)							
Day	Time of Day	Event	Provided By/ Who does it	Provided To	Period Covered	Frequency	
D – 8 days	9:00	The <i>EMC</i> begins accepting <i>offer variations</i> for <i>dispatch periods</i> during <i>trading day D</i>	<i>EMC</i>		D	Ongoing	
D-8 days to D	From 9:00 on D-8, within 5 minutes of receipt	Notification of acceptance/rejection of <i>offer</i> .	<i>EMC</i>	<i>Market Participant</i>	D	Ongoing	
D	T- 65 minutes	Last time at which valid <i>offer variation</i> may be submitted without being subject to review in accordance with section 10.4 of Chapter 6.	<i>Market Participant</i>	<i>EMC</i>	T	Ongoing	
D	T-5 minutes	Last time at which a valid <i>offer variation</i> is guaranteed to be included in the <i>real-time scheduling</i> process.	<i>Market Participant</i>	<i>EMC</i>	T	Ongoing	
Proposed Rules (Deletions represented by strikethrough text and addition underlined)							Reason for Modification
Appendix 6A.2 of Chapter 6 of the Market Rules: (Timetable for offer variations for energy, reserve and regulation)							

Day	Time of Day	Event	Provided By/ Who does it	Provided To	Period Covered	Frequency	
D - 8 days	09:00	The <i>EMC</i> begins accepting <i>offer variations</i> for <i>dispatch periods</i> during <i>trading day D</i>	<i>EMC</i>		D	Ongoing	For consistency with other sections in Appendix 6A.2 of Chapter 6 of the Market Rules, where the dispatch period is reflected as "T + 30 minutes" instead of "T".
D-8 days to D	From 09:00 on D-8 days, within 5 minutes of receipt	Notification of acceptance/rejection of <i>offer variation</i>	<i>EMC</i>	<i>Market Participant</i>	D	Ongoing	
D	T- 65 minutes	Last time at which a valid <i>offer variation</i> may be submitted without being subject to review in accordance with section 10.4 of Chapter 6.	<i>Market Participant</i>	<i>EMC</i>	T + 30 minutes	Ongoing	
D	T-5 minutes	Last time at which a valid <i>offer variation</i> is guaranteed to be included in the <i>real-time scheduling</i> process.	<i>Market Participant</i>	<i>EMC</i>	T + 30 minutes	Ongoing	



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MARKET OPERATIONS MARKET MANUAL

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

2008

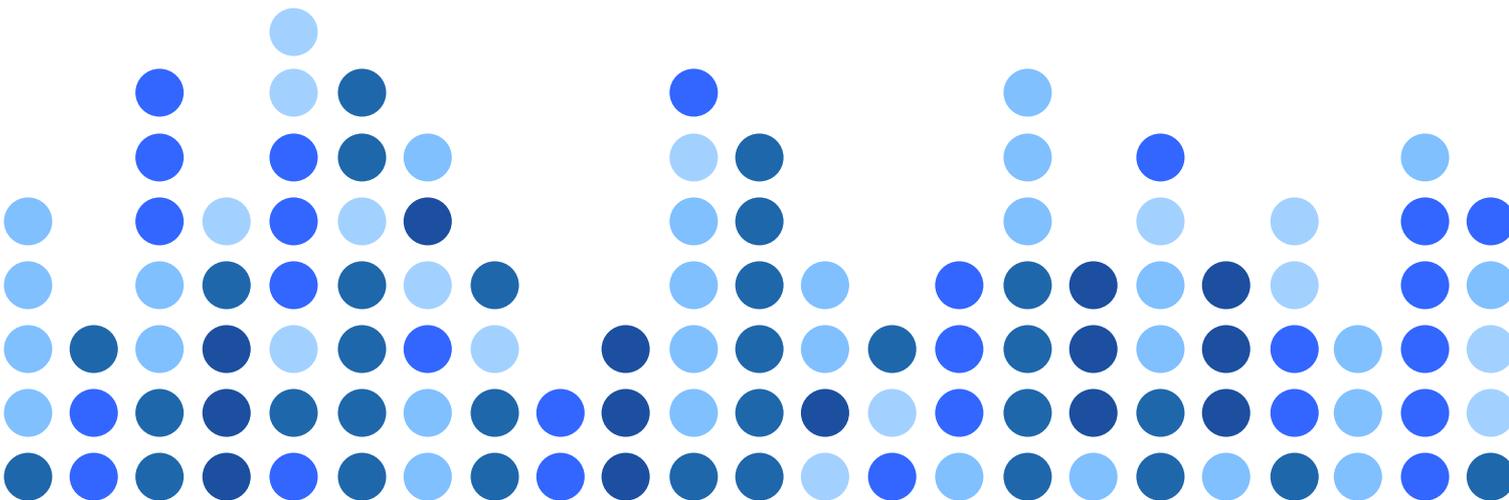


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1 **Definitions**

Unless otherwise expressly stated herein, all terms in italics used in this *market manual* shall have the same meaning as ascribed to them under the Singapore Electricity Market Rules.

2 Standing offers

2.1 What is a “standing offer”?

A *standing offer* refers to an *energy offer*, *reserve offer* or *regulation offer* required to be submitted to the *EMC* in respect of a *generation registered facility* or a *reserve offer* required to be submitted to the *EMC* in respect of a *load registered facility*. Unless the context otherwise requires, references to “*standing offer*” in this *market manual* also include references to “*revised standing offer*”.

A *standing offer* –

- shall be submitted to the *EMC* by the *market participant’s dispatch coordinator* as provided in Section 2.2;
- shall contain *offers* that comply with the data format 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*;
- 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*.

2.2 Methods for submission of standing offers

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

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

The **NEMS¹ 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*.

PowerBid is an application compatible with the NEMS system that *market participants* may use to create and submit an *offer* to the *EMC*.

¹ NEMS refers to National Electricity Market of Singapore

WebOffer² is a Web-based offer mechanism compatible with the EMC's NEMS system that *market participants* may use to create and submit an *offer* to the EMC.

CSV (comma delimited) file format shall be used for *intertie* submissions. *Market participants* can also use it to make *standing offer* submissions in the event of an *electronic communications system* failure.

2.3 Description of submission process for standing offers

2.3.1 Submission process for standing offers

A *dispatch coordinator* may submit a *standing offer* for a *registered facility* to the EMC via the *electronic communications system* using PowerBid or WebOffer 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 PowerBid or WebOffer for any reason whatsoever, the *dispatch coordinator* shall notify the EMC Helpdesk via phone (see section 6 for contact details).

If the *dispatch coordinator* is able to successfully obtain any *standing offer* file generated by PowerBid in XML Format for the relevant *market participant*, the *dispatch coordinator* shall submit those files via secure email to the EMC. If the *dispatch coordinator* is not able to successfully obtain any *standing offer* file generated by PowerBid in XML Format for the relevant *market participant*, the *dispatch coordinator* shall submit the *standing offer* in the CSV (comma delimited) file format (as prescribed by the EMC³) via secure email to the EMC.

For WebOffer, the *dispatch coordinator* shall submit the *standing offer* in the CSV (comma delimited) file format (as prescribed by the EMC³) via secure email to the EMC in the event when the *electronic communications system* fails.

Upon receipt of the *standing offer*, the EMC shall timestamp and validate the *standing offer* and within five minutes of such receipt:

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

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 EMC's *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.

² The advantages of WebOffer over PowerBid lie in at least two areas. Firstly, the MPs need not to configure SoniqMQ and PowerBid to interact with EMC's system; the Internet browser and network accessibility shall be the only requirements. Hence, it allows easy addition of new MPs. Secondly, it also allows MPs to view their offer submission that is submitted into NEMS system.

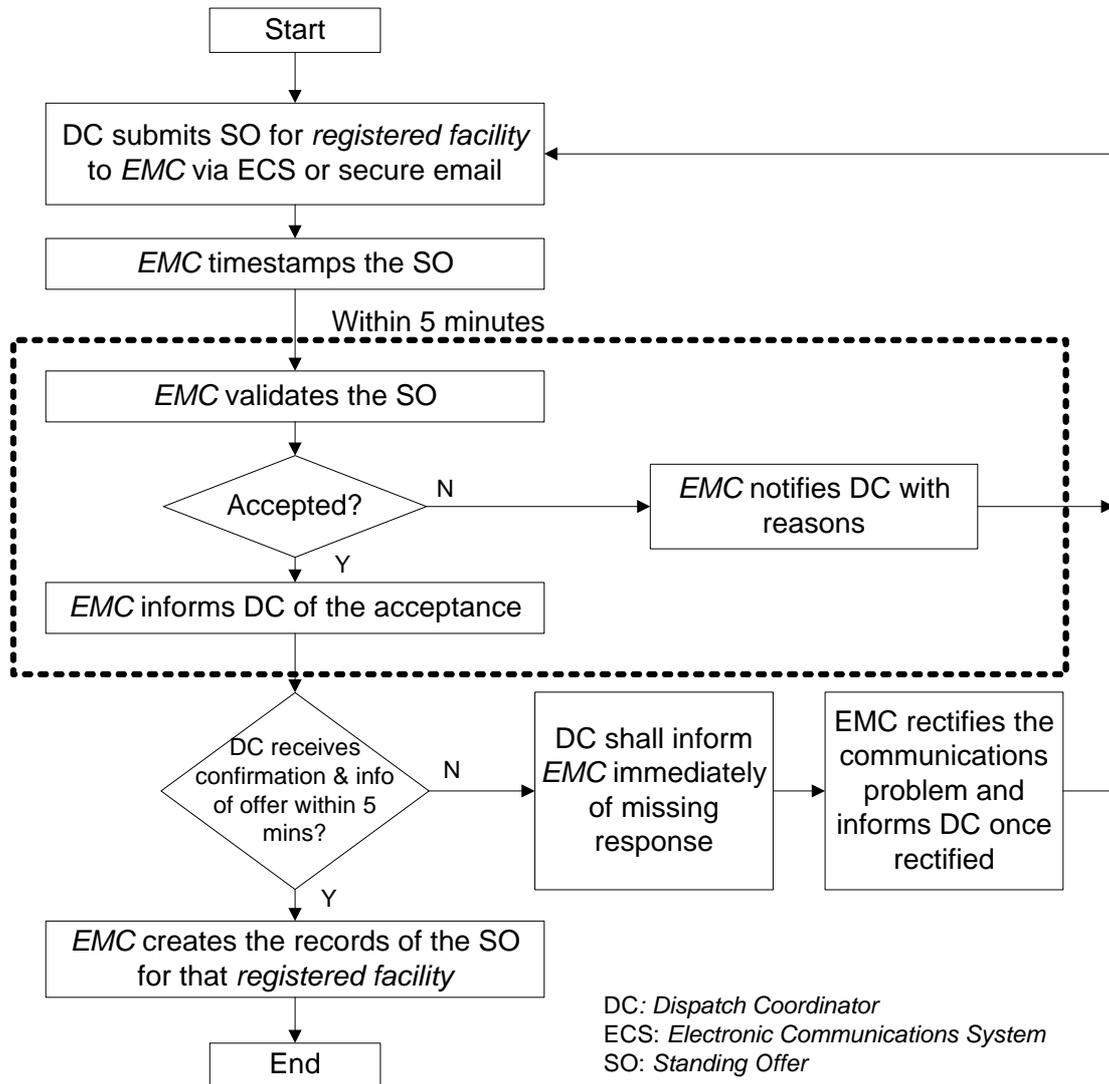
³ The prescribed CSV (comma delimited) file format is available from the EMC. See section 5.2 for more information on how to obtain the prescribed CSV (comma delimited) file format.

If the *EMC* permits a *market participant* to submit *standing offers* via the *electronic communications system* through the use of any alternative application (other than PowerBid and WebOffer), the submission of *standing offers* 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* must be made at least 65 minutes before the *dispatch period* (gate closure) to which that revised *standing offer* is intended to apply. Any revised *standing offers* submitted after gate closure shall be reported to the *market surveillance and compliance panel*.

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

2.3.2 Standing offer process flowchart



2.4 Timeline for standing offer submission

Day	Time of Day	Event	Period Covered	Frequency
Prior to facility registration	Any	First <i>standing offer</i> submitted	Until superseded	Once
Any time, until D	T-65 minutes ("gate closure")	Last time at which a valid revised <i>standing offer</i> may be submitted without being reported to the <i>market surveillance and compliance panel</i>	Until superseded	Ongoing/as required
Any time, until D	T-5 minutes	Last time at which a valid revised <i>standing offer</i> is guaranteed to be used in the <i>real-time scheduling</i> process but which shall be reported to the <i>market surveillance and compliance panel</i> if that <i>standing offer</i> was submitted after gate closure	Until superseded	Ongoing/as required

"D" refers to a trading day; and

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

2.5 Triggers for standing offer submission

A *standing offer* must be submitted prior to registration of a facility with the EMC.

A revised *standing offer* must be submitted when any of the following conditions arises:

- (1) The *registered facility* is not *synchronised* with the *transmission system* 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 *offer* 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 a *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*, revise and re-submit to the EMC all *standing offers* that apply subsequent to the time at which the revised and approved *standing capability data* takes effect.

2.6 Required form of a standing offer

The *standing offer* submitted by a *market participant* must comply with the data formats described in this *market manual*. If a *standing offer* submission fails to comply with the data requirements, the EMC shall reject the submission and notify the *market participant* within five minutes of receipt of the *standing offer* submission.

There are three types of *standing offers*:

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

There are three classes of *reserve standing offer*⁴:

- *primary reserve*;
- *secondary reserve*;
- *contingency reserve*.

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

The following tables show the data format for *energy*, *reserve* and *regulation standing offers*.

⁴ As referred to in section A.2 of Appendix 5A of the *market rules*.

Table 1 Data format of energy standing offers

Item No	Field	Data Format	Remarks
1	Participant ⁵	Alphanumeric	
2	Type ⁶	Alphanumeric	The value must be: EGO ⁷
3	Unit	Alphanumeric	
4	Day	Mon to Sun	
5	Period	1 to 48	
6	Ramp Up	0 to 99999999999.9	This value is expressed in MW/minute.
7	Ramp Down	0 to 99999999999.9	This value is expressed in MW/minute.
8	Capacity ⁸	0 to 9999999999.9	This value is expressed in MW.
9	Band 1: Price	-9999999999.99 to 9999999999.99	<i>Energy standing offers require 10 price-quantity pairs.</i>
10	Band 1: Quantity	0 to 9999999999.9	Prices are expressed in \$/MWh. Quantities are expressed in MW.

⁵ This field is only applicable to WebOffer.

⁶ This field is only applicable to WebOffer.

⁷ "EGO" refers to *energy offer*.

⁸ "Capacity" refers to the maximum combined capacity referred to in section 5.2.2.5 of Chapter 6.

Table 2 Data format of all classes of reserve standing offers

Item No	Field	Data Format	Remarks
1	Participant ⁹	Alphanumeric	
2	Type ¹⁰	Alphanumeric	The value must be: RVO ¹¹
3	Unit	Alphanumeric	
4	Day	Mon to Sun	
5	Period	1 to 48	
6	Reserve Proportion ¹²	0 to 99.999	<i>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.</i>
7	Reserve Class ¹³	PRI / SEC / CON ¹⁴	
8	Band 1: Price	0 to 9999999999.99	<i>A reserve standing offer for any reserve class requires 1 to 5 price-quantity pairs.</i>
9	Band 1: Quantity	0 to 999999999.9	Prices are expressed in \$/MWh. Quantities are expressed in MW.

⁹ This field is only applicable to WebOffer.

¹⁰ This field is only applicable to WebOffer.

¹¹ "RVO" refers to *reserve offer*.

¹² This field is not applicable for *standing offers* in respect of *load registered facilities*.

¹³ This field is only applicable to WebOffer.

¹⁴ PRI – primary *reserve*; SEC – secondary *reserve*; CON – contingency *reserve*.

Table 3 Data format of regulation standing offers

Item No	Field	Data Format	Remarks
1	Participant ¹⁵	Alphanumeric	
2	Type ¹⁶	Alphanumeric	The value must be: RGO ¹⁷
3	Unit	Alphanumeric	
4	Day	Mon to Sun	
5	Period	1 to 48	
6	Band 1: Price	0 to 9999999999.99	<i>A regulation standing offer requires 1 to 5 price-quantity pairs.</i>
7	Band 1: Quantity	0 to 9999999999.9	Prices are expressed in \$/MWh. Quantities are expressed in MW.

2.7 Rules for validation of standing offers

The validation of *standing offers* ensures that data submitted is (among other things) in the form required for the *market clearing engine*. Upon receiving *standing offers* 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 offers* submission batch record is “well-formed”;
2. confirmation that each *standing offer* record is “well-formed”;
3. validation of the *standing offer* 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* submission batch record or *standing offer* record means that the record meets the applicable requirements specified in this *market manual*.

Market participants may use PowerBid or WebOffer to submit *standing offers*. PowerBid or WebOffer automatically generates the *standing offer* 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* should be submitted via the *electronic communications system* should ensure that the submissions produced by their application meet the applicable requirements specified in this *market manual*.

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

¹⁵ This field is only applicable to WebOffer.

¹⁶ This field is only applicable to WebOffer.

¹⁷ “RGO” refers to *regulation offer*.

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	

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

This rule only relates to *energy offers*. 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 to one decimal place and must not be less than 0.0MW/minute.

Example 1: Invalid

Assume Unit 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.

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

Max_ramp_up	Max_ramp_down
15.0	10.0

Example 2: Valid

Assume Unit 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.

Unit A's *energy offer* would be not be invalid if:

Max_ramp_up	Max_ramp_down
7.0	10.0

Rule 3: Validate that the total quantity offered does not exceed the standing capability data maximum values for generation 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* 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

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

Quantity_1	Quantity_2	Quantity_3	...
50.0	40.0	40.0	

Example 2: Valid

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

Quantity_1	Quantity_2	Quantity_3	...
50.0	10.0	10.0	

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

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

Quantity_1	Quantity_2	Quantity_3	...
5.0	4.0	4.0	

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

Quantity_1	Quantity_2	Quantity_3	...
5.0	4.0	4.0	

Example 2: Valid

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

Quantity_1	Quantity_2	Quantity_3	...
5.0	4.0	1.0	

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

Quantity_1	Quantity_2	Quantity_3	...
5.0	4.0	1.0	

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 Unit A's *offer*:

Price_1	Price_2...
50.00	40.00

Example 2: Valid

In Unit A's *offer*:

Price_1	Price_2...
40.00	50.00

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

A *price-quantity pair* in an *offer* 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

Rule 7: Validate that quantity values are within market boundaries

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

- For *energy offers*, the upper and lower limits on *energy prices* are EnergyPriceMax and EnergyPriceMin respectively.
- For *reserve offers*, the respective upper limit on *reserve prices* for each reserve class is as follows: (1) for primary *reserve* – Res1PriceMax; (2) for secondary *reserve* – Res2PriceMax; and (3) for contingency *reserve* – Res3PriceMax. 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.

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.

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

This rule concerns the validation of an *offer* made 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 submission is a *registered facility*. The second check ensures that 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 the *offer* submission is not a duplicate of the last submitted valid *standing offer*

The *offer* submission should not be a duplicate of the last submitted valid *standing offer*. This could occur where the participant erroneously creates and submits the same submission more than once.

2.8 Use of validated standing offers

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

- (a) if the *offer* for a *dispatch period* was accepted as valid less than five minutes before the production of a *market schedule* containing that *dispatch period*, that *offer* is not guaranteed to be used by the *EMC* in the production of that *market schedule*; and
- (b) if an *offer variation* for a *dispatch period* was submitted after that *dispatch period* had begun, the *EMC* shall not use that *offer variation* in the production of any *market schedule* containing that *dispatch period*.

2.9 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.

3 Offers variations

3.1 What is an “offer variation”?

Offer variation refers to an *energy offer*, a *reserve offer* or a *regulation offer* submitted to the *EMC* in respect of a *generation registered facility* or 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* or *load registered facility* for the same *dispatch period*.

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

3.2 Methods for submission of offer variations

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

- the *electronic communications system*, using PowerBid, WebOffer or any other application that is provided or permitted by the *EMC*; or
- secure email in a CSV 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

3.3.1 Submission process for offer variations

A *dispatch coordinator* may submit an *offer variation* for a *registered facility* to the *EMC* via the *electronic communications system* using PowerBid or WebOffer 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 PowerBid or WebOffer for any reason whatsoever, the *dispatch coordinator* shall notify the *EMC* Helpdesk via phone (see section 6 for contact details).

If the *dispatch coordinator* is able to successfully obtain any *offer variation* file generated by PowerBid in XML Format for the relevant *market participant*, the *dispatch coordinator* shall submit those files via secure email to the *EMC*. If the *dispatch coordinator* is not able to successfully obtain any *offer variation* file generated by PowerBid in XML Format for the relevant *market participant*, the *dispatch coordinator* shall submit the *offer variation* in the CSV (comma delimited) file format (as prescribed by the *EMC*¹⁸) via secure email to the *EMC*.

¹⁸ The prescribed CSV (comma delimited) file format is available from the *EMC*. See section 5.2 for more information on how to obtain the prescribed CSV (comma delimited) file format.

For WebOffer, the *dispatch coordinator* shall submit the *standing offer* in the CSV (comma delimited) file format (as prescribed by the *EMC*¹⁹) via secure email to the *EMC* in the event when the *electronic communications system* fails

Upon receipt of the *offer variation*, the *EMC* shall timestamp and validate the *offer variation* and within five minutes of such receipt:

- confirm the receipt of the *offer variation*;
- notify the status of the *offer variation*; and
- give reasons for any rejections of the *offer 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 *EMC*'s *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.

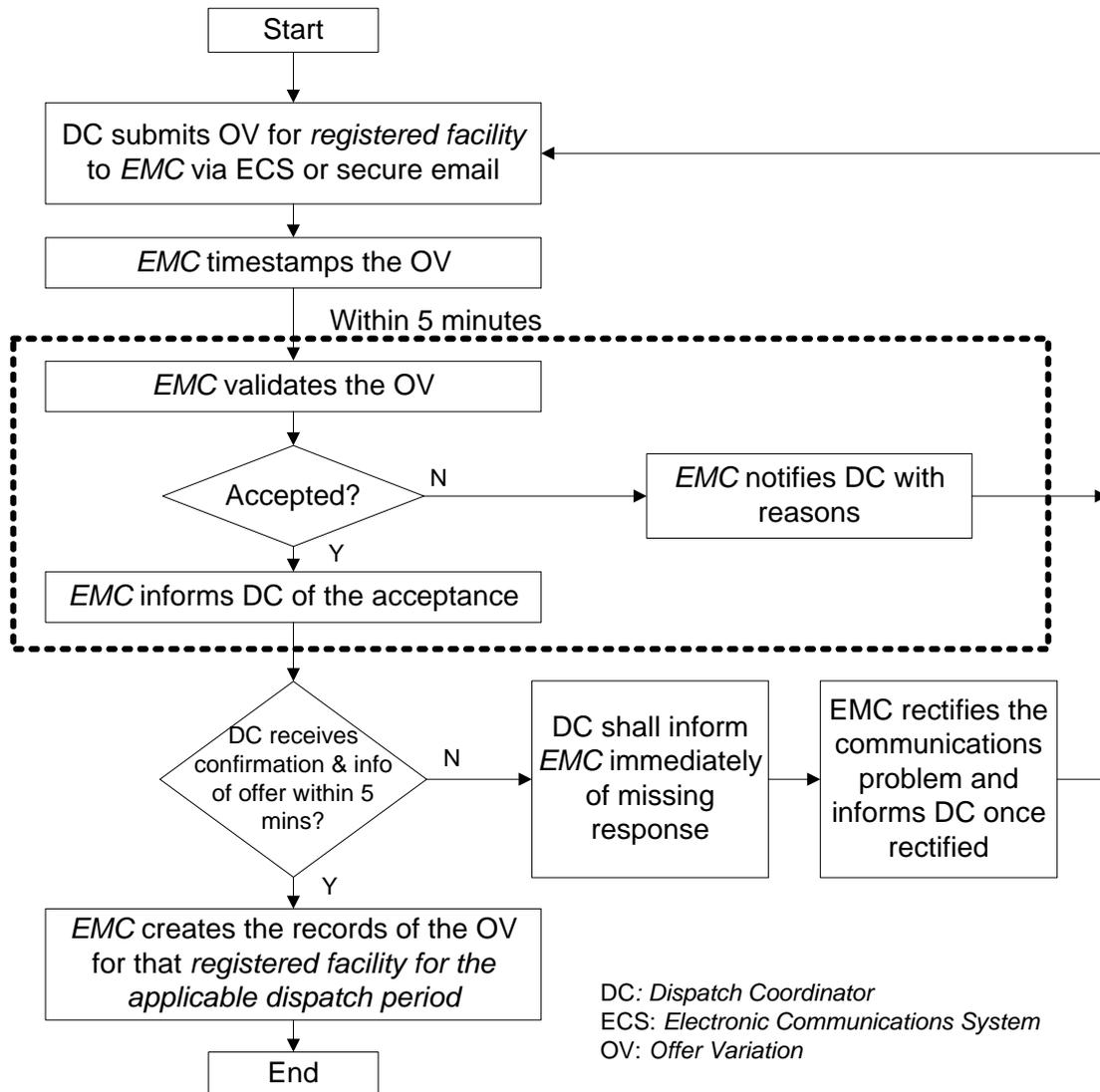
Submission of an *offer variation* must be made at least 65 minutes before the *dispatch period* (gate closure) to which that *offer variation* is intended to apply. Any *offer variation* submitted after gate closure shall be reported to the *market surveillance and compliance panel*.

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

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

¹⁹ The prescribed CSV (comma delimited) file format is available from the *EMC*. See section 5.2 for more information on how to obtain the prescribed CSV (comma delimited) file format.

3.3.2 Offer variation submission process flowchart



3.4 Timeline for offer variation submission

Day	Time of Day	Event	Period Covered	Frequency
D – 8 days	09:00	The <i>EMC</i> begins accepting <i>offer variations</i> for <i>dispatch periods</i> during <i>trading day D</i>	D	Ongoing
D-8 days to D	From 09:00 on D-8 days, within 5 minutes of receipt	Notification of acceptance/rejection of <i>offer variation</i>	D	Ongoing
D	T-65 minutes (“gate closure”)	Last time at which an <i>offer variation</i> may be submitted without being reported to the <i>market surveillance and compliance panel</i>	T + 30 minutes	Ongoing
D	T-5 minutes	Last time at which an <i>offer variation</i> is guaranteed to be used in the <i>real-time scheduling</i> process but which shall be reported to the <i>market surveillance and compliance panel</i> if the <i>offer variation</i> 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 submission

Offer variation(s) must be submitted by the *dispatch coordinator* of a *registered facility* to the *EMC* when any of the following conditions arise -

- (1) For a *dispatch period* in the current *market outlook horizon*, if 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*,

an *offer variation* must be immediately submitted by the *dispatch coordinator* of the *registered facility* to the *EMC* for the above *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) For each *dispatch period* that the *registered facility* is not *synchronised* with the *transmission system* – until the earliest *dispatch period* in which it would be possible for the *registered facility* to be *synchronised*.

In such a case, if there are existing *offer variations* for any such *dispatch periods*, the *dispatch coordinator* for that *registered facility* shall submit to the *EMC* an *offer variation* for each such *dispatch period* so that all *offered quantities for energy, reserve and regulation* are zero.

- (3) The *dispatch coordinator* for that *registered facility* shall, to the extent necessary for consistency with the revised *standing capability data*, revise and re-submit to the *EMC* a revised standing offer (as per section 2.5) and all *offer variations* that apply subsequent to the time at which the revision to the *standing capability data* applies.

3.6 Required form of an offer variation

The *offer variation* data format is very similar to the data format for a *standing offer*. There are also three *offer variation* types, that is, *energy, reserve and regulation offer variations*. The difference between a *standing offer* and an *offer variation* is that the latter shall only be applied to a specific *dispatch period*. The “day” field in the *standing offer* submission is therefore replaced by a “date” field in the case of an *offer variation*.

The data formats for an *offer variation* for each of *energy, reserve and regulation* are set out in the tables below.

Table 4 Data format of energy offer variation

Item No	Field	Data Format	Remarks
1	Participant ²⁰	Alphanumeric	
2	Type ²¹	Alphanumeric	The value must be: EGO ²²
3	Unit	Alphanumeric	
4	Date	dd/mm/yyyy	
5	Period	1 to 48	
6	Ramp Up	0 to 999999999999.9	This value is expressed in MW/minute.
7	Ramp Down	0 to 999999999999.9	This value is expressed in MW/minute.
8	Capacity ²³	0 to 9999999999.9	This value is expressed in MW.
9	Band 1: Price	-9999999999.99 to 9999999999.99	<i>An energy offer variation requires 1 to 10 price-quantity pairs.</i>
10	Band 1: Quantity	0 to 9999999999.9	Prices are expressed in \$/MWh. Quantities are expressed in MW.

²⁰ This field is only applicable to WebOffer.

²¹ This field is only applicable to WebOffer.

²² "EGO" refers to *energy offer*.

²³ "Capacity" refers to the maximum combined capacity referred to in section 5.2.2.5 of Chapter 6.

Table 5 Data format of all classes of reserve offer variation

Item No	Field	Data Format	Remarks
1	Participant ²⁴	Alphanumeric	
2	Type ²⁵	Alphanumeric	The value must be: RVO ²⁶
3	Unit	Alphanumeric	
4	Date	dd/mm/yyyy	
5	Period	1 to 48	
6	Reserve Proportion ²⁷	0 to 99.999	<i>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.</i>
7	Reserve Class ²⁸	PRI / SEC / CON ²⁹	
8	Band 1: Price	0 to 99999999999.99	<i>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.</i>
9	Band 1: Quantity	0 to 9999999999.9	

²⁴ This field is only applicable to WebOffer.

²⁵ This field is only applicable to WebOffer.

²⁶ "RVO" refers to *reserve offer*.

²⁷ For Load Registered Facility, this field is not applicable.

²⁸ This field is only applicable to WebOffer.

²⁹ PRI – primary *reserve*; SEC – secondary *reserve*; CON – contingency *reserve*.

Table 6 Data format of regulation offer variation

Item No	Field	Data Format	Remarks
1	Participant ³⁰	Alphanumeric	
2	Type ³¹	Alphanumeric	The value must be: RGO ³²
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	

3.7 Process for validation of an offer variation

All the validation rules mentioned in Section 2.7 shall also apply to the validation of an *offer variation*. However, there shall be an additional rule thirteen for validation for an *offer variation*, which is shown below.

Rule 13: Validate that the submission date is within the valid timeframe

A submission of an *offer variation* after the start of a *dispatch period* to which the *offer variation* applies is not permitted. In practice this rule prevents *market participants* from submitting an *offer 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.

³⁰ This field is only applicable to WebOffer.

³¹ This field is only applicable to WebOffer.

³² "RGO" refers to *regulation offer*.

3.8 Use of validated offer variations

The use of validated *offer variations* by the *EMC* in the production of a *market schedule* is described in Section 2.8 above.

3.9 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.

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, 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.

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, 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.

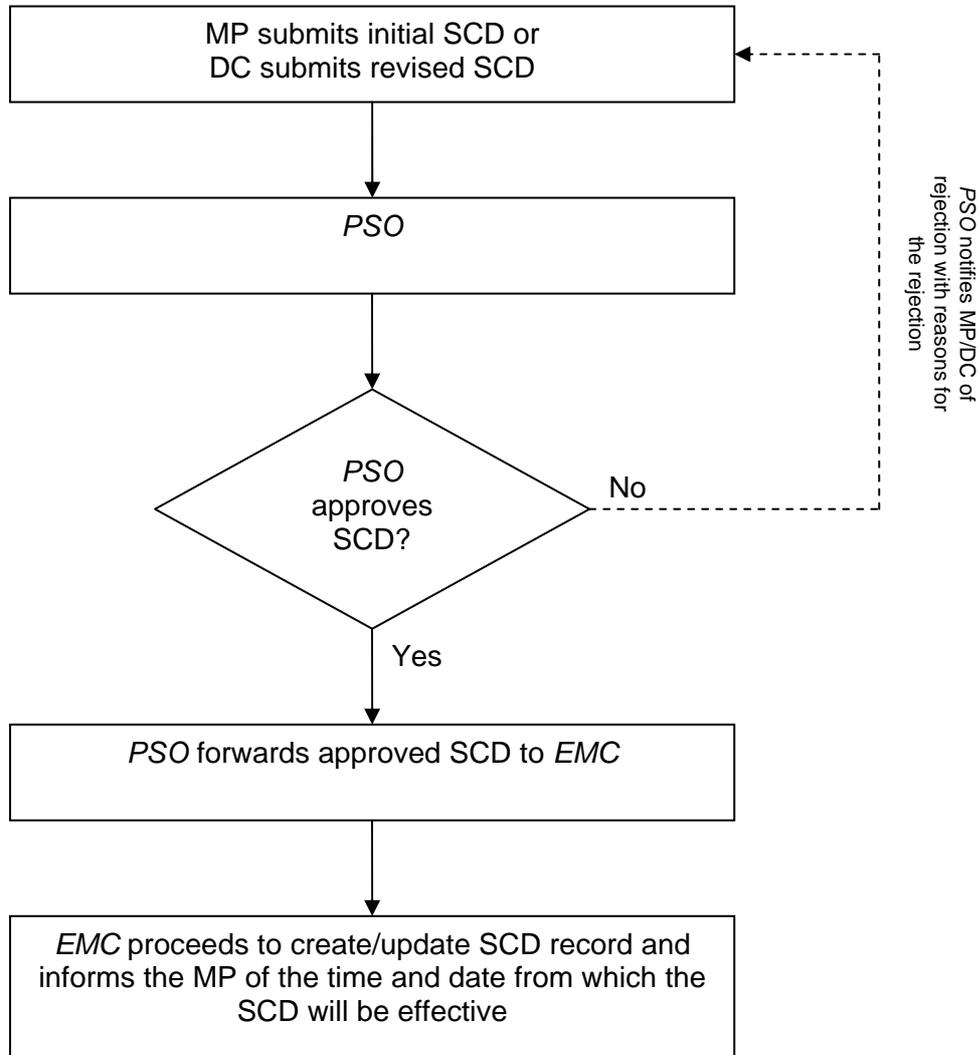
4.1.3 Effective use of initial and revised standing capability data in the market clearing engine

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*³³ for approved initial *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.

³³ 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.

4.1.4 Submission process flowchart for initial and revised standing capability data



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

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 <i>standing capability data</i> where such data shall have been provided to the <i>PSO</i> by a <i>market participant</i> , and approved by the <i>PSO</i> , in accordance with the <i>system operation manual</i> .	From first day of participation and until superseded.	Once
Before D, trading day	Any time	Provide revised <i>standing capability data</i> where such data shall have been provided to the <i>PSO</i> by a <i>dispatch coordinator</i> , and approved by the <i>PSO</i> , in accordance with the <i>system operation manual</i> .	From day D until superseded	As required

“D” refers to a trading day

4.3 Triggers for initial 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* will then approve such data and pass it on to the *EMC*.

4.4 Required form of standing capability data

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

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

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* shown below in section 4.5.

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		%
LOW LOAD		N/A
LOW LOAD RESERVE		N/A
MEDIUM LOAD RESERVE		N/A
HIGH LOAD RESERVE		N/A

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

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		N/A
DESCRIPTION		N/A
MINIMUM RISK		MW
RESPONSE PERIOD		Sec
MAXIMUM PRICE		\$
PENALTY		N/A
MAXIMUM IL PROPORTION		%

4.5.4 Ancillary zone form³⁴

Ancillary Zone Details		
Field Names on Data Admin Screen		N/A
RESERVE CLASS		N/A
ANCILLARY ZONE		N/A
ANCILLARY ZONE LIMIT		MW

³⁴ For generators, this form is not applicable

4.5.5 Branch (Line) 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

4.5.6 Branch (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
PST INDICATOR		N/A

4.5.7 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 IND		N/A
EXCESS PENALTY		N/A
DEFICIT PENALTY		N/A

4.5.8 Connector form

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

4.5.9 Generation 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
INTERTIE INDICATOR	Y / N	N/A
NODE NAME		N/A
MAXIMUM RATING		MW
NORMAL RAMP DOWN		MW/m
REGULAT. 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

4.5.10 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
NODE NAME		N/A
MAXIMUM RATING		MW
NORMAL RAMP DOWN		MW/m
REGULAT. 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

4.5.11 Dispatch Load registered facility form

Facility Details		
Field Names on Data Admin Screen	DATA	Unit
FACILITY TYPE	Dispatch Load ³⁵	N/A
B1		N/A
B2		N/A
B3		N/A
INTERTIE INDICATOR	Y/N	N/A.
NODE NAME		
MAXIMUM RATING		MVA
IL RECORDER ID		

4.5.12 Offtake Load registered 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		MVA
UNIT TRANSFORMER INDICATOR	Y/N	N/A

³⁵ Note that Interruptible Load (IL) belongs to Dispatch Load (DPL) facility type.

4.5.13 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

4.5.14 Participant and Accounts form – Embedded Generator

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
UNDER A RETAILER	Y/N	N/A
RETAILER VALUE		N/A
NET SETTLEMENT		N/A
PRICE NEUTRALISATION		N/A

4.5.15 Participant and Accounts form – All others

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

4.5.16 Participation factors form

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

4.5.17 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		\$

4.5.18 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

4.5.19 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	N/A
FACILITY		N/A

4.5.20 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		
DEFAULT BRANCH		
PPF		N/A
UNIT TRANSFORMER MAPPING	DM/ NM	N/A
UNIT TRANSFORMER		N/A
DEPENDENT UNIT		N/A
FACILITY		N/A

4.5.21 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/ NM	N/A
UNIT TRANSFORMER		N/A

4.5.22 Control parameters form

Control Parameters		
Field Names on Data Admin Screen	DATA	Unit
8 SECOND RISK ADJUSTMENT FACTOR – INTERTIE ON		N/A
30 SECOND RISK ADJUSTMENT FACTOR – INTERTIE ON		N/A
10 MINUTE RISK ADJUSTMENT FACTOR – INTERTIE ON		N/A
8 SECOND FREQUENCY DEVIATION -INTERTIE OFF		N/A
30 SECOND FREQUENCY DEVIATION -INTERTIE OFF		N/A
10 MINUTE FREQUENCY DEVIATION -INTERTIE OFF		N/A
8 SECOND ESTIMATED LOAD DAMPING		N/A
30 SECOND ESTIMATED LOAD DAMPING		N/A
10 MINUTE ESTIMATED LOAD DAMPING		N/A
8 SECOND ESTIMATED GT OUTPUT DAMPING		N/A
30 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

4.5.23 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		%

4.5.24 Scheduled parameters – Risk Adjustment Factors

Scheduled Parameters – Parameter Details		
Field Names on Data Admin Screen	DATA	Unit
PARAMETER NAME	8 Second RAF/ 30 Second RAF/ 10 minute RAF	N/A
START PERIOD		Date, Period
VALUE		N/A

4.5.25 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

4.5.26 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

5 Electronic Communications System

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

Offer submissions to the *EMC*, using PowerBid, is currently a three step process:

- a. A web request is made to the *EMC*'s trading website (www.sem.emcsg.com) to generate a unique batch number that shall identify the submitted *offer* batch. This request is over SSL as the trading website is a secure web site.
- b. An *offer* is constructed in a predefined XML format that includes the batch number.
- c. This XML file is then sent to the *EMC*'s SonicMQ server. This occurs over an SSL connection as well, and requires the sender to have a correctly configured SonicMQ server.

More information on how PowerBid works is available in the PowerBid user guide included in/with the PowerBid CD, or may be requested from *EMC*.

Offer submissions to the *EMC*, using WebOffer, is currently a three step process:

- a. The authorized user logs into the *EMC*'s trading website using a security certificate issued by the *EMC*.
- b. Under the web offering section of the *EMC*'s trading website, the user selects an offer file which is constructed externally either in CSV or XML format to submit the *offers*. Along with the submission of the *offers*, the user must include the password assigned to him/her.
- c. If the submitted offer file type is CSV then the file shall be sent to the *EMC*'s SonicMQ Server whereas if the submitted file type is XML then the data shall be loaded using web services.

Once the *offer* has been submitted, the results of the processing and validation of the *offer* would be made available on the trading website. The submitted *offers* are identified by the batch number.

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

Please refer to Market Participant Backup Submission Guide which is available on the *EMC* Website at www.emcsg.com, About the Market, Market Systems and Backup Submission Guide.

6 Contact Details for EMC Helpdesk

Helpdesk Coordinator
Phone: +65 6779 3000
Fax: +65 6779 3030
Mobile: +65 9731 9928



MARKET OPERATIONS MARKET MANUAL

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

~~30 April 2004~~ 2008

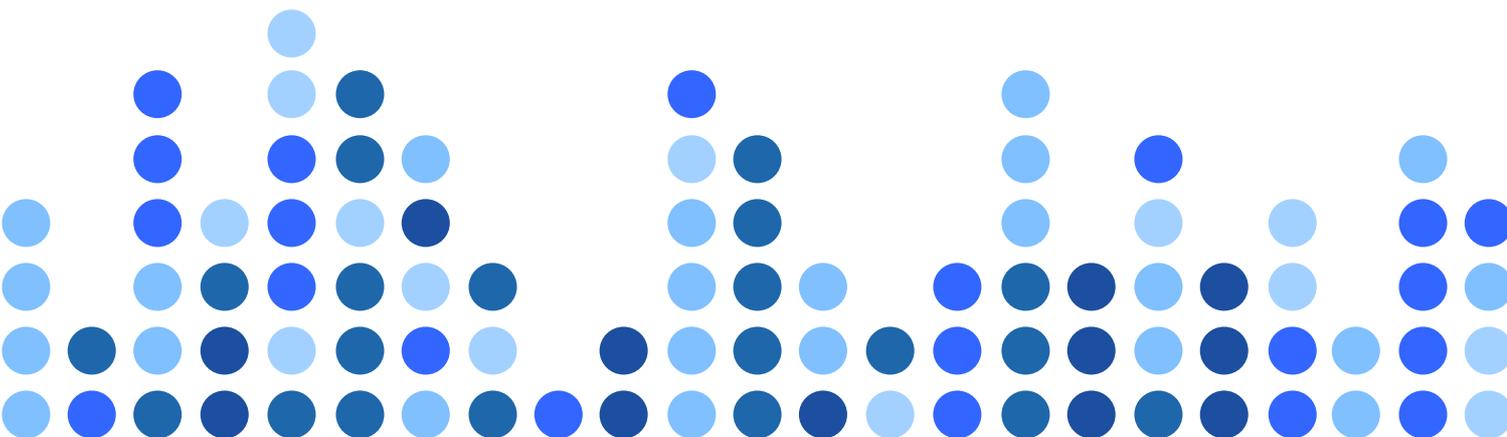


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1 **Definitions**

Unless otherwise expressly stated herein, ~~A~~-all terms in italics used in this *market manual* shall have the same meaning as ascribed to them under the Singapore Electricity Market Rules. ~~market rules~~

2 Standing offers

2.21 ~~Process for submission of~~ What is a “standing offers”?

~~The process for submitting a *standing offer* into the NEM system is described in the following sections.~~

~~The **NEM 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.~~

~~**PowerBid** is an application compatible with *EMC's* NEM System that *market participants* may use to create and submit an *offer* into the *market clearing engine*.~~

~~**EasyOffer**⁴ is a Web-based offer mechanism compatible with *EMC's* NEM System that *market participants* may use to create and submit an *offer* into the *market clearing engine*.~~

~~**CSV (comma delimited) file format** will be used for *intertie* submissions. *Market participants* can also use it to make *standing offer* submissions in the event of an *electronic communications system* failure.~~

2.1 ~~Definition of~~ **standing offer**

~~A *standing offer* is refers to an energy offer, reserve offer or regulation offer required to be submitted on behalf to the *EMC* in respect of a generation registered facility or a reserve offer required to be submitted to the *EMC* in respect of a load registered facility. Unless the context otherwise requires, references to “standing offer” in this *market manual* also include references to “revised standing offer”.~~

~~A *standing offer* –~~

- ~~• shall be submitted to the *EMC* by the *market participant's* *dispatch coordinator* via the *electronic communications system* or secure email as provided in Section 2.2;~~
- ~~• shall contain *offers* that comply with the data format 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*;~~

⁴ ~~This Web-based offer mechanism is only applicable to IL offer submissions for the moment. However, it is intended to extend its application to generator offer submissions as well eventually. The advantages of EasyOffer over PowerBid lie in at least two areas. Firstly, the MPs need not to configure SonicMQ and PowerBid to interact with *EMC* system; the Internet browser and network~~

~~accessibility will be the only requirements. Hence, it allows easy addition of new MPs. Secondly, it also allows MPs to view their offer submission that is submitted into NEM system.~~

- 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*;
- 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*.

2.2 Methods for submission of standing offers

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

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

The NEMS¹ 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.

PowerBid is an application compatible with the NEMS system that market participants may use to create and submit an offer to the EMC.

WebOffer² is a Web-based offer mechanism compatible with the EMC's NEMS system that market participants may use to create and submit an offer to the EMC.

CSV (comma delimited) file format shall be used for *intertie* submissions. Market participants can also use it to make *standing offer* submissions in the event of an *electronic communications system* failure.

2.3 Description of submission process for standing offers

2.3.1 Submission process for standing offers

A dispatch coordinator may submits a standing offer for a registered facility to the EMC via the electronic communications system using PowerBid or EasyOffer WebOffer or any other application that is provided or permitted by the EMC.

If the market participant's server fails, the a dispatch coordinator is unable to submit a standing offer to the EMC via the electronic communications system using PowerBid or WebOffer for any reason whatsoever, the dispatch coordinator shall will notify the EMC Helpdesk via phone (see

¹ NEMS refers to National Electricity Market of Singapore

² The advantages of WebOffer over PowerBid lie in at least two areas. Firstly, the MPs need not to configure SoniqMQ and PowerBid to interact with EMC's system; the Internet browser and network accessibility shall be the only requirements. Hence, it allows easy addition of new MPs. Secondly, it also allows MPs to view their offer submission that is submitted into NEMS system.

section 6 of this market manual for contact details). ~~and submit their offer files as generated by PowerBid in XML Format via secure email to the EMC.~~

~~If PowerBid or EasyOffer fails, the dispatch coordinator is able to successfully obtain any standing offer file generated by PowerBid in XML Format for the relevant market participant, the dispatch coordinator shall submit those files will notify the EMC's Helpdesk via phone and submit their offer files to the EMC via secure email to the EMC. If the dispatch coordinator is not able to successfully obtain any standing offer files generated by PowerBid in XML Format for the relevant market participant, the dispatch coordinator shall submit the standing offer will use in the CSV (comma delimited) file format provided by (as prescribed by the EMC³) via secure email to the EMC. (refer to section 5.2 for the file format).~~

For WebOffer, the dispatch coordinator shall submit the standing offer in the CSV (comma delimited) file format (as prescribed by the EMC³) via secure email to the EMC in the event when the electronic communications system fails.

Upon receipt of the *standing offer*, the EMC shall timestamp and validate the *standing offer* and within five minutes ~~via the electronic communication system~~ of such receipt:

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

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's Helpdesk via phone. The EMC shall, where the problem lies with the EMC's *electronic communications systems*, take steps to rectify the problem as soon as possible and inform the *dispatch coordinator* once the problem with the *electronic communications systems* has been resolved.

~~Once the standing offer or revised standing offer has been successfully validated, it will be used in the production of any market outlook scenarios, pre-dispatch schedules, short-term schedules or real-time schedules for those periods where no valid offer variations are held by the EMC. If the revised standing offer is rejected or cannot for any reason be communicated to the EMC, the EMC uses the most recent valid standing offer.~~

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

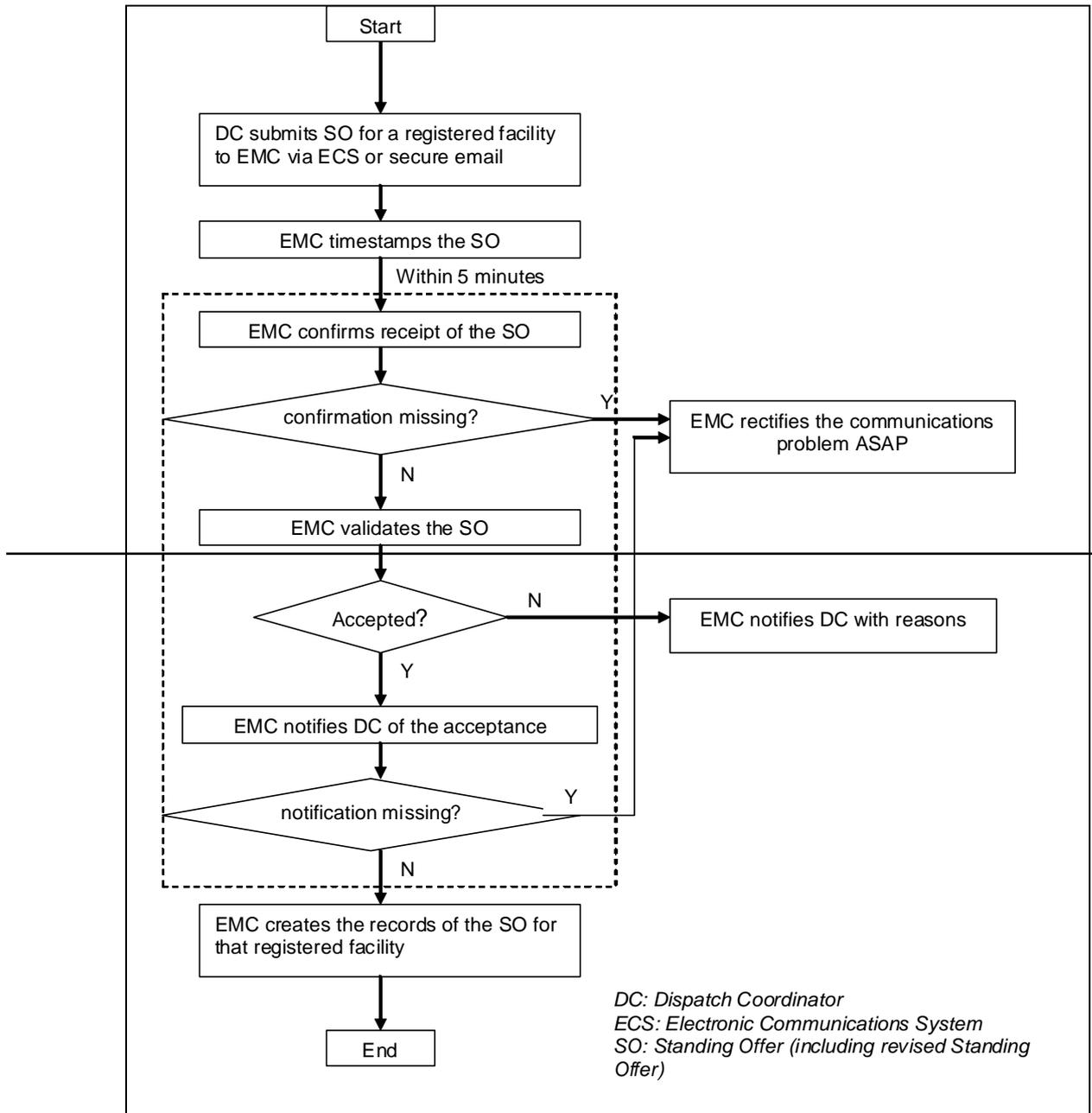
Submission of a revised standing offer must be made at least four hours 65 minutes before the dispatch period (gate closure time) to which that revised standing offer is intended to apply. Any revised standing offers submitted

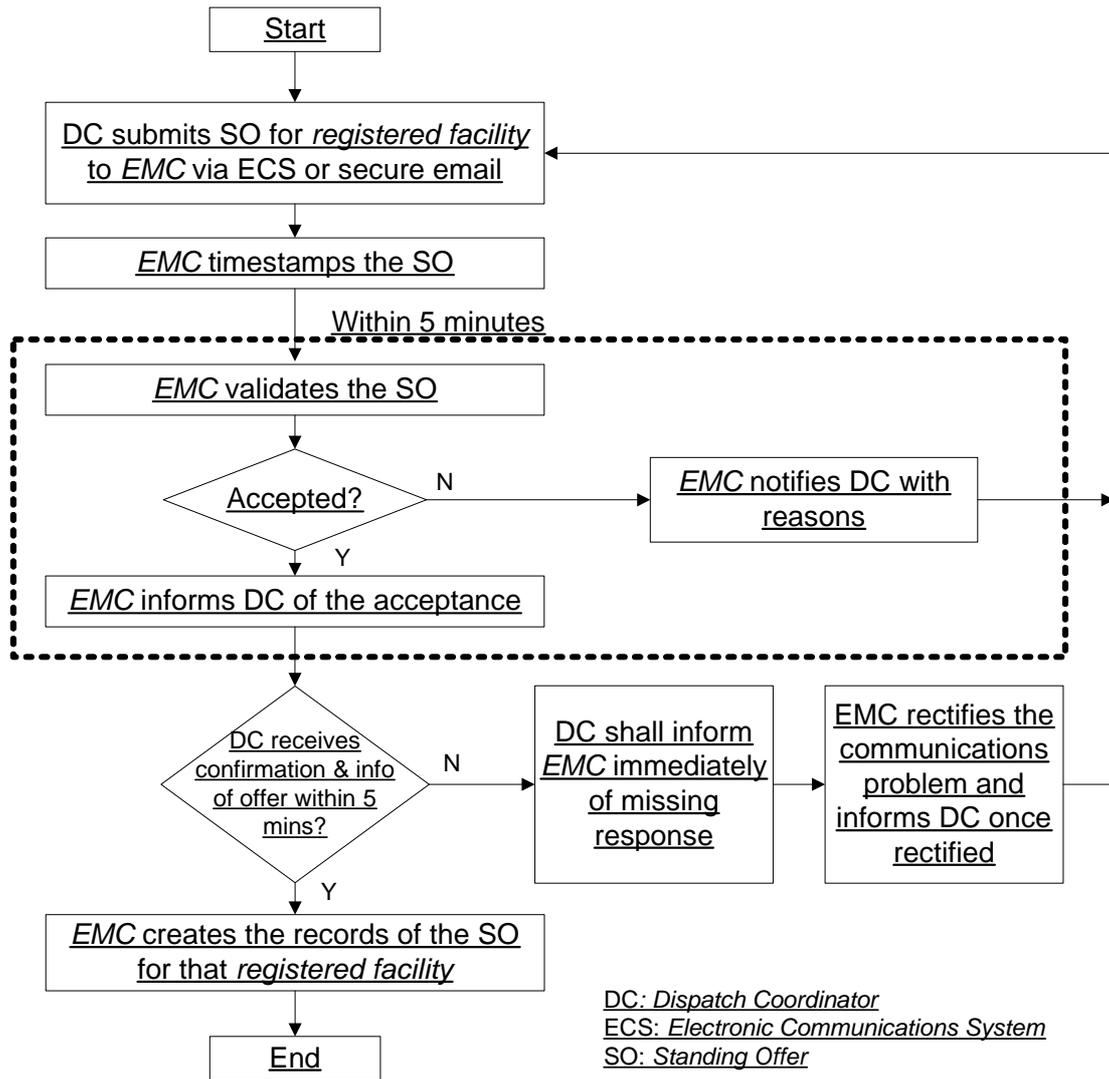
³ The prescribed CSV (comma delimited) file format is available from the EMC. See section 5.2 for more information on how to obtain the prescribed CSV (comma delimited) file format.

after gate closure time will shall be reported to the *market surveillance and compliance panel*.

A flowchart illustrating the outlining the submission process around in respect of standing offers is provided set out in the following section.

2.3.2 Standing offer process flowchart





2.4 Timeline for standing offer submission

Day	Time of Day	Event	Period Covered	Frequency
Prior to facility registration	Any	First <i>standing offer</i> submitted	Until superseded	Once
Any time, until D	T- 4 hours 65 <u>minutes</u> (<u>"gate closure"</u>)	Last time at which <u>a valid revised <i>standing offer</i> may be submitted without being subject reported to review by the market surveillance and compliance panel</u>	Until superseded	Ongoing/as required
Any time, until D	T-5 minutes	Last time at which a valid revised <i>standing offer</i> is guaranteed to be included <u>used in the <i>real-time scheduling</i> process while at the same time being but which shall be reported to the <i>market surveillance and compliance panel</i> if that <i>standing offer</i> was submitted after gate closure.</u>	Until superseded	Ongoing/as required

"D" refers to a trading day; and

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

2.5 Triggers for standing offer submission

A *standing offer* must be submitted ~~upon~~ prior to registration of a facility with the EMC.

A revised *standing offer* must be submitted when any of the following conditions arises:

- (1) The *registered facility* is not *synchronised* with the *transmission system* and there are no offer variations. The *dispatch coordinator* for that *registered facility* shall submit to the EMC a revised *standing offer* that contains an ~~offer quantity of zero~~ where all quantities offered for any of *energy*, *reserve* and *regulation* that the *registered facility* is registered to provide shall be zero. These *offer 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 with the transmission system~~.
- (2) The *standing capability data* associated with a *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, revise and re-submit to the EMC all *standing offers* that apply subsequent to the time at which the ~~revision to the~~ revised and approved standing capability data applies takes effect.

2.6 Required form of a standing offer

The *standing offer* submitted by a *market participant* must comply with the data formats described in this *market manual*. If a *standing offer* submission fails to comply with the data requirements, the EMC ~~will~~ shall reject the submission and notify the *market participant* within five minutes of receipt of the *standing offer* submission.

There are three types of *standing offers*:

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

There are three classes of *reserve standing offer*⁴ ~~(as defined in the system operation manual)~~:

- *primary reserve* ~~(8 sec reserve)~~;
- *secondary reserve* ~~(30 sec reserve)~~;
- *contingency reserve* ~~(10 min reserve)~~.

The *reserve standing offer* may be submitted ~~by~~ for either the a *generation registered facility* or the a *load registered facility*.

⁴ As referred to in section A.2 of Appendix 5A of the market rules.

The following tables show the data format for *energy*, *reserve* and *regulation standing offers*.

Table 1 Data format of energy standing offers

Item No	Field	Data Format	Remarks
1	Facility ID Participant ⁵	Alphanumeric	Up to 32 characters
2	Day Type ⁶	Mon to Sun Alphanumeric	<u>The value must be: EGO⁷</u>
23	Period Unit	1 to 48 Alphanumeric	
34	Max Generation Day	0 - 999999999.9 <u>Mon to Sun</u>	
45	Max Ramp up Period	0 - 999999999.9 <u>1 to 48</u>	
56	Max Ramp Down Up	0 - <u>to 99999999999.9</u>	<u>This value is expressed in MW/minute.</u>
67	Quantity Ramp Down	0 - <u>to 99999999999.9</u>	<u>This value is expressed in MW/minute.</u>
78	Price Capacity⁸	-99999999.9 <u>0 to 999999999.9</u>	<u>This value is expressed in MW.</u>
9	Band 1: Price	-9999999999.99 to 9999999999.99	Energy standing offers can be offered up to require 10 price-quantity pairs.
10	Band 1: Quantity	0 to 9999999999.9	<u>Prices are expressed in \$/MWh.</u> <u>Quantities are expressed in MW.</u>

⁵ This field is only applicable to WebOffer.

⁶ This field is only applicable to WebOffer.

⁷ "EGO" refers to energy offer.

⁸ "Capacity" refers to the maximum combined capacity referred to in section 5.2.2.5 of Chapter 6.

Table 2 Data format of all classes of reserve standing offers

Item No	Field	Data Format	Remarks
1	Facility ID Participant ²	Alphanumeric	Up to 32 characters
2	Day Type ¹⁰	Mon–Sun Alphanumeric	The value must be: RVO ¹¹
3	Period Unit	4–48 Alphanumeric	
4	Reserve Proportion ² Day	0–10 Mon to Sun	
5	Reserve Class ³ Period	PRI / SEC / CON ⁴ 1 to 48	
6	Quantity 1 Reserve Proportion ¹²	0 - to 9999999 99.999	All classes of reserve standing offers can be offered up to 5 price-quantity pairs <i>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.</i>
7	Price 1 Reserve Class ¹³	–99999999.9 to 999999999.9 PRI / SEC / CON ¹⁴	All classes of reserve standing offers can be offered up to 5 price-quantity pairs
8	Band 1: Price	0 to 99999999999.99	<i>A reserve standing offer for any reserve class requires 1 to 5 price-quantity pairs.</i>
9	Band 1: Quantity	0 to 9999999999.9	Prices are expressed in \$/MWh. Quantities are expressed in MW.

² For Load Registered Facility, this field is not applicable.

^{3,9} This field is only applicable to WebOffer web-based offering.

¹⁰ This field is only applicable to WebOffer.

¹¹ "RVO" refers to *reserve offer*.

¹² This field is not applicable for *standing offers* in respect of *load registered facilities*.

¹³ This field is only applicable to WebOffer.

^{4,14} PRI – primary *reserve*; SEC – secondary *reserve*; CON – contingency *reserve*.

Table 3 Data format of regulation standing offers

Item No	Field	Data Format	Remarks
1	Facility ID Participant ¹⁵	Alphanumeric	Up to 32 characters
2	Day Type ¹⁶	Mon–Sun Alphanumeric	The value must be: RGO ¹⁷
3	Period Unit	1–48 Alphanumeric	
4	Quantity 4 Day	0–9999999999.9 Mon to Sun	Regulation standing offers can be offered up to 5 price-quantity pairs
5	Price 4 Period	0–999999999.9 1 to 48	Regulation standing offers can be offered up to 5 price-quantity pairs
6	Band 1: Price	0 to 9999999999.99	<u>A regulation standing offer requires 1 to 5 price-quantity pairs.</u>
7	Band 1: Quantity	0 to 9999999999.9	<u>Prices are expressed in \$/MWh.</u> <u>Quantities are expressed in MW.</u>

2.7 Process Rules for validation of standing offers

The validation of *standing offers* ensures that data submitted is (among other things) in the form required for the *market clearing engine*. Upon receiving *standing offers* via the ~~PowerBid, EasyOffer or the CSV (comma delimited) file format~~ 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 offers* submission batch record is “well-formed”;
2. confirmation that each *standing offer* record is “well-formed”;
3. validation of the *standing offer* record against the *standing capability data and the energy price ceiling and floor*, the relevant price limits, the relevant quantity limits, and any other applicable requirements set out in the *market rules*.

A “well formed” *standing offer* submission batch record or standing offer record means that the submission record meets the applicable requirements specified in this *market manual*.

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

¹⁵ This field is only applicable to WebOffer.

¹⁶ This field is only applicable to WebOffer.

¹⁷ “RGO” refers to *regulation offer*.

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

In steps two and three above, the NEMS system ~~will~~ shall validate each *standing offer* submission record according to each of rules one to ~~eleven~~ twelve below as applicable.

Rule 1: Validate that all relevant <i>price-quantity pairs</i> are populated i.e. not null				
Example 1: Invalid offer				
Quantity_1	Price_1	Quantity_2	Price_2	...
50.0	10.00			
Example 2: Valid offer				
Quantity_1	Price_1	Quantity_2	Price_2	...
<u>10.0</u>	<u>50.00</u>	<u>0.0</u>	<u>0.00</u>	

Rule 2: Validate that the ramp rates for <i>energy offers</i> are not greater than the <u>relevant <i>standing capability data</i></u> maximum values					
<p>This rule only relates to <i>energy offers</i>. There are no ramp rate validations for <i>reserve offers</i> or <i>regulation offers</i>.</p> <p>For an <i>energy offer</i>, the <i>energy</i> ramp-up and <i>energy</i> ramp-down values <u>in the <i>energy offer</i></u> must be less than or equal to the maximum <i>energy</i> ramp-up and maximum <i>energy</i> ramp-down values <u>rates</u> of the <i>registered facility</i> respectively.</p> <p><u>Each of the <i>energy</i> ramp-up and <i>energy</i> ramp-down values in the <i>energy offer</i> must be expressed in MW/minute to one decimal place and must not be less than 0.0MW/minute.</u></p>					
Example 1: Invalid offer					
<p>Assume Unit A's <i>standing capability data</i> <u>specifies that its</u> maximum <i>energy</i> ramp-up rate are at <u>is</u> 10MW/minute and <u>its</u> maximum <i>energy</i> ramp-down at rate <u>is</u> 15 MW/minute.</p> <p>Unit A's <i>energy offer</i> <u>would be invalid if:</u></p> <table> <tr> <td>Max_ramp_up</td> <td>Max_ramp_down</td> </tr> <tr> <td><u>15.0</u></td> <td><u>10.0</u></td> </tr> </table>		Max_ramp_up	Max_ramp_down	<u>15.0</u>	<u>10.0</u>
Max_ramp_up	Max_ramp_down				
<u>15.0</u>	<u>10.0</u>				
Example 2: Valid offer					
<p>Assume Unit A's <i>standing capability data</i> <u>specifies that its</u> maximum <i>energy</i> ramp-up rates are at <u>is</u> 10MW/minute and <u>its</u> maximum <i>energy</i> ramp-down at rate <u>is</u> 15 MW/minute.</p>					

Unit A's energy offer would be not be invalid if:

Max_ramp_up	Max_ramp_down
7.0	10.0

Rule 3: Validate that the total quantity offered is not more than does not exceed the standing capability data maximum values for generation capacity

- For an energy offer, the total quantity of energy offered for a dispatch period (i.e. the sum of all 10 quantity fields must be less than or equal to the registered facility's maximum generation capacity rating in the energy offer) must not exceed:
- For reserve offers and regulation offers, the total of all 5 quantity fields must be less than or equal to either the maximum reserve capacity or regulation capacity rating for the ancillary service provider or the maximum quantity of ancillary service that the registered facility can supply.
 - the registered facility's maximum generation 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 offer

Unit A's maximum generation capacity indicated in its standing capability data rates is 130MW. Unit A's stated maximum generation capacity combined capacity for energy, reserve and regulation is at 10080MW. Unit A's energy offer would be invalid if:

Quantity_1	Quantity_2	Quantity_3	...
50.0	40.0	40.0	

Example 2: Valid

Unit A's maximum generation capacity indicated in its standing capability data rates is 130MW. Unit A's stated maximum generation capacity combined capacity for energy, reserve and regulation is at 10080MW. Unit A's energy offer would be valid if:

Quantity_1	Quantity_2	Quantity_3	...
50.0	40.0	10.0	

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

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

<u>Quantity 1</u>	<u>Quantity 2</u>	<u>Quantity 3</u>	<u>...</u>
<u>5.0</u>	<u>4.0</u>	<u>4.0</u>	

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

<u>Quantity 1</u>	<u>Quantity 2</u>	<u>Quantity 3</u>	<u>...</u>
<u>5.0</u>	<u>4.0</u>	<u>4.0</u>	

Example 2: Valid

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

<u>Quantity 1</u>	<u>Quantity 2</u>	<u>Quantity 3</u>	<u>...</u>
<u>5.0</u>	<u>4.0</u>	<u>1.0</u>	

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

<u>Quantity 1</u>	<u>Quantity 2</u>	<u>Quantity 3</u>	<u>...</u>
<u>5.0</u>	<u>4.0</u>	<u>1.0</u>	

Rule 45: Validate that prices are increasing or decreasing as appropriate

- For all each offer, the all price-quantity pairs must be monotonically 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 offer

In Unit A's example offer:

Price_1	Price_2...
50.00	40.00

Example 2: Valid offer

In Unit A's example offer:

Price_1	Price_2...
40.00	50.00

Rule 56: Validate that non-zero prices are attached to non-zero quantities

All price-quantity pair in an offers must have a non-zero quantity, if they have a non-zero specify a price value. of zero if it has a This prevents any market participant from offering a zero quantity at any price other than value of zero.

Example 1: Invalid offer

Quantity_1	Price_1	Quantity_2	Price_2...
50.0	100.00	0.0	50.00

Example 2: Valid offer

Quantity_1	Price_1	Quantity_2	Price_2...
50.0	100.00	0.0	0.00

Rule 67: Validate that quantity values are within market boundaries

All offered quantities must lie within the market boundaries.

- The quantity in value of each band price-quantity pair will 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 23 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 78: Validate that price values are within market boundaries

All offered prices must be within the market boundaries.

- For *energy offers*, the upper and lower limits on energy prices are defined by the EnergyPriceMax and EnergyPriceMin respectively.
- For *reserve offers*, the respective upper limit is defined by the *ancillary service's ResPriceMax* for the relevant on reserve class. prices for each reserve class is as follows: (1) for primary reserve – Res1PriceMax; (2) for secondary reserve – Res2PriceMax; and (3) for contingency reserve – Res3PriceMax. The lower limit is defined as on reserve prices is zero.
- For *regulation offers*, the upper limit on regulation prices is defined by the *ancillary service's RegPriceMax*. The lower limit on regulation prices is zero.

Rule 89: Validate that the *ancillary service reserve class* exists as appropriate is correctly specified

- ~~For *energy offers*, the *ancillary service* should not be specified.~~
- For *reserve offers and regulation offers*, the *ancillary service reserve class* should be specified accordingly as per item 7 in table 2.

Rule 910: Validate that the *market participant and registered facility* and its eligibility for the type (and class) of service referred to in the offer submitted are registered for this submission type and class

This rule concerns the validation ~~the *market participant's* of an *offer* made for a facility against that facility's registration and its *standing capability data* against the submission received.~~ Two main checks are performed. The first check ensures that the *registered facility* facility referenced in the offer submission is a valid *registered facility*. The second check ensures facility and secondly that the *registered facility* facility is registered to offer ~~this~~ provide the type of service referenced in the offer submission type (*energy, reserve or regulation*) and, in the case of *reserve offer*, this the *reserve class* referenced in the *offer* submission class.

Rule 101: Validate that the *reserve reserve* proportion is within the *standing capability data* limits

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

For ~~reserve offers~~ made ~~by~~ for a generation registered facility, the ~~reserve~~ proportion must not be ~~greater~~ less than or equal to zero and ~~less than or equal to~~ must not exceed the ~~reserve~~ proportion defined for the relevant class of ~~ancillary service provider~~ in the standing capability data of the generation registered facility.

For ~~reserve offers~~ made by dispatch loads, no validation is required for the ~~reserve proportion~~ field, as it is not used.

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

Rule 142: Validate that the offer submission is not followed by a later submission or a duplicated of the last submitted valid standing offer

The ~~offer~~ submission should not be followed by an a duplicate of the last submitted valid standing offer submission with a later creation date for the same submission type, date/day, dispatch period, registered facility, ancillary service (where relevant) and creation timestamp. This could occur where the participant erroneously creates and submits the same submission more than once. In addition this validation checks whether the current submission has been duplicated.

2.8 Use of validated standing offers

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

(a) if the *offer* for a *dispatch period* was accepted as valid less than five minutes before the production of a *market schedule* containing that *dispatch period*, that *offer* is not guaranteed to be used by the *EMC* in the production of that *market schedule*; and

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

2.9 Intertie submissions

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

3 Offers variations

3.1 ~~Process for submission of~~ What is an “offer variation”?

~~The process for submission of offer variations is similar to that of the revised standing offer with a few exceptions, which will be highlighted in the following sections.~~

Offer variation refers to an energy offer, a reserve offer or a regulation offer submitted to the EMC in respect of a generation registered facility or 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 or load registered facility for the same dispatch period.

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

3.2 ~~Definition of~~ Methods for submission of offer variations

~~Offer variation means an energy offer, a reserve offer or a regulation offer submitted to the EMC on behalf of a generation registered facility or a reserve offer submitted to the EMC on behalf 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 on behalf of that generation registered facility or load registered facility for the same dispatch period.~~

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

- the electronic communications system, using PowerBid, WebOffer or any other application that is provided or permitted by the EMC; or
- secure email in a CSV 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

3.3.1 Submission process for offer variations

~~The submission process for A dispatch coordinator may submit an offer variation is similar to that for the standing offer. The offer variation is used for submission of temporary changes to a standing offer. It is used when the dispatch coordinator wishes to change the standing offer terms for a particular date and dispatch period and not affect his standing offer terms for the rest of the days. for a registered facility to the EMC via the electronic communications system using PowerBid or WebOffer or any other application that is provided or permitted by the EMC.~~

~~However, if there is no valid offer variation available, the standing offer will be used for production of any market outlook scenarios, pre-dispatch schedules, short-term schedules or real-time schedules.~~

~~In the case where If a dispatch coordinator has not received a confirmation of receipt from is unable to submit an offer variation to the EMC via the electronic communications system using PowerBid or WebOffer for any reason whatsoever, the dispatch coordinator should notify the EMC helpdesk via phone (see section 6 of this market manual for contact details).~~

If the dispatch coordinator is able to successfully obtain any offer variation file generated by PowerBid in XML Format for the relevant market participant, the dispatch coordinator shall submit those files via secure email to the EMC. If the dispatch coordinator is not able to successfully obtain any offer variation file generated by PowerBid in XML Format for the relevant market participant, the dispatch coordinator shall submit the offer variation in the CSV (comma delimited) file format (as prescribed by the EMC¹⁸) via secure email to the EMC.

For WebOffer, the dispatch coordinator shall submit the standing offer in the CSV (comma delimited) file format (as prescribed by the EMC¹⁹) via secure email to the EMC in the event when the electronic communications system fails.

Upon receipt of the offer variation, the EMC shall timestamp and validate the offer variation and within five minutes of such receipt:

- confirm the receipt of the offer variation;
- notify the status of the offer variation; and
- give reasons for any rejections of the offer 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 EMC's 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.

~~There is a gate closure time for the sSubmission of an offer variation, four hours must be made at least 65 minutes before the relevant dispatch period (gate closure) to which that offer variation is intended to apply. Any offer variation submission~~ted~~ made after the gate closure time will shall be reported to the market surveillance and compliance panel~~for inquiry~~.~~

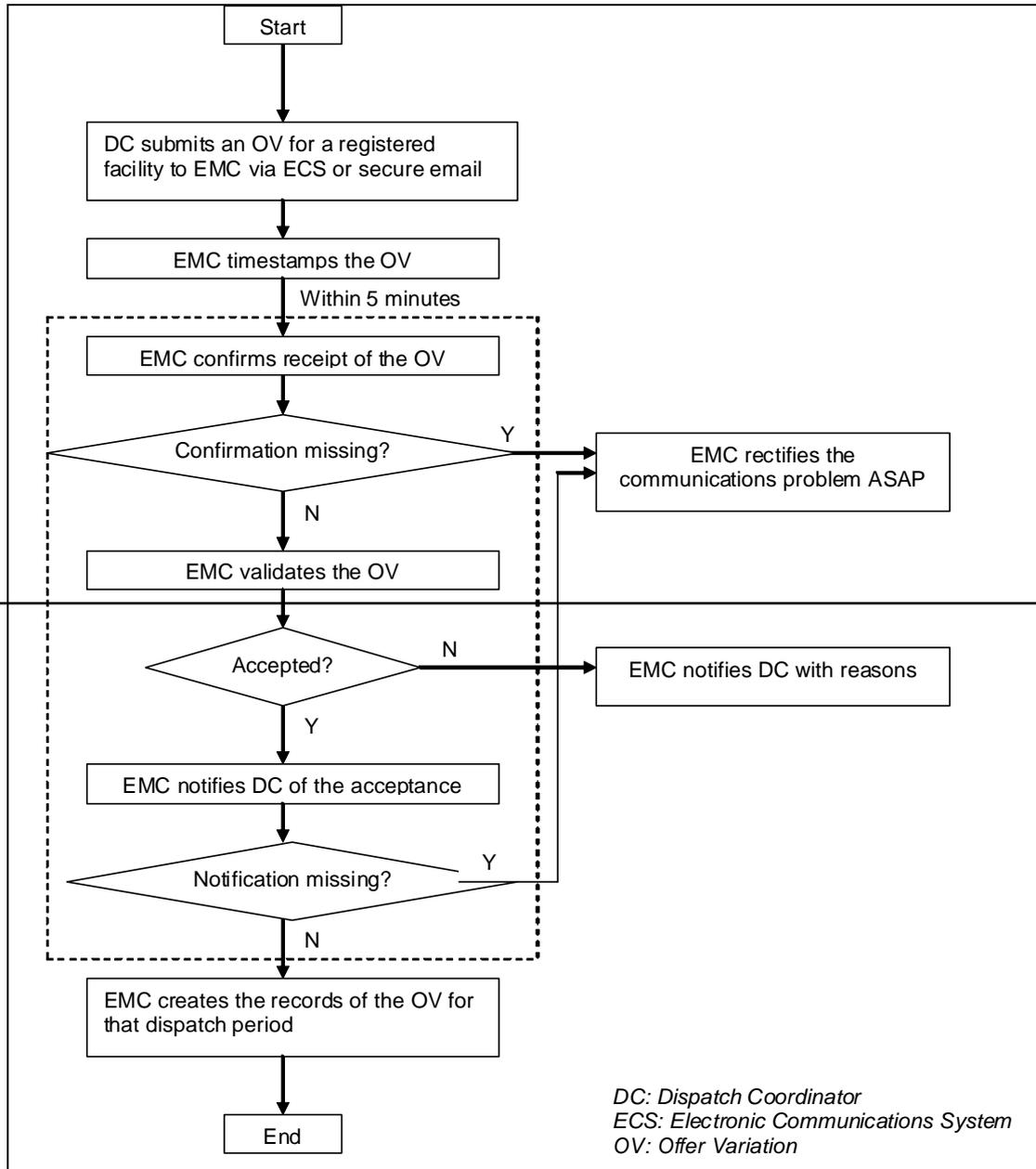
If the EMC permits a market participant to submit offer variations via the electronic communications system through the use of any alternative application (other than PowerBid and WebOffer), the submission of offer variations through the use of such alternative application must comply with all such requirements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

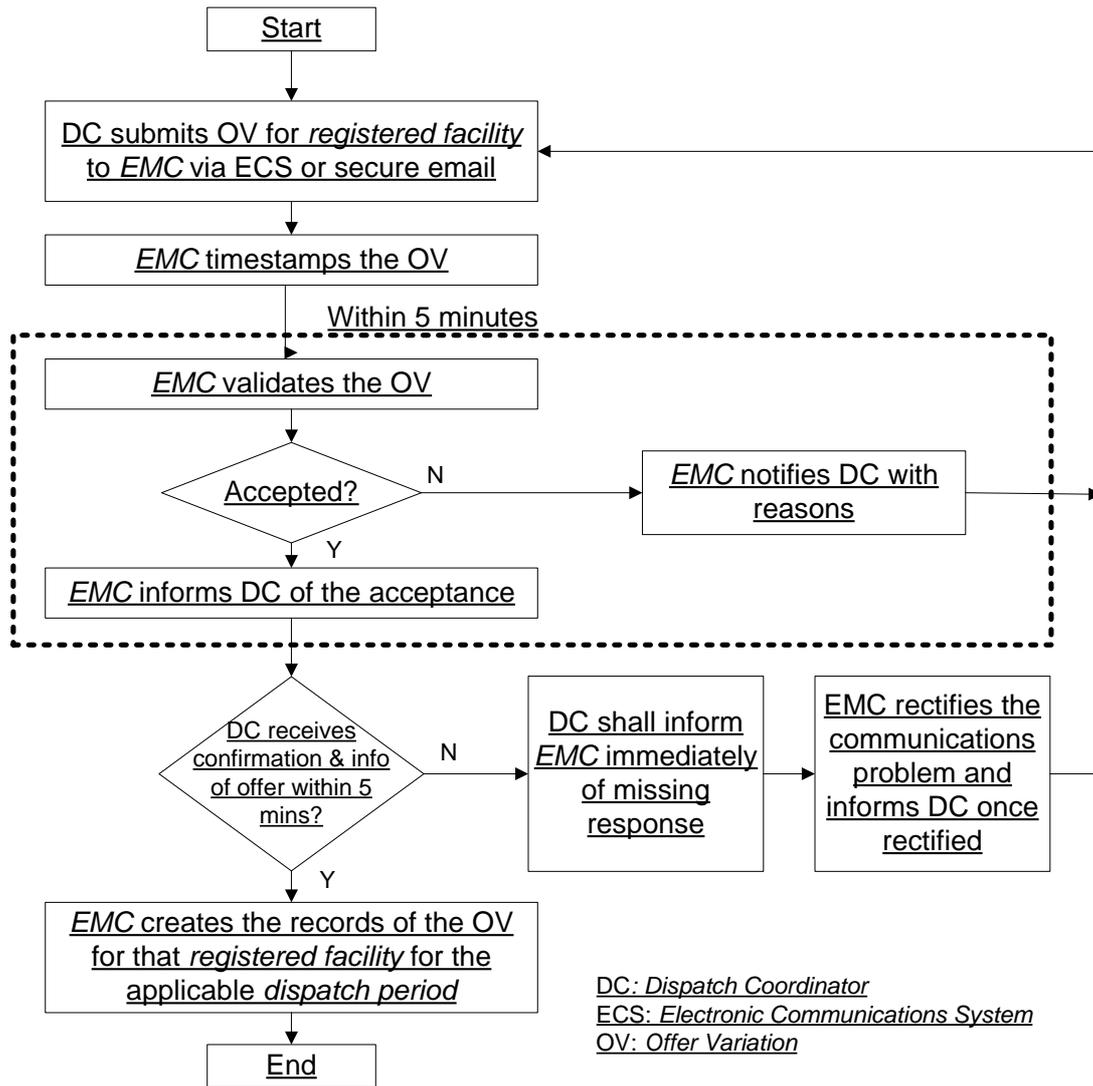
¹⁸ The prescribed CSV (comma delimited) file format is available from the EMC. See section 5.2 for more information on how to obtain the prescribed CSV (comma delimited) file format.

¹⁹ The prescribed CSV (comma delimited) file format is available from the EMC. See section 5.2 for more information on how to obtain the prescribed CSV (comma delimited) file format.

A flowchart ~~below shows~~ outlining the submission process in respect of ~~for~~ an offer variation is set out in the following section.

3.3.2 Offer variation submission process flowchart





3.4 Timeline for offer variation submission

Day	Time of Day	Event	Period Covered	Frequency
D – 8 days	09:00	The EMC begins accepting offer variations for dispatch periods during trading day D	D	Ongoing
D-8 days to D	From 09:00 on D-8 days, within 5 minutes of receipt	Notification of acceptance/rejection of offer variation	D	Ongoing
D	T- 4-65 minutes (“gate closure”)	Last time at which an valid offer variation may be submitted without being subject reported to review by the market surveillance and compliance panel.	T + 30 minutes	Ongoing
D	T-5 minutes	Last time at which a an valid offer variation is guaranteed to be included used in the real-time scheduling process while at the same time being but which shall be reported to the market surveillance and compliance panel if the offer 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 submission

~~An Offer variation(s)~~ must be ~~immediately~~ submitted by the dispatch coordinator of a registered facility to the EMC when any of the following conditions arise -

- (1) ~~The offer quantity contained~~ For a dispatch period in any ~~valid offer for energy, reserve, or regulation for any dispatch period~~ in the current market outlook horizon, held by the EMC if the quantity currently offered in a valid offer for a registered facility is ~~greater than~~ 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 in the valid offered.

~~In either of these cases, an offer variation must be immediately submitted by the dispatch coordinator shall immediately submit to the EMC an offer variation for any of the registered facility to the EMC for those dispatch periods where any of the above apply~~ 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 rating generation capacity and maximum combined reserve generation maximum capacity and reserve capacity in the *standing capability data* of the *generation registered facility* to be revised.

- (2) For each dispatch period that the registered facility is not synchronised with the transmission system – until the earliest dispatch period in which it would be possible for the registered facility to be synchronised.

In such a case, the *dispatch coordinator* for that *registered facility* shall submit to the *EMC* an *offer variation* that contains an *offer quantity* of zero for any of *energy, reserve and regulation* that the *registered facility* is registered to provide. These *offer quantities* shall be submitted for all *dispatch periods* until the earliest *dispatch period* when it would be possible for that *registered facility* to be synchronised with the *transmission system*. if there are existing offer variations for any such dispatch periods, the dispatch coordinator for that registered facility shall submit to the EMC an offer variation for each such dispatch period so that all offered quantities for energy, reserve and regulation are zero.

- (3) The *standing capability data* associated with a *registered facility* is revised –

The *dispatch coordinator* for that *registered facility* shall, to the extent necessary for consistency with the revised *standing capability data*, revise and re-submit to the *EMC* a revised standing offer (as per section 2.5) and all offer variations that apply subsequent to the time at which the revision to the *standing capability data* applies.

3.6 Required form of an offer variation

The *offer variation* data format is very similar to the data format for a *standing offer*. There are also three *offer variation* types, that is, *energy, reserve and regulation offer variations*. The difference between a standing offer and an offer variation is that the submission will latter shall only be applied to a specific *dispatch period* that require a change. The “day” field in the *standing offer* submission is therefore replaced by a “date” field in the case of an offer variation.

The data formats for an energy offer variation is shown for each of energy, reserve and regulation are set out in the tables below.

Table 34 Data format of energy offer variation

Item No	Field	Data Format	Remarks
1	Facility ID Participant ²⁰	Alphanumeric	Up to 32 characters
2	Date Type ²¹	dd/mm/yyyy-Alphanumeric	The value must be: EGO ²²
23	Period Unit	1 to 48 Alphanumeric	
34	Max Generation Date	0 – 999999999.9 dd/mm/yyyy	
45	Max Ramp Up Period	0 – 999999999.9 1 to 48	
56	Max Ramp Down Up	0 - to 999999999999.9	This value is expressed in MW/minute.
67	Quantity 1 Ramp Down	0 - to 999999999999.9	Energy standing offers can be offered up to 10 price-quantity pairs This value is expressed in MW/minute.
78	Price 1 Capacity ²³	-99999999.9- 0 to 9999999999.9	Energy standing offers can be offered up to 10 price-quantity pairs This value is expressed in MW.
9	Band 1: Price	-99999999999.99 to 99999999999.99	An energy offer variation requires 1 to 10 price-quantity pairs.
10	Band 1: Quantity	0 to 9999999999.9	Prices are expressed in \$/MWh. Quantities are expressed in MW.

⁵ For Load Registered Facility, this field is not applicable.

⁶ This field is only applicable to web-based offering.

⁷ PRI – primary reserve; SEC – secondary reserve; CON – contingency reserve.

²⁰ This field is only applicable to WebOffer.

²¹ This field is only applicable to WebOffer.

²² “EGO” refers to energy offer.

²³ “Capacity” refers to the maximum combined capacity referred to in section 5.2.2.5 of Chapter 6.

Table 4-5 Data format of all classes of reserve offer variation

Item No	Field	Data Format	Remarks
1	Facility ID <u>Participant</u> ²⁴	Alphanumeric	Up to 32 characters
2	<u>Date Type</u> ²⁵	dd/mm/yyyy Alphanumeric	The value must be: RVO ²⁶
3	<u>Period Unit</u>	1–48 Alphanumeric	
4	<u>Reserve Proportion</u> ⁵ <u>Date</u>	0–10- dd/mm/yyyy	
5	<u>Reserve Class</u> ⁶ <u>Period</u>	PRI / SEC / CON ⁷ 1 to 48	
6	<u>Quantity 1</u> <u>Reserve Proportion</u> ²⁷	0 to 999999999.999	All classes of <i>reserve standing offers</i> can be offered up to 5 <i>price quantity pairs</i> <i>Dispatch coordinators of generation registered facilities</i> must take special note of section 5.3.8 of Chapter 6 of the <i>market rules</i> when specifying the <i>reserve proportion</i> .
7	<u>Price 1</u> <u>Reserve Class</u> ²⁸	-99999999.9 to 999999999.9 PRI / SEC / CON ²⁹	All classes of <i>reserve standing offers</i> can be offered up to 5 <i>price quantity pairs</i>
8	<u>Band 1: Price</u>	0 to 99999999999.99	<u>A reserve offer variation for any reserve class requires 1 to 5 price-quantity bands.</u>
9	<u>Band 1: Quantity</u>	0 to 9999999999.9	<u>Prices are expressed in \$/MWh.</u> <u>Quantities are expressed in MW.</u>

²⁴ This field is only applicable to WebOffer.²⁵ This field is only applicable to WebOffer.²⁶ "RVO" refers to *reserve offer*.^{5 27} For Load Registered Facility, this field is not applicable.^{6 28} This field is only applicable to WebOffer.^{7 29} PRI – primary *reserve*; SEC – secondary *reserve*; CON – contingency *reserve*.

Table 6 Data format of regulation offer variation

Item No	Field	Data Format	Remarks
1	Facility ID Participant ³⁰	Alphanumeric	Up to 32 characters
2	Date Type ³¹	dd/mm/yyyy Alphanumeric	The value must be: RGO ³²
3	Period Unit	1—48 Alphanumeric	
4	Quantity 1 Date	0—999999999.9 dd/mm/yyyy	Regulation standing offers can be offered up to 5 price-quantity pairs
5	Price 1 Period	-99999999.9 to 999999999.9 1 to 48	
6	Quantity 1	0 to 999999999.9	A regulation offer variation requires 1 to 5 price-quantity pairs.
7	Price 1	0 to 999999999.99	Prices are expressed in \$/MWh. Quantities are expressed in MW.

3.7 Process for validation of an offer variation

All the validation rules mentioned in Section 2.7 ~~will~~ shall also apply to the validation of an *offer variation*. However, there ~~will~~ shall be an additional rule thirteen for validation for an *offer variation*, which is shown below.

Rule 1213: Validate that the submission date is within the valid timeframe

A submission of an offer variation after the start of a *dispatch period* to which the *offer variation* applies is not permitted. In practice this rule prevents *market participants* from submitting an *offer 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 ~~system~~ date.

If the submission date is the current ~~system~~ date the submission period must not start prior to the current time less the submission cut-off period time.

³⁰ This field is only applicable to WebOffer.

³¹ This field is only applicable to WebOffer.

³² "RGO" refers to *regulation offer*.

~~Where~~ If the period is the first period in the day then the current time must be prior to midnight less the submission cut-off ~~period~~ time.

3.8 **Use of validated offer variations**

The use of validated offer variations by the EMC in the production of a market schedule is described in Section 2.8 above.

3.89 **Intertie submissions**

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

4 Standing capability data

4.1 Process for submission of standing capability data

4.1.1 Initial standing capability data submission

~~All registered facilities are required to submit their initial standing capability data to the EMC upon registration. Initial standing capability data will be approved by the PSO before the EMC inputs the data into the market clearing engine.~~

When a market participant applies to register a facility under section 5 of Chapter 2, 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 will shall notify the party whose submission it has market participant of the PSO's rejection of and the reasons for its rejection.

4.1.2 Revised standing capability data submission

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

~~If the PSO will then forward the approved~~ requires a dispatch coordinator to provide revised revised standing capability data under section 9.6.5 of Chapter 5, it shall do so within the time specified by the PSO to the EMC.

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.

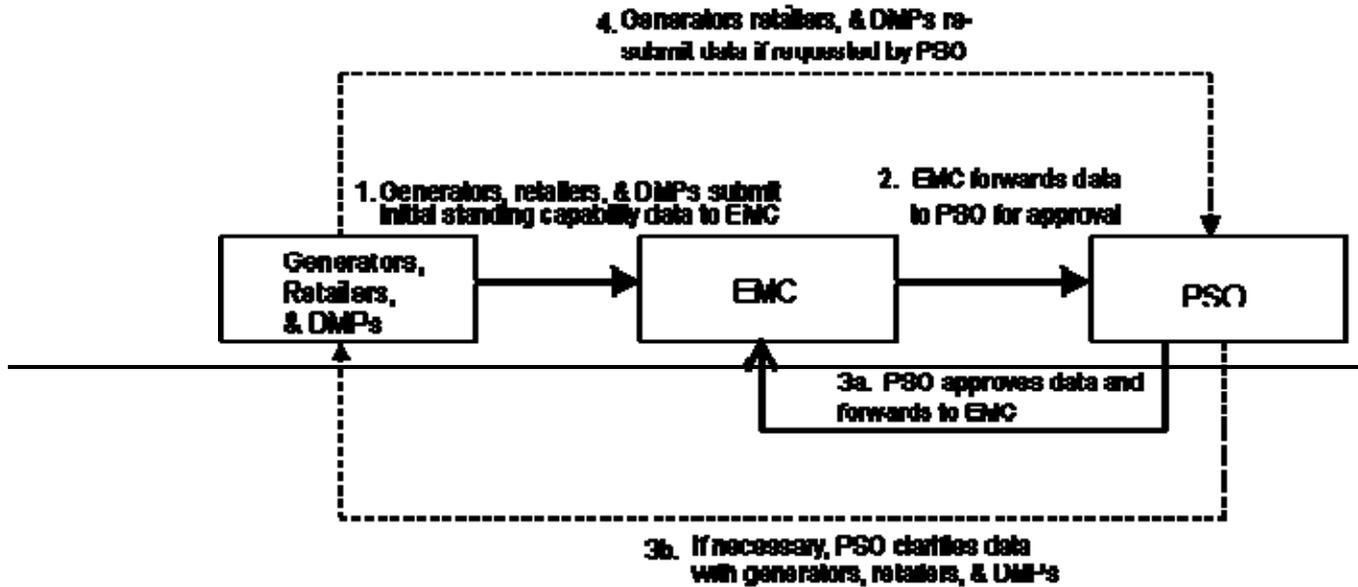
If the PSO rejects a the revised revised standing capability submission data, the PSO will shall notify the party whose submission it has dispatch coordinator of the PSO's rejection of and the reasons for its rejection.

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

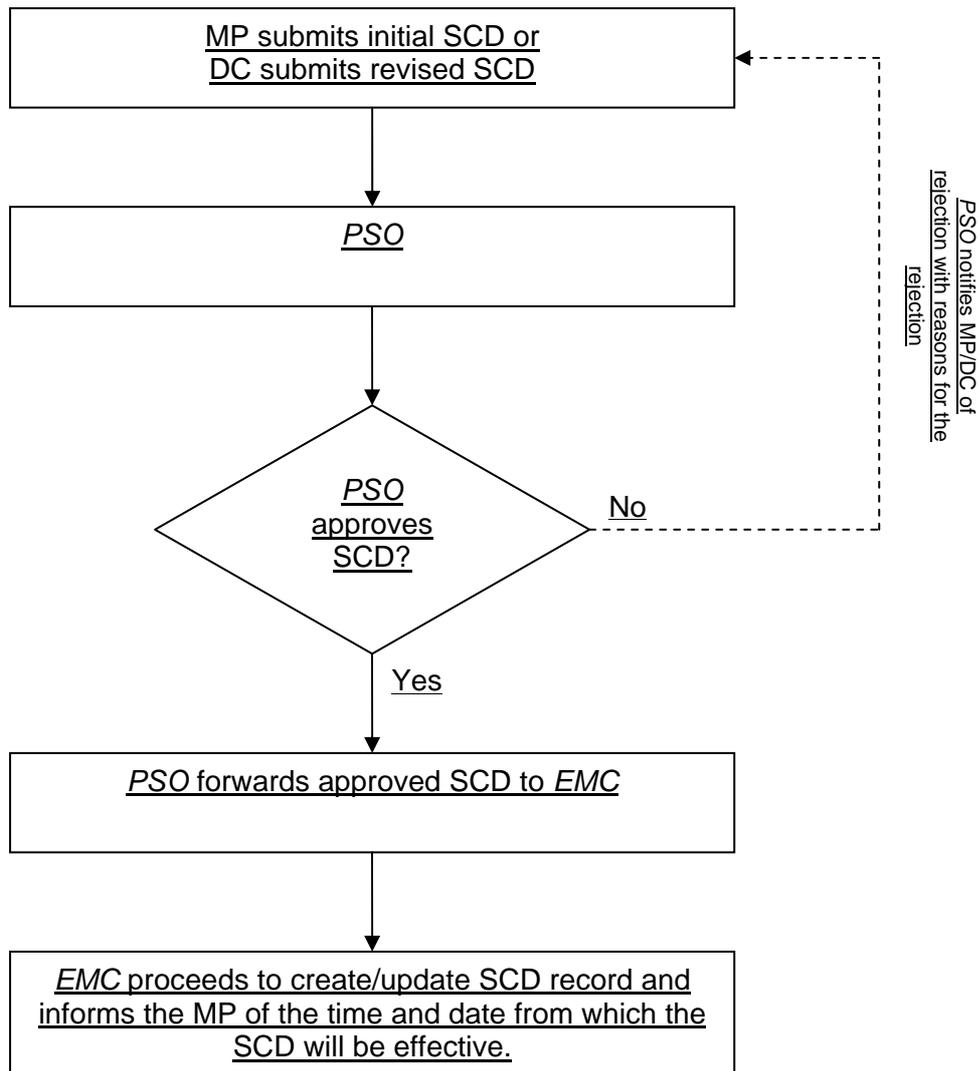
The EMC shall, as soon as practicable and upon receiving any approved ~~revised standing capability data~~ standing capability data in respect of a facility from the PSO, ~~input the revised~~ create or update its records of that facility's ~~standing capability data~~ into standing capability data to be used by the market clearing engine. Typically, it takes ten business days³³ for approved initial 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~~ standing capability data will ~~shall~~ be effective.

³³ In the event where receipt of approved data is incomplete or is not in the required form, the date for effective use of the initial standing capability data shall be delayed. Hence, market participants are advised to ensure that the initial standing capability data submitted uses the latest business forms and the data provided is complete, clear and correct.

4.1.4 Submission process flowchart for initial and revised standing capability data submission process flowchart

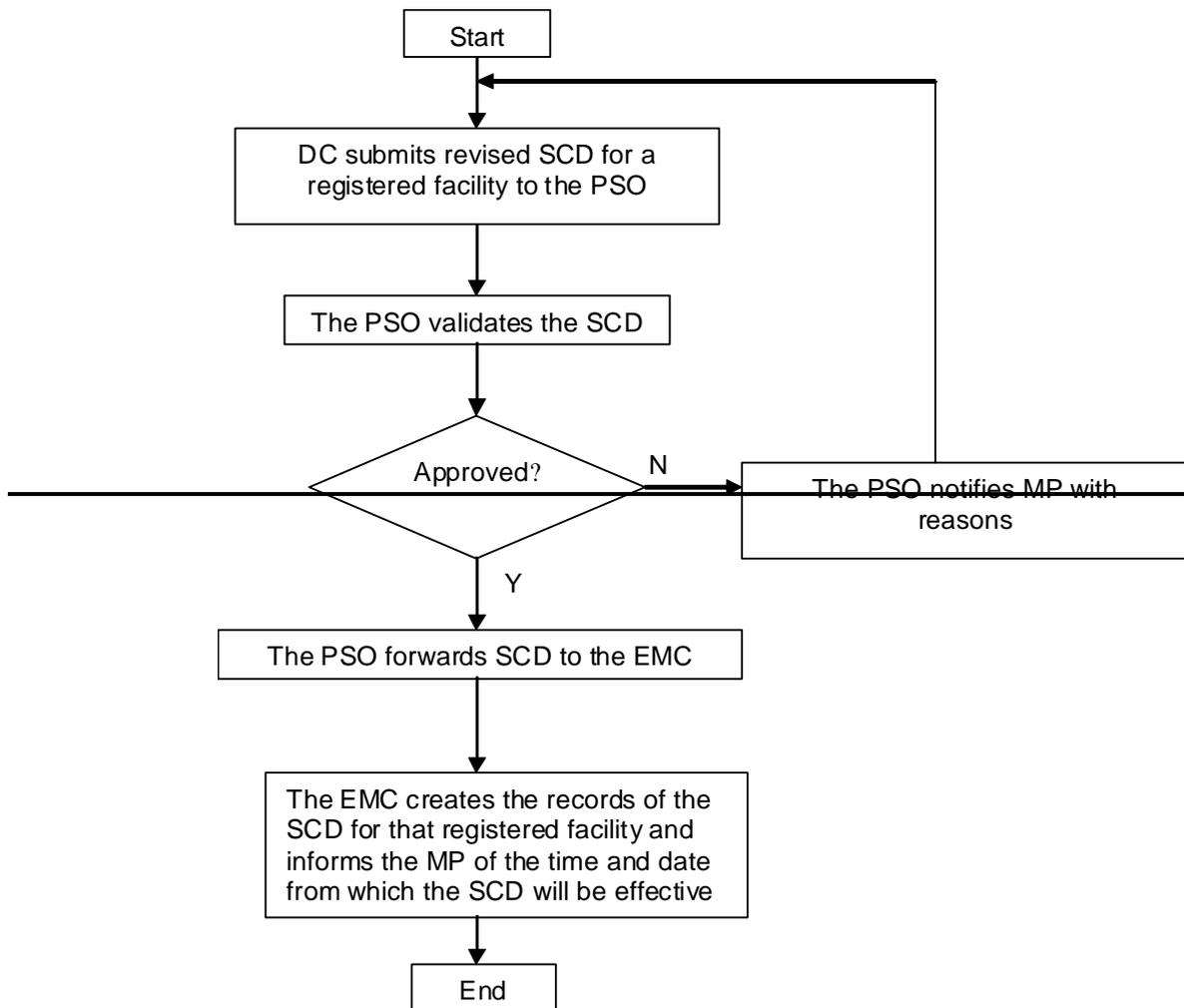


*DMP: Direct Market Participant
EMC: Energy Market Company
PSO: Power System Operator*



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

4.1.5 Revised standing capability data submission process flowchart



*MP: Market Participant
DC: Dispatch Coordinator
ECS: Electronic Communications System
SCD: Standing Capability Data*

4.2 Timeline for standing capability data submission

Day	Time of Day	Event	Period Covered	Frequency
Prior to facility registration	Refer to section 4.2 of this market manual At the same time as the submission of an application for registration of the facility is submitted to the EMC	Provide initial <i>standing capability data</i> where such data shall have been provided to the <i>PSO</i> by a <i>market participant</i> , and approved by the <i>PSO</i> , in accordance with the <i>system operation manual</i> .	From first day of participation and until superseded.	Once
Before <u>D</u> , trading day	Refer to section 4.2 of this market manual Any time	Provide revised <i>standing capability data</i> where such data shall have been provided to the <i>PSO</i> by a market participant <i>dispatch coordinator</i> , and approved by the <i>PSO</i> , in accordance with the <i>system operation manual</i> .	From day D until superseded or, in the case of temporary changes, for period specified in the submission	As required

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

"T" refers to the beginning of a dispatch period.

4.3 Triggers for initial standing capability data submission

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

~~Revised standing capability data~~ are to be submitted if the changes to the *standing capability data* are expected to last seven days or more.

4.4 Required form of standing capability data, ~~network model data and system requirement data~~

The *standing capability data*, ~~network model data and system requirement data~~ are is derived from various the following data sources, which are as follows:

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

All ~~registered facilities~~ and ~~transmission licensees~~ will shall submit their *standing capability data* to the PSO via the ~~registered facility forms and transmission facility~~ 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* shown below in section 4.5.

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
<u>NAME FACILITY</u>		N/A
<u>RESERVE CLASS CODE</u> <u>ANCILLARY GROUP</u>		N/A
DESCRIPTION <u>MAX. RATING</u>		<u>N/A MW</u>
MINIMUM RISK <u>RSRV GENERATION MAX</u>		MW
<u>RESPONSE PERIOD DELAY</u>		Sec
MAXIMUM PRICE <u>RSV. PROPORTION</u>		<u>\$%</u>
<u>PENALTY_GROUP</u> <u>LOW LOAD</u>		N/A
MAX_IL_PROPORTION <u>LOW LOAD RESERVE</u>		<u>%N/A</u>
<u>MEDIUM LOAD RESERVE</u>		<u>N/A</u>
<u>HIGH LOAD RESERVE</u>		<u>N/A</u>

4.5.2 Ancillary service provider (reserve regulation) form

Ancillary Provider Details		
Field Names on Data Admin Screen	DATA	Unit
ANCILLARY TYPE		N/A
ANCILLARY GROUP <u>FACILITY</u>		N/A
<u>FACILITY</u> ANCILLARY GROUP		N/A
MAXIMUM RATING		MW
RESERVE GENERATION MAXIMUM REGULATION MIN		MW
RESPONSE DELAY REGULATION MAX		See MW
RESERVE PROPORTION		%
ANCILLARY ZONE ⁸		N/A

4.5.3 Ancillary service provider (regulation) form

Ancillary Service Details		
Field Names on Data Admin Screen	DATA	Unit
ANCILLARY TYPE		N/A
<u>FACILITY NAME</u>		N/A
MAXIMUM RATING RESERVE CLASS CODE		MW N/A
REGULATION MIN <u>DESCRIPTION</u>		MW N/A
REGULATION MAX <u>MINIMUM RISK</u>		MW
<u>RESPONSE PERIOD</u>		Sec
<u>MAXIMUM PRICE</u>		\$
<u>PENALTY</u>		N/A
<u>MAXIMUM IL PROPORTION</u>		%

⁸ For generators, this field is not applicable

4.5.4 Ancillary group and effectiveness form zone form³⁴

Ancillary Zone Details		
Field Names on Data Admin Screen		N/A
RESERVE CLASS	N/A	N/A
<u>RESERVE_GROUP</u> <u>ANCILLARY_ZONE</u>	N/A	N/A
<u>ANCILLARY_TYPE_ZONE</u> <u>LIMIT</u>		<u>N/A MW</u>
Tranche 1: QUANTITY / EFFECTIVENESS		MW / N/A
Tranche 2: QUANTITY / EFFECTIVENESS		MW / N/A
Tranche 3: QUANTITY / EFFECTIVENESS		MW / N/A
Tranche 4: QUANTITY / EFFECTIVENESS		MW / N/A
Tranche 5: QUANTITY / EFFECTIVENESS		MW / N/A

³⁴ For generators, this form is not applicable

4.5.5 Ancillary zone⁹-Branch (Line) form

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

⁹ For generators, this field is not applicable

4.5.6 **Generation registered facility Branch (Transformer) form**

Branch Details		
Field Names on Data Admin Screen	DATA	Unit
<u>FACILITY TYPE B1</u>	UNIT	N/A
<u>UNIT TYPE B2</u>	R	N/A
<u>B13</u>		N/A
<u>B2-BRANCH TYPE</u>	<u>Line Transformer</u>	N/A
<u>B3-RESISTANCE</u>		N/A p.u.
<u>FACILITY NAME REACTANCE</u>		N/A p.u.
<u>INTERTIE INDICATOR</u> <u>FIXED LOSS</u>	(Unselected)	N/A MW
<u>NODE NAME</u> <u>MAX. RATING FORWARD</u>		N/A MVA
<u>MAXIMUM RATING REVERSE</u>		MVA
<u>RAMP DOWN NORMAL</u> <u>REDUND. FACTOR FWD</u>	<u>1</u>	MW/m N/A
<u>RAMP DOWN REGULATION</u> <u>REDUND. FACTOR REV.</u>	<u>1</u>	MW/m N/A
<u>RAMP UP NORMAL</u> <u>THERMAL RATING FWD.</u>		MW/mVA
<u>RAMP UP REGULATION</u> <u>THERMAL RATING REV.</u>		MW/mVA
<u>PRIMARY RISK †PENALTY</u>	Y/N	N/A
<u>SECONDARY RISK †</u> <u>CONNECTOR FROM</u>	Y/N	N/A
<u>FAILURE PROBABILITY</u> <u>CONNECTOR TO</u>	4	N/A
<u>PENALTY NAME BUS FROM</u>		N/A
<u>BUS TO</u>		N/A
<u>PST INDICATOR</u>		N/A

4.5.7 Load registered facility Bus form

<u>Bus Details</u>		
Field Names on Data Admin Screen	DATA	Unit
FACILITY TYPE B1	Offtake load / dispatch load ⁴⁰	N/A
<u>B12</u>		N/A
<u>B23</u>		N/A
<u>B3-REFERENCE NODE PRIORITY</u>		N/A
<u>SETTLEMENT ACCT FICTIONAL IND</u>		N/A
<u>MAXIMUM RATING EXCESS PENALTY</u>		MV/N/A
<u>DEFICIT PENALTY</u>		N/A

4.5.8 SCADA unit Connector form –normal facility

<u>Connector Details</u>		
Field Names on Data Admin Screen	DATA	Unit
UNIT TYPE <u>B1</u>	Independent	N/A
<u>B12</u>		N/A
<u>B23</u>		N/A
<u>B3</u>		N/A
<u>MAPPING PROTOCOL</u>	R	N/A
<u>MNN BUS</u>		N/A
<u>PCF</u>		N/A
<u>FACILITY</u>		N/A

⁴⁰ ~~Note that Interruptible Load (IL) belongs to Dispatch Load (DPL) facility type~~

4.5.9 SCADA unit Generation Registered Facility form - CCP – GT

Facility Details		
Field Names on Data Admin Screen	DATA	Unit
<u>UNIT FACILITY TYPE</u>	Independent	N/A
<u>B1-UNIT TYPE</u>		N/A
<u>B21</u>		N/A
<u>B32</u>		N/A
<u>MAPPING PROTOCOL B3</u>	†	N/A
<u>MNN BUS FACILITY NAME</u>		N/A
<u>PCF INTERTIE INDICATOR</u>		N/A
<u>PPF NODE NAME</u>		N/A
<u>DEPENDENT UNIT MAXIMUM RATING</u>		N/A MW
<u>FACILITY NORMAL RAMP DOWN</u>		N/A MW/m
<u>REGULAT. RAMP DOWN</u>		MW/m
<u>NORMAL RAMP UP</u>		MW/m
<u>REGULATED RAMP UP</u>		MW/m
<u>PRIMARY RISK</u>	<u>Y / N</u>	<u>N/A</u>
<u>SECONDARY RISK</u>	<u>Y / N</u>	<u>N/A</u>
<u>FAILURE PROBABILITY</u>		%
<u>DAMPING GENERATOR</u>	<u>Y / N</u>	<u>N/A</u>
<u>PENALTY NAME</u>		<u>N/A</u>

4.5.10 SCADA unit Generation Settlement Facility form - CCP – ST

Facility Details		
<u>Field Names on Data Admin Screen</u>	<u>DATA</u>	<u>Unit</u>
<u>UNIT FACILITY TYPE</u>	<u>Dependent-UNIT</u>	N/A
<u>B1-UNIT TYPE</u>	<u>SETTLEMENT</u>	N/A
<u>B21</u>		N/A
<u>B32</u>		N/A
<u>MAPPING PROTOCOL B3</u>		N/A
<u>MNN BUS FACILITY NAME</u>		N/A
<u>PCF NODE NAME</u>		N/A
<u>MAXIMUM RATING</u>		<u>MW</u>
<u>NORMAL RAMP DOWN</u>		<u>MW/m</u>
<u>REGULAT. RAMP DOWN</u>		<u>MW/m</u>
<u>NORMAL RAMP UP</u>		<u>MW/m</u>
<u>REGULATED RAMP UP</u>		<u>MW/m</u>
<u>PRIMARY RISK †</u>	<u>Y / N</u>	<u>N/A</u>
<u>SECONDARY RISK †</u>	<u>Y / N</u>	<u>N/A</u>
<u>FAILURE PROBABILITY</u>		<u>%</u>
<u>DAMPING GENERATOR</u>	<u>Y / N</u>	<u>N/A</u>

4.5.11 HV transformer Dispatch Load registered facility form

Facility Details		
Field Names on Data Admin Screen	DATA	Unit
B1-B2-B3-FACILITY TYPE	<u>Dispatch Load</u> ³⁵	N/A
BRANCH TYPE 1	Transformer	N/A
RESISTANCE B2		p.u.N/A
REACTANCE B3		p.u.N/A
SUSCEPTANCE INTERTIE INDICATOR	<u>Y / N</u>	p.u.N/A.
FIXED-LOSS NODE NAME		MW
MAXIMUM RATING FORWARD		MVA
MAX RATING REVERSE IL RECORDER ID		MVA
REDUNDANCY FACTOR FORWARD	4	N/A
REDUNDANCY FACTOR REVERSE	4	N/A
THERMAL RATING FORWARD		MVA
THERMAL RATING REVERSE		MVA
PENALTY		N/A
CONNECTOR FROM		N/A
CONNECTOR TO		N/A
BUS FROM		N/A
BUS TO		N/A

³⁵ Note that Interruptible Load (IL) belongs to Dispatch Load (DPL) facility type.

4.5.12 LV transformer Offtake Load registered facility form

Facility Details		
Field Names on Data Admin Screen	DATA	Unit
B1-B2-B3-FACILITY TYPE	Offtake load	N/A
BRANCH TYPE 1	Transformer	N/A
RESISTANCE B2		p.u.N/A
REACTANCE B3		p.u.N/A
SUSCEPTANCE SETTLEMENT ACCT.		p.u.N/A.
FIXED-LOSS MAXIMUM RATING		MVA
MAX RATING FORWARD UNIT TRANSFORMER INDICATOR	Y / N	MV/N/A
MAX RATING REVERSE		MVA
REDUNDANCY FACTOR FORWARD	4	N/A
REDUNDANCY FACTOR REVERSE	4	N/A
THERMAL RATING FORWARD		MVA
THERMAL RATING REVERSE		MVA
PENALTY		N/A
CONNECTOR FROM		N/A
CONNECTOR TO		N/A
BUS FROM		N/A
BUS TO		N/A

4.5.13 Transmission line Node form

Node Details		
Field Names on Data Admin Screen	DATA	Unit
B1-B2-B3-NODE NAME		N/A
BRANCH NODE TYPE	Line-GPOS/ LPOS/ IPOS/ DPOS	N/A
RESISTANCE SETTLEMENT ACCT.		p.u./N/A
REACTANCE		p.u.
SUSCEPTANCE		p.u.
FIXED LOSS		MW
MAX RATING FORWARD		MVA
MAX RATING REVERSE		MVA
REDUNDANCY FACTOR FORWARD		N/A
REDUNDANCY FACTOR REVERSE		N/A
THERMAL RATING FORWARD		MVA
THERMAL RATING REVERSE		MVA
PENALTY		N/A
CONNECTOR FROM		N/A
CONNECTOR TO		N/A
BUS FROM		N/A
BUS TO		N/A

4.5.14 **BUS Participant and Accounts form – Embedded Generator**

Participant Details		
<u>Field Names on Data Admin Screen</u>	<u>DATA</u>	<u>Unit</u>
B1-PARTICIPANT NAME		N/A
B2-LICENCE NUMBER		N/A
B3-PRUDENTIAL LIMIT		N/A \$
REFERENCE IND		N/A
FICTIONAL IND		N/A
EXCESS PENALTY		N/A
DEFICIT PENALTY		N/A
Settlement Accounts		
<u>ACCOUNT NAME</u>		<u>N/A</u>
<u>ACCOUNT ID</u>		<u>N/A</u>
<u>PARTICIPANT TYPE</u>	<u>Embedded Generator</u>	<u>N/A</u>
<u>UNDER A RETAILER</u>	<u>Y/N</u>	<u>N/A</u>
<u>RETAILER VALUE</u>		<u>N/A</u>
<u>NET SETTLEMENT</u>		<u>N/A</u>
<u>PRICE NEUTRALISATION</u>		<u>N/A</u>

4.5.15 **Connector Participation and Accounts form – All others**

<u>Participant Details</u>		
<u>Field Names on Data Admin Screen</u>	<u>DATA</u>	<u>Unit</u>
B4-PARTICIPANT NAME		N/A
B2-LICENCE NUMBER		N/A
B3-PRUDENTIAL LIMIT		N/A \$
<u>Settlement Accounts</u>		
<u>ACCOUNT NAME</u>		N/A
<u>ACCOUNT ID</u>		N/A
<u>PARTICIPANT TYPE</u>	Broker/ EMC Internal Account/ Generator/ Interruptible Load/ MSSL/ PSO/ PowerGrid/ Retailer	N/A

4.5.16 Control parameters Participant factors form

Day Types		
<u>Field Names on Data Admin Screen</u>	<u>DATA</u>	<u>Unit</u>
8 SECOND RISK ADJUSTMENT FACTOR NAME		N/A
30 SECOND RISK ADJUSTMENT FACTOR		N/A Date
10 MINUTE RISK ADJUSTMENT FACTOR		N/A
8 SECOND FREQUENCY DEVIATION - INTERTIE ON		N/A
30 SECOND FREQUENCY DEVIATION - INTERTIE ON		N/A
10 MINUTE FREQUENCY DEVIATION - INTERTIE ON		N/A
8 SECOND FREQUENCY DEVIATION - INTERTIE OFF		N/A
30 SECOND FREQUENCY DEVIATION - INTERTIE OFF		N/A
10 MINUTE FREQUENCY DEVIATION - INTERTIE OFF		N/A
8 SECOND ESTIMATED LOAD DAMPING		N/A
30 SECOND ESTIMATED LOAD DAMPING		N/A
10 MINUTE ESTIMATED LOAD DAMPING		N/A
8 SECOND ESTIMATED GT OUTPUT DAMPING		N/A
30 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
REGULATION REQUIREMENT		MW
<u>Custom Day Calendar</u>		
<u>SCHEDULED DATE</u>		<u>Date</u>

4.5.17 Penalty and tranches form

<u>Penalty Details</u>		
Field Names on Data Admin Screen	DATA	Unit
PENALTY NAME		N/A
PENALTY TYPE	<u>Ancillary Service/ Bus Deficit/ Bus Excess/ Branch/ Facility/ Security Constraint</u>	N/A
<u>Penalty Tranches</u>		
TRANCHE 1: QUANTITY / AMOUNT		MW / \$/N/A
TRANCHE 2: QUANTITY / AMOUNT		MW / \$
TRANCHE 3: QUANTITY / AMOUNT		MW / \$
TRANCHE 4: QUANTITY / AMOUNT		MW / \$
TRANCHE 5: QUANTITY / AMOUNT		MW / \$

4.5.18 Reserve group and effectiveness form

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

4.5.19 SCADA unit form - normal facility

Scada Unit Details		
<u>Field Names on Data Admin Screen</u>	<u>DATA</u>	<u>Unit</u>
<u>UNIT TYPE</u>	<u>Independent</u>	N/A
<u>B1</u>		N/A
<u>B2</u>		N/A
<u>B3</u>		N/A
<u>MAPPING</u>	R	N/A
<u>MNN BUS</u>		N/A
<u>ALT BUS</u>		N/A
<u>DEFAULT BRANCH</u>		N/A
<u>UNIT TRANSFORMER MAPPING TYPE</u>	NM/ DM	N/A
<u>FACILITY</u>		N/A

4.5.20 SCADA unit form - CCP - GT

Scada Unit Details		
<u>Field Names on Data Admin Screen</u>	<u>DATA</u>	<u>Unit</u>
<u>UNIT TYPE</u>	Independent	<u>N/A</u>
<u>B1</u>		<u>N/A</u>
<u>B2</u>		<u>N/A</u>
<u>B3</u>		<u>N/A</u>
<u>MAPPING</u>	!	<u>N/A</u>
<u>MNN BUS</u>		<u>N/A</u>
<u>ALT BUS</u>		
<u>DEFAULT BRANCH</u>		
<u>PPF</u>		<u>N/A</u>
<u>UNIT TRANSFORMER MAPPING</u>	<u>DM/ NM</u>	<u>N/A</u>
<u>UNIT TRANSFORMER</u>		<u>N/A</u>
<u>DEPENDENT UNIT</u>		<u>N/A</u>
<u>FACILITY</u>		<u>N/A</u>

4.5.21 SCADA unit form - CCP - ST

Scada Unit Details		
<u>Field Names on Data Admin Screen</u>	<u>DATA</u>	<u>Unit</u>
<u>UNIT TYPE</u>	<u>Dependent</u>	<u>N/A</u>
<u>B1</u>		<u>N/A</u>
<u>B2</u>		<u>N/A</u>
<u>B3</u>		<u>N/A</u>
<u>MAPPING</u>	<u>!</u>	<u>N/A</u>
<u>MNN BUS</u>		<u>N/A</u>
<u>ALT BUS</u>		<u>N/A</u>
<u>DEFAULT BRANCH</u>		<u>N/A</u>
<u>UNIT TRANSFORMER MAPPING TYPE</u>	<u>DM/ NM</u>	<u>N/A</u>
<u>UNIT TRANSFORMER</u>		<u>N/A</u>

4.5.22 Control parameters form

Control Parameters		
<u>Field Names on Data Admin Screen</u>	<u>DATA</u>	<u>Unit</u>
<u>8 SECOND RISK ADJUSTMENT FACTOR – INTERTIE ON</u>		<u>N/A</u>
<u>30 SECOND RISK ADJUSTMENT FACTOR – INTERTIE ON</u>		<u>N/A</u>
<u>10 MINUTE RISK ADJUSTMENT FACTOR – INTERTIE ON</u>		<u>N/A</u>
<u>8 SECOND FREQUENCY DEVIATION -INTERTIE OFF</u>		<u>N/A</u>
<u>30 SECOND FREQUENCY DEVIATION -INTERTIE OFF</u>		<u>N/A</u>
<u>10 MINUTE FREQUENCY DEVIATION -INTERTIE OFF</u>		<u>N/A</u>
<u>8 SECOND ESTIMATED LOAD DAMPING</u>		<u>N/A</u>
<u>30 SECOND ESTIMATED LOAD DAMPING</u>		<u>N/A</u>
<u>10 MINUTE ESTIMATED LOAD DAMPING</u>		<u>N/A</u>
<u>8 SECOND ESTIMATED GT OUTPUT DAMPING</u>		<u>N/A</u>
<u>30 SECOND ESTIMATED GT OUTPUT DAMPING</u>		<u>N/A</u>
<u>10 MINUTE ESTIMATED GT OUTPUT DAMPING</u>		<u>N/A</u>
<u>ESTIMATED INTERTIE CONTRIBUTION</u>		<u>N/A</u>
<u>DPR AUTOMATIC RUN FLAG</u>		<u>N/A</u>
<u>DAR AUTOMATIC RUN FLAG</u>		<u>N/A</u>
<u>WAR AUTOMATIC RUN FLAG</u>		<u>N/A</u>
<u>DPR AUTOMATIC APPROVAL FLAG</u>		<u>N/A</u>
<u>DAR AUTOMATIC APPROVAL FLAG</u>		<u>N/A</u>
<u>WAR AUTOMATIC APPROVAL FLAG</u>		<u>N/A</u>
<u>LOAD FORECAST LOSS ADJUSTMENT FACTOR</u>		<u>%</u>
<u>LOAD SENSITIVITY FACTOR</u>		<u>MW</u>
<u>RESERVE ENVELOPE HIGH RESERVE</u>		<u>N/A</u>
<u>RESERVE ENVELOPE MEDIUM RESERVE</u>		<u>N/A</u>

4.5.23 Scheduled parameters – Station Load Factor

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

4.5.24 Scheduled parameters – Risk Adjustment Factors

Scheduled Parameters – Parameter Details		
Field Names on Data Admin Screen	DATA	Unit
<u>PARAMETER NAME</u>	<u>8 Second RAF/ 30 Second RAF/ 10 minute RAF</u>	<u>N/A</u>
<u>START PERIOD</u>		<u>Date, Period</u>
<u>VALUE</u>		<u>N/A</u>

4.5.25 Scheduled Tap Position

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

4.5.26 Regulation Requirement

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

5 Electronic Communications System

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

~~Offer Offer submissions to the EMC, using PowerBid, is currently a three step process:-~~

- a. A web request is made to the EMC's Trading Website (www.sem.emcsg.com) to generate a unique Batch Number that ~~will~~ shall identify the submitted offer batch. This request is over SSL as the Trading Website is a secure web site.
- b. An ~~offer~~ offer is constructed in a predefined XML format that includes the Batch Number.
- c. This XML file is then sent to the EMC's SonicMQ server. This occurs over an SSL connection as well, and requires the sender to have a correctly configured SonicMQ server.

~~Currently the PowerBid program carries out these steps to submit offers. More information on how PowerBid works is available in the PowerBid user guide which comes on included in/with the PowerBid install CD, or may be requested from EMC.~~

Offer submissions to the EMC, using WebOffer, is currently a three step process:

- a. The authorized user logs into the EMC's trading website using a security certificate issued by the EMC.
- b. Under the web offering section of the EMC's trading website, the user selects an offer file which is constructed externally either in CSV or XML format to submit the offers. Along with the submission of the offers, the user must include the password assigned to him/her.
- c. If the submitted offer file type is CSV then the file shall be sent to the EMC's SonicMQ Server whereas if the submitted file type is XML then the data shall be loaded using web services.

Once the offer has been submitted, the results of the processing and validation of the offer ~~is~~ would be made available on the trading website. The submitted offers are identified by the Batch Number.

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

Please refer to Market Participant Backup Submission Guide which is available on the EMC EMC Website at www.emcsg.com, About the Market, Market Systems Backup Submission Guide. About the Market, Market Systems Backup and Submission Guide.

6 Contact Details for EMC Helpdesk

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