



INDEPENDENT
MARKET
OPERATOR

Final Rule Change Report

Title: Clarification and Calculation of Availability Curve

RC_2012_09

Standard Rule Change Process

Date 3 December 2012

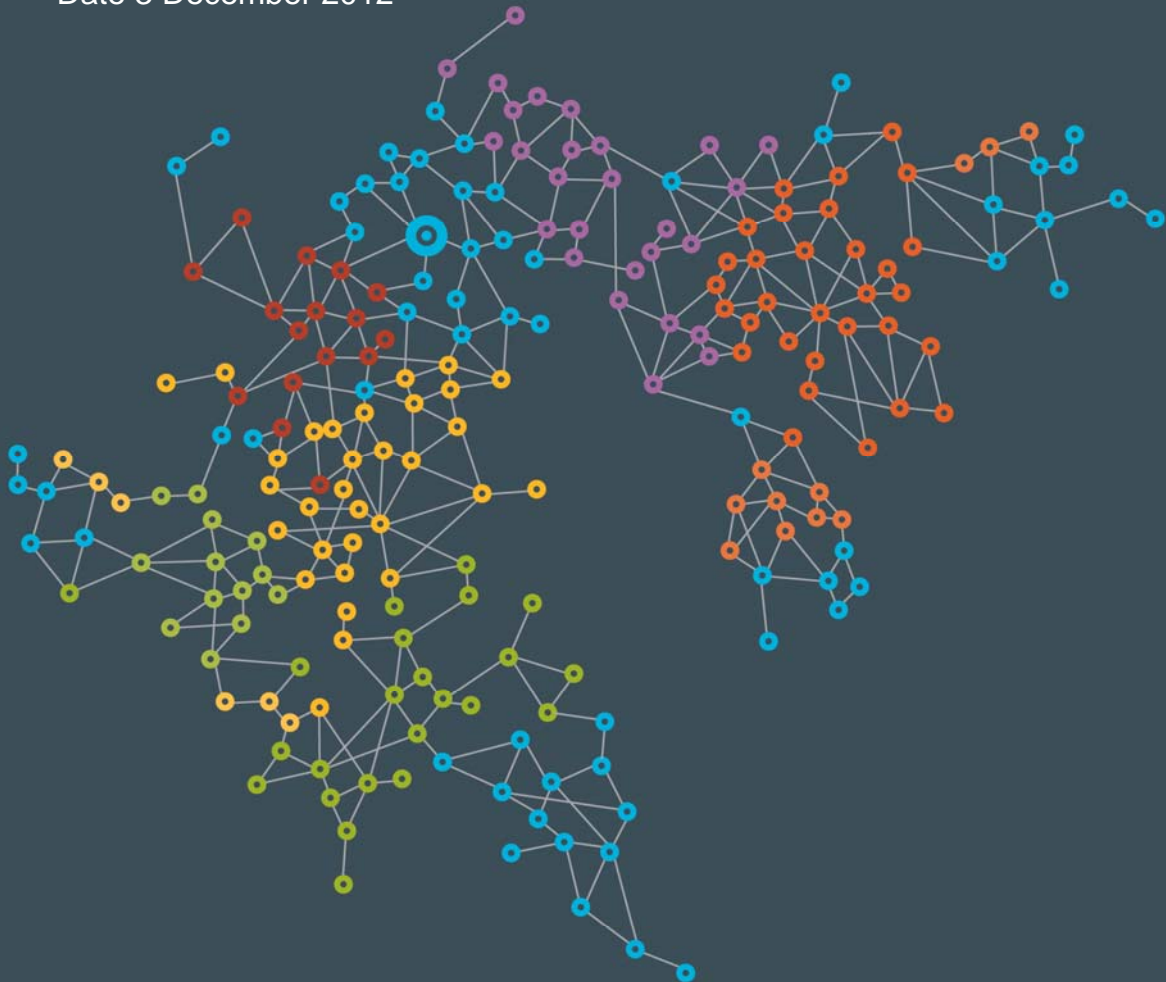


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Executive Summary

Proposed amendments

System Management submitted this Rule Change Proposal to clarify the calculation of the Availability Curve as defined in clause 4.5.10(e) of the Wholesale Electricity Market Rules. System Management considered that there is ambiguity regarding the formation of the Availability Curve which may have the potential to threaten system security. System Management proposed that the Availability Curve be defined as a duration curve of the forecast minimum capacity requirements for each Trading Interval in the Capacity Year, and that the capacity requirement for each Trading Interval be calculated as the sum of the forecast demand for that Trading Interval, the reserve margin and the Minimum Frequency Keeping Capacity.

System Management also noted that this concept had been adopted in the Availability Curve determination for the 2012 Statement of Opportunities.

Consultation

The Pre Rule Change Proposal was discussed at the Market Advisory Committee meeting on 13 June 2012, where members decided that the Rule Change should be progressed, subject to the IMO working with System Management to improve the clarity of the drafting. The Rule Change Proposal was formally submitted on 27 July 2012.

The first submission period was held between 30 July 2012 and 7 September 2012. Submissions were received from Community Electricity, Perth Energy, Synergy and Verve Energy. All parties supported the Rule Change Proposal, although Synergy questioned the use of the same reserve margin quantity for each Trading Interval in the Capacity Year. Perth Energy and Verve Energy raised two key issues with the proposal:

- confusion regarding the interaction between clauses 4.5.10(e) and 4.5.12; and
- the need to consider the scenario where the Planning Criterion was determined by the unserved energy criterion rather than the forecast peak demand criterion.

In the Draft Rule Change Report published on 8 October 2012, the IMO proposed a number of additional amendments to the Amending Rules to address these issues and to improve the clarity of the relevant clauses.

The second submission period was held between 9 October 2012 and 5 November 2012. A submission was received from Community Electricity, supporting the additional amendments proposed in the Draft Rule Change Report.

Assessment against Wholesale Market Objectives

The IMO has assessed that the proposed amendments are consistent with the Wholesale Market Objectives and improve the overall integrity of the Wholesale Electricity Market Rules by clarifying the construction of and the information to be determined from the Availability Curve.

Practicality and Cost of Implementation

No costs or issues of practicality of implementation have been associated with this Rule Change

Proposal.

The IMO's Decision

The IMO's decision is to accept the Rule Change Proposal as modified following the first submission period.

Next Steps

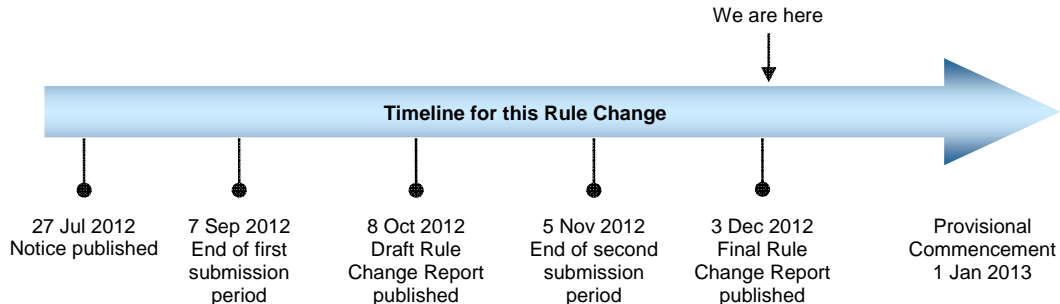
The Amending Rules will provisionally commence at **8.00 AM** on **1 January 2013**.

1. Rule Change Process and Timetable

On 27 July 2012 System Management submitted a Rule Change Proposal regarding amendments to clause 4.5.10(e) of the Wholesale Electricity Market Rules (Market Rules).

This proposal is being processed using the Standard Rule Change Process, described in section 2.7 of the Market Rules.

The key dates in processing this Rule Change Proposal are:



2. Proposed Amendments

2.1. The Rule Change Proposal

On 27 July 2012, System Management submitted this Rule Change Proposal to clarify the calculation of the Availability Curve as defined in clause 4.5.10(e) of the Market Rules. System Management considered that there is ambiguity regarding the formation of the Availability Curve which may have the potential to threaten system security. System Management proposed that the Availability Curve be defined as a duration curve of the forecast minimum capacity requirements for each Trading Interval in the Capacity Year, and that the capacity requirement for each Trading Interval be calculated as the sum of the forecast demand for that Trading Interval, the reserve margin and the Minimum Frequency Keeping Capacity.

System Management also noted that this concept had been adopted in the Availability Curve determination for the 2012 Statement of Opportunities (SOO).

For full details of the Rule Change Proposal please refer to the Market Web Site: http://www.imowa.com.au/rc_2012_09.

2.2. The IMO's Initial Assessment of the Proposal

The IMO decided to progress the Rule Change Proposal on the basis that interested parties should be given an opportunity to provide submissions as part of the rule change process.

3. Consultation

3.1. The Market Advisory Committee

System Management presented the Pre Rule Change Proposal to the Market Advisory Committee (MAC) at its 13 June 2012 meeting. The following points were discussed.

Mr Stephen MacLean queried if the 8.2% reserve margin is needed during Trading Intervals where the demand is low. There was some discussion around whether the 8.2% margin was appropriate at all times.

MAC members agreed that there was insufficient clarity on how the Availability Curve was calculated. Mr Greg Ruthven noted that the approach presented in the Pre Rule Change Proposal was to use a capacity duration curve that allows for forecast demand plus a reserve margin. It was also noted that the current approach adopted in calculating the Availability Curve was consistent with the Market Rules. However, the proposed amendments would add clarity to the rules.

MAC members discussed whether the proposed harmonisation of demand-side and supply-side resources arising from the work of the Reserve Capacity Mechanism Working Group (RCMWG) would have any effect on the calculation of the Availability Curve.

MAC members considered that the wording of the proposed Amending Rules should be improved and that the proposal should be formally submitted into the Standard Rule Change Process.

Following the presentation at the MAC, the IMO and System Management collaborated to improve the drafting of the proposed amendments. Subsequently, the Rule Change Proposal was formally submitted on 27 July 2012.

Further details are available in the MAC meeting minutes available on the Market Web Site: <http://www.imowa.com.au/MAC>

3.2. Submissions received during the first submission period

The first submission period for this Rule Change Proposal was between 30 July 2012 and 7 September 2012. Submissions were received from Community Electricity, Perth Energy, Synergy and Verve Energy.

All submitters supported the Rule Change Proposal on the grounds that it imparted clarity to the concept of the Availability Curve and improvement to the current practice.

Specific issues raised in submissions are summarised below:

1. Perth Energy and Verve Energy raised some concerns about the interaction between clause 4.5.10(e) and clause 4.5.12, noting that it was unclear if the proposed amendments were intended to replace the information contained in the Availability Curve as defined in clause 4.5.12.
2. Synergy raised some concerns about whether using the same reserve margin component for every Trading Interval could overstate the capacity requirement for most Trading

Intervals.

3. Verve Energy noted that the proposed amendments as drafted in clause 4.5.10(e)(ii) only account for the scenario where the Reserve Capacity Requirement is determined by forecast peak demand plus reserve margin (clause 4.5.9(a)) element of the Planning Criterion. Verve Energy further noted that the Draft Report of the 5-year Review of the Planning Criterion recommended that the expected unserved energy component of the Planning Criterion be removed. However, Verve Energy considered that while the recommendations from the 5-year review process are still in draft stage, the Availability Curve calculation should still satisfy the unserved energy element of the Planning Criterion.

A copy of all submissions in full received during the first submission period is available on the Market Web Site: http://www.imowa.com.au/rc_2012_09.

3.3. The IMO's response to submissions received during the first submission period

The IMO's responses to the two key issues raised by Perth Energy and Verve Energy, during the first submission period, is summarised below:

Issue 1: Confusion regarding the interaction between clauses 4.5.10(e) and 4.5.12

In its response, the IMO noted that some inconsistency exists in the current Market Rules around the use of the term "Availability Curve". Clause 4.5.10(e) describes an Availability Curve as a "two dimensional curve" for a Capacity Year "describing the information referred to in clause 4.5.12". Clause 4.5.12 states that an Availability Curve is to contain a number of different MW quantities, including:

- a) the forecast capacity required for more than 24 hours per year, 48 hours per year and 72 hours per year;
- b) the minimum capacity required to be provided by generation capacity if Power System Security and Power System Reliability is to be maintained; and
- c) the capacity quantities to be associated with each of the four Availability Classes.

The IMO considered that if the Availability Curve is a two-dimensional duration curve of the forecast minimum capacity requirements over a Capacity Year (as suggested in the Rule Change Proposal), then the concept of quantities described in clauses 4.5.12(b) and (c) being "contained" in the Availability Curve was misleading and unlikely to provide any value to a reader of the clause.

The IMO further noted that the 2012 SOO applied the label Availability Curve to the (c) quantities but determined after further consideration that this was not the most appropriate approach, as once the (c) quantities have been calculated there was little value in associating them with a two dimensional curve. The IMO therefore proposed additional amendments to the proposed Amending Rules to clarify that:

- the Availability Curve is a duration curve of the forecast minimum capacity requirements over a Capacity Year; and
- the quantities described in clause 4.5.12 are determined for each Capacity Year, with only

the (a) quantities being determined directly from the Availability Curve.

Issue 2: Both scenarios of the Planning Criterion need to be accounted for in the Availability Curve

The IMO's 2012 SOO noted that "the Availability Curve ensures that there is sufficient capacity at all times to satisfy both elements of the Planning Criterion (10% PoE peak demand + reserve margin and 0.002% Unserved Energy), as well as ensuring that sufficient capacity is available to satisfy the criteria for evaluating Outage Plans." While the SOO states that the Availability Curve ensures that there is sufficient capacity to satisfy both elements of the Planning Criterion, Verve Energy noted that the proposed Amending Rules did not account for scenarios where the unserved energy component determined the Reserve Capacity Requirement.

The IMO agreed that the proposed amendments did not account for scenarios in which the unserved energy component of the Planning Criterion defines the Reserve Capacity Requirement. To account for both the scenarios as defined in clauses 4.5.9(a) and (b), the IMO proposed further amendments to clause 4.5.10(e).

The IMO's detailed responses to submissions received during the first submission period are available in section 4.3 of the Draft Rule Change Report, available on the Market Web Site: http://www.imowa.com.au/rc_2012_09

3.4. Submissions received during the second submission period

Following publication of the Draft Rule Change Report on the Market Web Site, the second submission period was between 9 October 2012 and 5 November 2012.

The IMO received a submission from Community Electricity supporting the matters laid out in the Draft Rule Change Report. Community Electricity noted its support for the amendments that resulted from the first submission period to properly accommodate both components of the Planning Criterion and the clarification of the Availability Curve and its application. Community Electricity raised no issues in its submission and did not provide an assessment of the proposed amendments against the Wholesale Market Objectives.

A copy of the submission in full received during the second submission period is available on the Market Web Site http://www.imowa.com.au/rc_2012_09

3.5. Public Forums and Workshops

No public forums and workshops were held with regard to this proposal.

4. The IMO's Draft Assessment

The IMO's draft assessment, against clauses 2.4.2 and 2.4.3 of the Market Rules, and analysis of the Rule Change Proposal can be viewed in section 5 the Draft Rule Change Report (available on the Market Web Site).

5. The IMO's Proposed Decision

The IMO's proposed decision was to accept the Rule Change Proposal as modified by the amendments proposed in section 5.1 of the Draft Rule Change Report.

The wording of the relevant Amending Rules was presented in section 7 of the Draft Rule Change Report.

The IMO made its proposed decision on the basis that the Amending Rules:

- are consistent with the Wholesale Market Objectives;
- improve the overall integrity of the Market Rules;
- have the general support of the MAC; and
- had the general support of submissions received during the first submission period.

6. The IMO's Final Assessment

In preparing its Final Rule Change Report, the IMO must assess the Rule Change Proposal in light of clauses 2.4.2 and 2.4.3 of the Market Rules.

Clause 2.4.2 outlines that the IMO *“must not make Amending Rules unless it is satisfied that the Market Rules, as proposed to be amended or replaced, are consistent with the Wholesale Market Objectives”*. Additionally, clause 2.4.3 states, when deciding whether to make Amending Rules, the IMO must have regard to the following:

- any applicable policy direction from the Minister regarding the development of the market;
- the practicality and cost of implementing the proposal;
- the views expressed in submissions and by the MAC; and
- any technical studies that the IMO considers necessary to assist in assessing the Rule Change Proposal.

The IMO notes that there has not been any applicable policy direction from the Minister in respect of this Rule Change nor has it commissioned a technical review in respect of this Rule Change Proposal. A summary of the views expressed in submissions and by the MAC is available in section 3 of this Final Rule Change Report.

The IMO's assessment of the Rule Change Proposal, inclusive of the further amendments made following the first submission period, is outlined in the following sub-sections.

6.1. Additional Amendments to the Amending Rules

Following the first submission period the IMO made some additional changes to the proposed Amending Rules. The changes the IMO made to the Amending Rules presented in the Rule Change Proposal are outlined in section 5.1 and Appendix 1 of the Draft Rule Change Report.

6.2. Wholesale Market Objectives

The IMO considers that the Market Rules as a whole, if amended as presented in section 8 of this Final Rule Change Report, will be consistent with the Wholesale Market Objectives.

The IMO considers that the proposed amendments will provide greater clarity around the construction of and the information to be determined from the Availability Curve. The IMO considers that this will improve the overall integrity of the Market Rules.

6.3. Practicality and Cost of Implementation

6.3.1. Cost:

No costs associated with implementing the proposed changes have been identified.

6.3.2. Practicality:

The IMO does not consider that there are any issues with the practicality of implementing the proposed changes.

7. The IMO's Decision

Based on the matters set out in this report, the IMO's decision is to accept the Rule Change Proposal as modified in the Draft Rule Change Report.

7.1. Reasons for the decision

The IMO has made its decision on the basis that

- are consistent with the Wholesale Market Objectives;
- improve the overall integrity of the Market Rules;
- have the general support of the MAC; and
- have the general support of submissions received during the first and second submission periods.

8. Amending Rules

8.1. Commencement

The amendments to the Market Rules resulting from this Rule Change Proposal will provisionally commence at **8.00 AM** on **1 January 2013**.

8.2. Amending Rules

The IMO has decided to implement the following Amending Rules (~~deleted text~~, added text):

4.5.10. The IMO must use the information assembled to:

...

- (e) develop a two dimensional duration curve of the forecast minimum capacity requirements over the Capacity Year ("Availability Curve") for each of the second

~~2nd and third~~ 3rd Capacity Years of the Long Term PASA Study Horizon ~~describing the information referred to in clause 4.5.12 (“Availability Curve”).~~ The forecast minimum capacity requirement for each Trading Interval in the Capacity Year must be determined as the sum of:

- i. the forecast demand (including transmission losses and allowing for Intermittent Loads) for that Trading Interval under the scenario described in clause 4.5.10(a)(iv); and
- ii. the difference between the Reserve Capacity Target for the Capacity Year and the maximum of the quantities determined under clause 4.5.10(e)(i) for the Trading Intervals in the Capacity Year.

4.5.12. For the second and third Capacity Years of the Long Term PASA Study Horizon, the IMO must determine the following information ~~An Availability Curve for a Capacity Year is to contain the following information:~~

- (a) the forecast capacity, in MW, required for more than 24 hours per year, 48 hours per year and 72 hours per year, determined from the Availability Curve for the Capacity Year developed under clause 4.5.10(e);

...

- (c) the capacity associated with each Availability Class where:

...

- iv. the capacity quantity associated with Availability Class 1 is:
 1. the Reserve Capacity Target for the Capacity Year; less
 2. the sum of the capacity quantities associated with each of Availability Class 2, Availability Class 3 and Availability Class 4;

4.5.13. The Statement of Opportunities Report must include:

...

- (e) a statement of potential generation, demand side and transmission options that would alleviate capacity shortfalls relative to the Reserve Capacity Target and to capacity requirements in sub-regions of the SWIS; and
- (f) the Availability Curve for the ~~second-2nd and third-3rd~~ Capacity Years of the Long Term PASA Study Horizon; and
- (g) the quantities determined under clause 4.5.12 for the second and third Capacity Years of the Long Term PASA Study Horizon.