



INDEPENDENT
MARKET
OPERATOR

Draft Rule Change Report

Changes to the Reserve Capacity Price and the Dynamic Reserve Capacity Refunds Regime

RC_2013_20

Standard Rule Change Process

Date: 31 March 2014

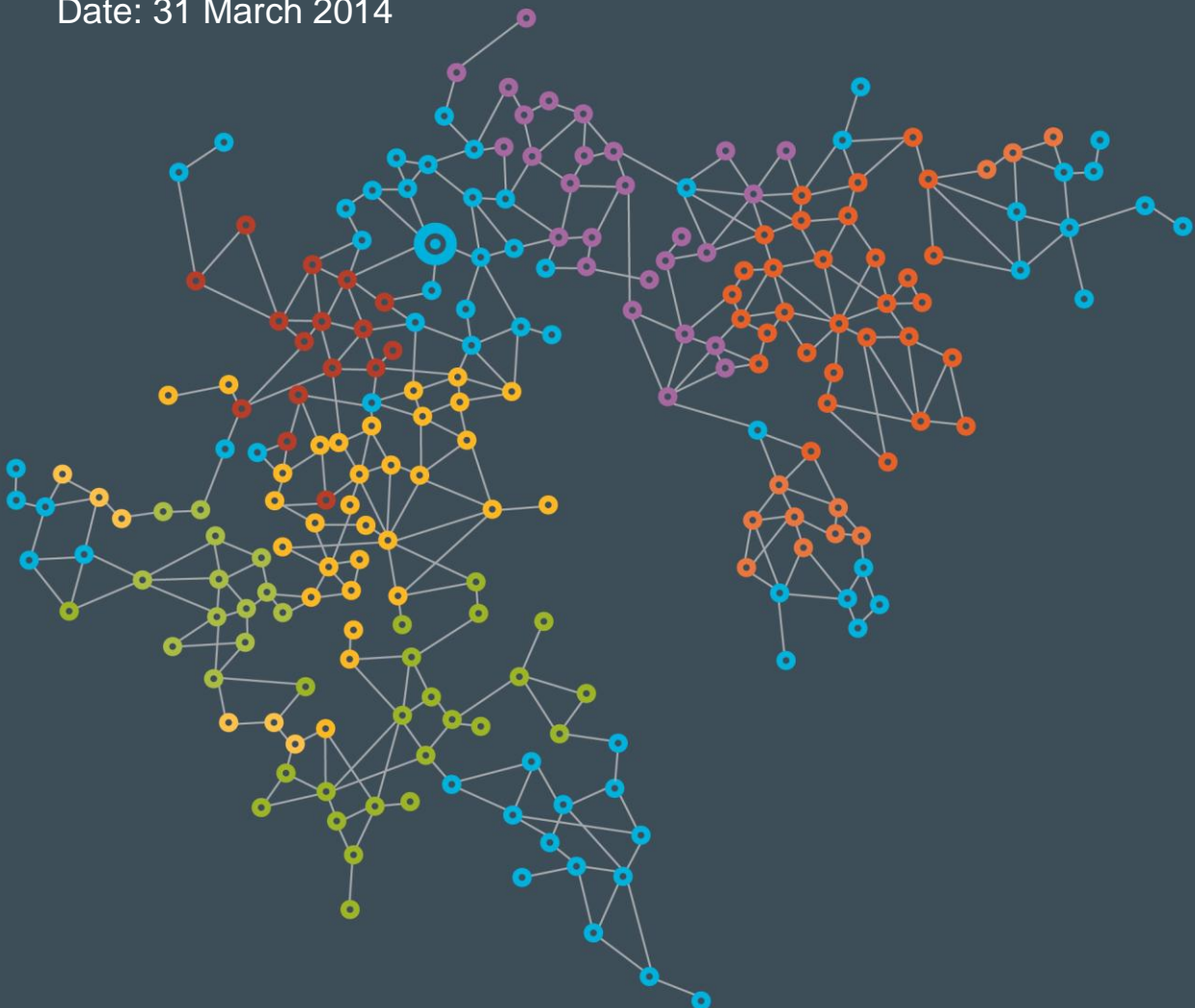


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Executive Summary

Proposed Amendments

The Reserve Capacity Mechanism (RCM) Working Group (RCMWG) was established in February 2012 to assess the issues highlighted by The Lantau Group in its report 'Review of RCM: Issues and Recommendations'¹. This report was commissioned by the IMO Board to analyse the effectiveness and efficiency of the RCM.

The RCMWG considered a number of work-streams including issues in relation to the:

1. poor responsiveness of the administered Reserve Capacity Price (RCP) formula to changing market conditions which results in inefficient signals for investment in or deferment of new capacity;
2. weak alignment of the refund factors to prevailing power system conditions which results in inefficient valuing of capacity available to the market when system reserve is low; and
3. current distribution of Capacity Cost Refund revenue to Market Customers which results in an inefficient value transfer from Market Generators to Market Customers. The current mechanism fails to account for the fact that an 'expected refund cost' is not currently included in the Maximum RCP and RCP (which determine the price of Capacity Credits). Therefore, if the quality of service remains unaffected for Market Customers implying that they receive the full benefit of the capacity product they paid for, distributing the refund revenue to Market Customers represents an inefficient value transfer that does not lead to any economic benefit in the overall market.

The IMO developed this Rule Change Proposal to progress the proposed amendments discussed at the RCMWG, which seek to:

- (a) change the administered RCP formula such that the downward adjustment to the RCP is accelerated with increasing levels of excess capacity thereby sending stronger signals for the need for capacity;
- (b) align the determination of refund factors to the prevailing spare capacity in any given Trading Interval while retaining the maximum and minimum refund factor values thereby improving the value placed on capacity available to the market when system reserve is low; and
- (c) recycle the Capacity Cost Refund revenue to capacity providers instead of capacity users in the form of rebates based on a combination of availability and dispatch in the previous 30-day period thereby minimising the inefficient value transfer in the market.

Although not unanimously agreed, the RCMWG members generally supported the amendments proposed in this Rule Change Proposal.

¹ Available on the Market Web Site: [http://www.imowa.com.au/governance/market-advisory-committee-\(mac\)/mac-working-groups/inactive---reserve-capacity-mechanism-working-group](http://www.imowa.com.au/governance/market-advisory-committee-(mac)/mac-working-groups/inactive---reserve-capacity-mechanism-working-group)

Consultation

A concept paper exploring the proposed changes to the RCP formula and the introduction of a dynamic Reserve Capacity refund regime was presented at the Market Advisory Committee (MAC) meeting held on 9 October 2013. The concept paper elaborated on the proposed amendments arising from the RCMWG recommendations and provided further information on the proposed recycling of Capacity Cost Refund revenue based on a combination of availability and dispatch based rebates. At this meeting, some MAC members requested for further information on the economic justifications underpinning the proposed recycling regime for Capacity Cost Refund revenue. Incorporating the suggestions received at the 9 October 2013 MAC meeting, the IMO presented a pre Rule Change Proposal at the 11 December 2013 MAC meeting. At this meeting, the MAC agreed to submit the proposal into the Standard Rule Change Process.

The first submission period was held between 13 January and 24 February 2014. Submissions were received from Alinta Energy, Bluewaters Power, Community Electricity, EnerNOC, ERM Power, Perth Energy and Synergy.

Bluewaters Power, Community Electricity, EnerNOC and ERM Power supported the Rule Change Proposal in its entirety. Alinta Energy, Perth Energy and Synergy requested deferral of the Rule Change Proposal in light of the impending outcomes from the State Government's Electricity Market Review.

Synergy supported the principles underlying the proposed amendments to the RCP formula. Alinta Energy and Perth Energy did not support these proposed amendments.

Perth Energy and Synergy supported the principles underlying the dynamic determination of refund factors. Alinta Energy did not support this proposal.

Alinta Energy supported the recycling of Capacity Cost Refund revenue to capacity providers. However, Perth Energy and Synergy did not support these proposed amendments.

Assessment Against Wholesale Market Objectives

The IMO considers that the proposed amendments better achieve Wholesale Market Objectives (a), (b), (c) and (d) and are consistent with the Wholesale Market Objective (e).

Practicality and Cost of Implementation

The IMO is expected to incur a material cost, with a preliminary estimate in the range \$285,000-\$440,000 in developing and testing the modifications to its IT and settlement systems to implement the proposed amendments. The majority of these costs is expected to be incurred in 2015/16 Financial Year and can be accommodated within the IMO's existing operating budget. The remaining costs to be incurred in 2016/17 Financial Year will need to be included in the IMO's fourth Allowable Revenue submission.

Some Market Participants noted in their submissions that modifications will be required to their business systems but the costs were not expected to be material.

The proposed Amending Rules affecting the name change from Maximum Reserve Capacity Price to Benchmark Reserve Capacity Price and the new RCP adjustment formula (which applies in Year 3 of the Reserve Capacity Cycle) are proposed to commence on 1 July 2014 to become

applicable from 2014 Reserve Capacity Cycle onwards. The proposed Amending Rules affecting the dynamic Reserve Capacity refund factors and recycling of Capacity Cost Refund revenue are proposed to commence on 1 October 2016 to become applicable to the operation of Facilities that received Capacity Credits in the 2014 Reserve Capacity Cycle and onwards.

The IMO notes that the proposed commencement date allows for sufficient time to test the implementation of the proposed amendments. Additionally, no Market Participant has identified any issues with the practicality of implementing the proposed amendments.

The IMO's Proposed Decision

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

Next Steps

The IMO invites interested stakeholders to make submissions on this Draft Rule Change Report by **5:00 PM, Thursday 1 May 2014**.

1. Rule Change Process and Timetable

On 10 January 2014, the IMO submitted a Rule Change Proposal regarding:

- proposed amendments to clauses 1.4.1, 2.26.1, 2.26.2, 2.26.3, 4.1.19, 4.3.1, 4.13.2, 4.16.1, 4.16.2, 4.16.3, 4.16.5, 4.16.6, 4.16.7, 4.16.8, 4.18.2, 4.22.2, 4.26.1, 4.26.1A, 4.26.3, 4.26.3A, 4.26.4, 4.28.4, 4.28A.1, 4.28C.9, 4.29.1, 4.29.3, 9.7.1, 10.5.1 and the Glossary of the Wholesale Electricity Market (WEM) Rules (Market Rules);and
- proposed new clauses 4.26.6 and 4.26.7 of the Market Rules.

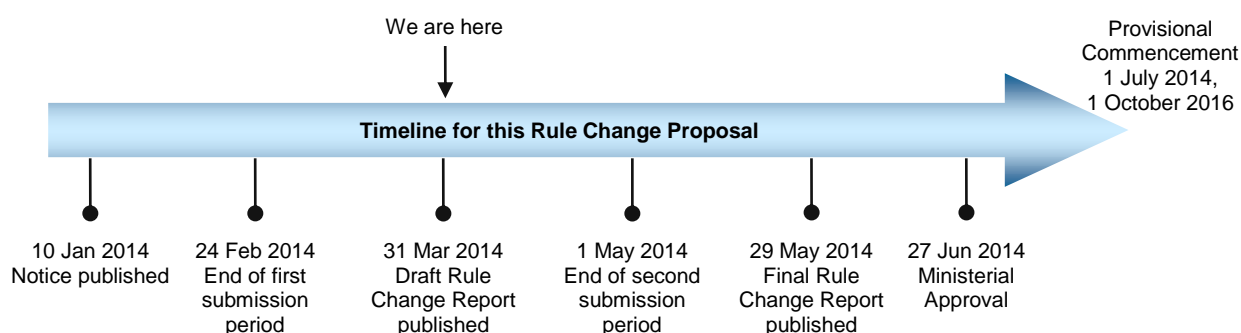
In this Draft Rule Change Report, the IMO proposes:

- further amendments to clauses 4.26.1, 4.26.3A, 4.26.6, 4.29.1 and the Glossary of the Market Rules to improve the clarity of the Amending Rules;
- a change in the timing of provision of Demand Side Programme (DSP) consumption data from System Management to the IMO to enable its inclusion in the calculation of forecast spare capacity; and
- the inclusion of forecast spare capacity in the definition of Balancing Forecast in the Glossary of the Market Rules to allow for its publication.

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

In accordance with clause 2.5.10 of the Market Rules, the IMO extended the publication of this Draft Rule Change Report by four Business Days to allow sufficient time for the IMO to consider the submissions received during the first submission period in detail. The notice of extension was published on the Market Web Site on 25 March 2014.

The key dates in processing this Rule Change Proposal are:



2. Call for Second Round Submissions

The IMO invites interested stakeholders to make submissions on this Draft Rule Change Report. The second submission period is 20 Business Days from the publication date of this report. Submissions must be delivered to the IMO by **5.00 PM, Thursday 1 May 2014**.

The IMO prefers to receive submissions by email (using the submission form available on the Market Web Site: <http://www.imowa.com.au/rule-changes>) to: market.development@imowa.com.au.

Submissions may also be sent to the IMO by fax or post, addressed to:

Independent Market Operator

Attn: Group Manager, Development and Capacity
PO Box 7096
Cloisters Square, PERTH, WA 6850
Fax: (08) 9254 4399

3. Proposed Amendments

3.1. The Rule Change Proposal

In February 2012, the Reserve Capacity Mechanism (RCM) Working Group (RCMWG) was formed to explore issues and propose improvements to the design and performance of the RCM. The RCMWG considered a number of work-streams including issues in relation to the:

1. poor responsiveness of the administered Reserve Capacity Price (RCP) formula to changing market conditions which results in inefficient signals for investment in or deferment of new capacity;
2. weak alignment of the refund factors to prevailing power system conditions which results in inefficient valuing of capacity available to the market when system reserve is low; and
3. current distribution of Capacity Cost Refund revenue to Market Customers which results in an inefficient value transfer from Market Generators to Market Customers. The current mechanism fails to account for the fact that an 'expected refund cost' is not currently included in the Maximum RCP and RCP (which determine the price of Capacity Credits). Therefore, if the quality of service remains unaffected for Market Customers implying that they receive the full benefit of the capacity product they paid for, distributing the refund revenue to Market Customers represents an inefficient value transfer that does not lead to any economic benefit in the overall market.

Based on the considerations in the RCMWG, the IMO developed this Rule Change Proposal to progress the following amendments to the Market Rules.

1. Changes to the Reserve Capacity Price formula

To address the issue of the current persistent excess capacity in the market, the IMO proposed to improve the responsiveness of the RCP to changing market conditions such that stronger price signals could be delivered for investment in or deferral of new capacity. Specifically, the IMO proposed to implement the following amendments to the RCP formula (applicable if no Reserve Capacity Auction was run for the Reserve Capacity Cycle) outlined in clause 4.29.1 of the Market Rules:

- (a) the ability for the RCP to rise above the Maximum Reserve Capacity Price (MRCP) such that the RCP is 110 percent of the MRCP when 97 percent of the Reserve Capacity

Requirement (RCR) has been fulfilled; and

- (b) a steeper slope function of -3.75 replacing the current -1 slope embedded into the 'excess capacity adjustment' component of the RCP formula such that the rate of downward adjustment is accelerated as excess capacity increases.

The IMO considered that the proposed amendments to the RCP formula would achieve a more balanced RCM where the RCP would be lower than under the current formula for levels of excess capacity above approximately seven percent, while enhancing the investment incentives necessary to assure capacity adequacy as excess capacity declines. The increased responsiveness of the RCP formula resulting from the steeper slope and the ability to exceed the MRCP would create stronger commercial and behavioural incentives for investors in capacity.

2. The applicable ceiling price in a Reserve Capacity Auction

The IMO considered that to maintain consistency with the maximum price applicable when no Reserve Capacity Auction is held, the proposed uplift of the RCP to 110 percent of the MRCP (as outlined under Issue 1) should also be reflected in the maximum price that will apply if a Reserve Capacity Auction is held for the Reserve Capacity Cycle.

Accordingly, the IMO proposed to amend clauses 2.26.3, 4.18.2 and the definition of Reserve Capacity Price in the Glossary of the Market Rules.

3. Renaming the Maximum RCP to the Benchmark RCP

Following the five-yearly MRCP review completed in 2011, the RCMWG members agreed that the MRCP has become more representative of a benchmark price that signals the expected rather than the maximum price for providing Reserve Capacity. For this reason, the IMO proposed to replace all references to the 'Maximum' RCP with the 'Benchmark' RCP in the Market Rules. This proposed amendment affects clauses 2.26.1, 2.26.2, 2.26.3, 4.1.19, 4.3.1, 4.13.2, 4.16.1, 4.16.2, 4.16.3, 4.16.5, 4.16.6, 4.16.7, 4.16.8, 4.18.2, 4.22.2, 4.28C.9, 4.29.1, 10.5.1, the definition of Maximum Reserve Capacity Price (proposed to be replaced by Benchmark Reserve Capacity Price) and the definition of Reserve Capacity Price in the Glossary of the Market Rules.

4. Dynamic Reserve Capacity refund factors

To address the issue of the weak alignment between the value of capacity available to the market and the prevalent power system conditions, the IMO proposed to implement a dynamic refund mechanism whereby refund factors are determined on the basis of available spare capacity in any Trading Interval. The IMO noted that a dynamic refund mechanism would improve the valuing of capacity available to the market when spare capacity in the system is running low. However, in adopting dynamic refund factors, RCMWG members emphasised the need to retain a maximum and minimum refund factor to provide certainty of the potential financial exposure to Market Participants.

Based on the considerations of the RCMWG, the IMO proposed to replace the Refund Table in clause 4.26.1 of the Market Rules by a formula for determining the applicable refund factor. It was proposed that the refund factor be determined as a function of the spare capacity in a given Trading Interval where spare capacity is calculated as the sum of the capacity available from different types of Facilities taking into account Outages and demand in that interval.

The formula is proposed to work such that:

- (a) a maximum refund factor of six applies when the spare capacity in a Trading Interval is 750 MW or below;
- (b) a minimum refund factor of 0.25 applies when the spare capacity in a Trading Interval exceeds 1500 MW; and
- (c) the minimum refund factor scales up from 0.25 towards one depending on the level of availability of a Facility over the previous 90-day period up to and including that Trading Interval.

These proposed amendments affect clauses 1.4.1, 4.26.1, 4.28A.1, the definition of Refund Table (proposed to be removed) and the definition of Maximum Participant Generation Refund in the Glossary of the Market Rules.

5. The applicable refund rate for DSPs

In the Final Rule Change Report: Harmonisation of Supply-Side and Demand-Side Capacity Resources (RC_2013_10)², the IMO proposed amendments to clause 4.26.3A of the Market Rules which outlines the calculation of the Demand Side Programme Capacity Cost Refund. To maintain consistency with supply-side capacity resources, the IMO considered that the magnitude of refunds for DSPs should be reflective of that faced by generators. As such, the IMO proposed to link the proposed Demand Side Programme Capacity Cost Refund formula in clause 4.26.3A to the Refund Table in clause 4.26.1 of the Market Rules.

The proposed amendments to the Refund Table in clause 4.26.1 of the Market Rules as discussed under Issue 4 of this Rule Change Proposal affects the calculation of the Demand Side Programme Capacity Cost Refund in clause 4.26.3A of the Market Rules as proposed to be amended in RC_2013_10. As a consequence, the definitions of Off-Peak Trading Interval Rate and Peak Trading Interval Rate need to be replaced by the new proposed definition of Trading Interval Refund Rate in the Glossary of the Market Rules. This proposed amendment also affects clauses 4.26.1A, 4.26.3 and, 4.26.3A in the Market Rules.

6. Recycling of Capacity Cost Refund revenue

The RCMWG members considered the issues presented by The Lantau Group in relation to the inefficient value transfers created under the current mechanism where Capacity Cost Refund revenue is distributed to Market Customers in proportion to their Individual Reserve Capacity Requirement. The Lantau Group highlighted that the distribution of refund revenue to Market Customers constitutes a value loss from Market Generators because under the current mechanism, the price of a Capacity Credit that Market Customers pay (as determined by the MRCP and RCP) does not account for an 'expected refund cost' to protect against the risk of unplanned supply interruptions. As a result, if the quality of service to end-users remains unaffected, the refund revenue to Market Customers amounts to an uncertain revenue stream with no long-term benefits. Ultimately, the inefficient value transfer from Market Generators to Market

² More details are available on the Market Web Site: http://www.imowa.com.au/rules/rule-changes/wem-rule-changes/under-development/rule-change-rc_2013_10.

Customers would need to be offset by higher energy costs or higher capacity prices.

Although not unanimously accepted, the RCMWG agreed to propose a recycling regime such that the collected Capacity Cost Refund revenue is re-distributed to capacity providers rather than Market Customers in the form of 'participant capacity rebates'. Eligibility for rebates is proposed to be based on an assessment of actual dispatch of a Facility in the previous 30-day (1,440 Trading Intervals) rolling period. Rebates for a Trading Interval are proposed to be allocated to Facilities based on their share of available Capacity Credits in that Trading Interval.

The IMO proposed amendments to clauses 4.26.4, 4.28.4, 4.29.3, 9.7.1 and introduced new clauses 4.26.6 and 4.26.7 and the definitions of Facility Capacity Rebate and Participant Capacity Rebate in the Glossary of the Market Rules to give effect to the recycling regime.

For full details of the Rule Change Proposal please refer to the Market Web Site: http://www.imowa.com.au/RC_2013_20.

3.2. The IMO's Initial Assessment of the Rule Change Proposal

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

3.3. Protected Provisions, Reviewable Decisions and Civil Penalties

The IMO notes that clause 4.1.19 and section 4.16 of the Market Rules are Protected Provisions under clause 2.8.13 of the Market Rules. Under clause 2.8.3 of the Market Rules, amendments to a Protected Provision require the Amending Rules in this Rule Change Proposal to be approved by the Minister.

The IMO has engaged with the Public Utilities Office to progress these amendments.

The IMO also notes that this Rule Change Proposal does not include any proposed changes to clauses of the Market Rules that are Reviewable Decisions or civil penalty provisions.

4. Consultation

4.1. The Market Advisory Committee

A concept paper exploring the proposed changes to the RCP and the introduction of a dynamic Reserve Capacity refund regime was presented at the Market Advisory Committee (MAC) meeting held on 9 October 2013³. The concept paper elaborated on the recommendations for the minimum refund factor (between 0.25 and one) to apply to a Facility depending on the level of its availability over the previous 90-day period. Further recommendations were also presented on the recycling of Capacity Cost Refund revenue to capacity providers that have met the eligibility criterion of generating (or reducing consumption in response to a Dispatch Instruction in the case of DSPs) a non-zero MW quantity in any one Trading Interval in the previous 30-day period.

³ CP_2013_06 is available on page 66 of the meeting papers of the MAC meeting no.65: [http://www.imowa.com.au/governance/market-advisory-committee-\(mac\)/2013/mac-65](http://www.imowa.com.au/governance/market-advisory-committee-(mac)/2013/mac-65)

The IMO presented a pre Rule Change Proposal which incorporated the feedback previously received from MAC members at the 11 December 2013 MAC meeting. At this meeting, MAC members agreed to submit the proposal into the Standard Rule Change Process. Some members sought clarifications on the definition of 'spare capacity' in a Trading Interval which was provided in detail at the meeting. Members also queried whether the IMO could publish the forecast of spare capacity by Trading Interval to facilitate commercial decision-making. The IMO committed to explore the possibility of publication of spare capacity information by Trading Interval.

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

4.2. Submissions Received During the First Submission Period

The first submission period for this Rule Change Proposal was held between 13 January and 24 February 2014. Submissions were received from Alinta Energy, Bluewaters Power, Community Electricity, EnerNOC, ERM Power, Perth Energy and Synergy.

Bluewaters Power, Community Electricity, EnerNOC and ERM Power supported the Rule Change Proposal in its entirety. Alinta Energy, Perth Energy and Synergy requested deferral of the Rule Change Proposal in light of the impending outcomes from the State Government's Electricity Market Review.

Synergy supported the principles underlying the proposed amendments to the RCP formula. Alinta Energy and Perth Energy did not support these proposed amendments.

Perth Energy and Synergy supported the principles underlying the dynamic determination of refund factors. Alinta Energy did not support this proposal.

Alinta Energy supported the recycling of Capacity Cost Refund revenue to capacity providers. However, Perth Energy and Synergy did not support these proposed amendments.

Alinta Energy also supported the harmonisation of refunds between demand-side and supply-side capacity sources.

The submitters' assessment against Wholesale Market Objectives is provided in the table below:

Submitter	Wholesale Market Objective assessment
Alinta	Not provided.
Bluewaters Power	Better achieves Wholesale Market Objectives (a) and (d).
Community Electricity	Better achieves Wholesale Market Objectives (a) and (d) and consistent with the remaining Wholesale Market Objectives.
EnerNOC	Better achieves Wholesale Market Objectives (a), (b), (c) and (d) and will assist with Wholesale Market Objective (e).
ERM Power	Better achieves Wholesale Market Objectives (a), (b) and (d).
Perth Energy	Dynamic refund factors will better achieve Wholesale Market Objectives (a), (b) and (d). Changes to RCP formula and recycling of Capacity Cost Refund revenue is detrimental to

Submitter	Wholesale Market Objective assessment
	Wholesale Market Objectives (b) and (d).
Synergy	Not provided.

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_2013_20.

4.3. The IMO's Response to Submissions Received During the First Submission Period

The IMO's response to each of the issues identified during the first submission period is presented in Appendix 1 of this report.

4.4. Public Forums and Workshops

No public forums or workshops were held specifically with regard to this Rule Change Proposal.

5. The IMO's Draft Assessment

In preparing its Draft 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 of the Market Rules 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 of the Market Rules 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 or any technical studies commissioned in respect of this Rule Change Proposal. A summary of the views expressed in submissions and by the MAC is available in section 4 of this report.

The IMO's assessment is outlined in the following sub-sections.

5.1. Additional Issues to be Addressed in the Market Rules

Following the first submission period, the IMO considers that the following issues should also be addressed as a part of this Rule Change Proposal.

5.1.1. Publication of Spare Capacity

At the 11 December 2013 MAC meeting, in response to a request by MAC members, the IMO committed to explore the possibility of publishing a forecast of spare capacity based on the information currently publically available under the Market Rules.

The IMO considers that the following information currently available under the Market Rules or expected to become available under proposed Amending Rules in other Rule Change Proposals should be used for forecasting spare capacity in any given Trading Interval:

- (a) the Load Forecast for a Trading Day provided by System Management, as defined in the Glossary of the Market Rules;
- (b) for each Scheduled and Non-Scheduled Generator, the Available Capacity as provided and updated in the Balancing Submissions for the Trading Intervals in the Balancing Horizon⁴.
- (c) for each DSP, the aggregate expected minimum consumption of its Associated Loads as provided under clause 2.29.5B(c) of the Market Rules;
- (d) For each DSP, the aggregate consumption data provided under the proposed Amending Rule 7.6.10 in the Final Rule Change Report for RC_2013_10. It should be noted that Amending Rule 7.13.1(eH) in the Final Rule Change Report for RC_2013_10 requires System Management to provide that data to the IMO by noon on the first Business Day following the Trading Day to which the data pertains. However, the IMO proposes to amend the Amending Rule 7.13.1(eH) and replace it with new clause 7.6.10A⁵ to require System Management to provide the data received under clause 7.6.10 to the IMO as soon as reasonably possible after receipt from the Market Participant. This would then enable the IMO to publish the forecast spare capacity from DSPs as soon as practicable before the start of the Trading Interval. The IMO notes that amendments to the Market Procedure: IMS Interface will be required to enable this transfer of information between System Management and the IMO.

Finally, the IMO considers that forecast spare capacity for a Trading Interval should be published together with the Balancing Forecast information. The IMO therefore proposes to amend the definition of Balancing Forecast in the Glossary of the Market Rules to include a forecast of the spare capacity for a Trading Interval. Appendix 2 of this report contains details of these proposed amendments.

The IMO notes that amendments to the Market Procedure: Balancing Market Forecasts will be required to include further details on the calculation and publication of this information.

⁴ The IMO notes that the current Market Rules related to Balancing Submissions and Outages are proposed to be amended in the Rule Change Proposal: Outage Planning Phase 2 – Outage Process Refinements (RC_2013_15) and the proposed Rule Change Proposal: Outages and the Application of Availability and Constraint Payments to Non-Scheduled Generators (PRC_2013_16).

⁵ Refer to Appendix 2 of this report for the proposed Amending Rule.

5.1.2. Accounting for Capacity Credits covered by a Special Price Arrangement in Demand Side Programme Capacity Cost Refunds

Clause 4.26.3(a) of the Market Rules currently limits the Generation Capacity Cost Refund for a Market Participant in a Trading Month such that the total Generation Capacity Cost Refund for the Market Participant over the relevant Capacity Year cannot exceed the Maximum Participant Generation Refund defined in the Refund Table in clause 4.26.1⁶ of the Market Rules. The Maximum Participant Generation Refund is calculated as the total Capacity Credit payment to the Market Participant in the relevant Capacity Year (excluding payments in relation to DSPs), assuming the IMO acquires all of the relevant Capacity Credits and the cost of each Capacity Credit so acquired is determined in accordance with clauses 4.28.2(b), (c) and (d) of the Market Rules (as applicable). This implies that any Capacity Credits covered by a Special Price Arrangement are accounted for appropriately.

For DSPs, a corresponding limit on the Demand Side Programme Capacity Cost Refund is prescribed in clause 4.26.3A(a) of the Market Rules. However, this calculation assumes that all of the relevant Capacity Credits are acquired by the IMO at the Monthly RCP and fails to account for Capacity Credits covered by a Special Price Arrangement.

The IMO therefore proposes the new definition of Maximum Participant Demand Side Programme Refund to maintain consistency with the existing definition of Maximum Participant Generation Refund in the Glossary of the Market Rules and to appropriately account for Capacity Credits covered by a Special Price Arrangement. Additionally, the IMO proposes to amend clause 4.26.3A(a) of the Market Rules⁷ to include the new definition of Maximum Participant Demand Side Programme Refund. The IMO has also proposed further minor amendments to the definition of Maximum Participant Generation Refund as proposed to be amended in the Rule Change Proposal.

5.1.3. Eligibility for Capacity Cost Refund Revenue

In the proposed new clause 4.26.6 of the Market Rules, the IMO outlined that the eligibility criterion would operate such that a Facility that has generated a non-zero MW quantity in any one Trading Interval of the previous 1,440 Trading Intervals would become eligible for earning their share of Capacity Cost Refund revenue. The IMO notes that the drafting of sub-clause 4.26.6(b)(i) as proposed in the Rule Change Proposal did not explicitly account for a reduction of consumption by a DSP in response to a Dispatch Instruction. The IMO has therefore proposed further amendments to this sub-clause to correct this oversight.

5.2. Additional Amendments to the Proposed Amending Rules

Following the consideration of submissions and the additional issues as described in section 5.1 of this Draft Rule Change Report, the IMO has made the following additional amendments to the proposed Amending Rules:

- changed the timing of provision of DSP consumption data by System Management to the

⁶ Note that the proposed amendments to clause 4.26.1 of the Market Rules as outlined in section 7 of this report include placing the definition of Maximum Participant Generation Refund in the Glossary of the Market Rules.

⁷ It should be noted that clause 4.26.3A of the Market Rules is proposed to be amended in the Amending Rules presented in the Final Rule Change Report for RC_2013_10.

IMO in proposed new clause 7.6.10A and removal of clause 7.13.1(eH)⁸ of the Market Rules;

- included a forecast of the spare capacity for a Trading Interval in the definition of Balancing Forecast in the Glossary of the Market Rules;
- accounted for Capacity Credits covered by a Special Price Arrangement in the new definition of Maximum Participant Demand Side Programme Refund in the Glossary and amendments to clause 4.26.3A(a) of the Market Rules;
- further amended proposed new sub-clause 4.26.6(b)(i) to account for a DSP's reduction in consumption in response to a Dispatch Instruction; and
- made other minor changes to the proposed Amending Rules to improve the overall integrity of the Market Rules.

5.3. Wholesale Market Objectives

The IMO considers that the Market Rules as a whole, if amended as presented in section 7 of this report, will not only be consistent with the Wholesale Market Objectives but also allow the Market Rules to better achieve Wholesale Market Objectives (a), (b), (c) and (d). The Wholesale Market Objectives are:

- (a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;
- (b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;
- (c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;
- (d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system; and
- (e) to encourage the taking of measures to manage the amount of electricity used and when it is used.

A detailed assessment against the Wholesale Market Objectives is outlined in the table over the page.

⁸ As contained in the proposed Amending Rules in the Final Rule Change Report for RC_2013_10.

Proposed Amendments	Benefits	Wholesale Market Objective Assessment
MRCP name change	The proposed amendments will encourage competition in the market by improving the clarity of the Market Rules and helping to eliminate any misconceptions about the operation of the RCM and the opportunity it offers to new entrants.	Better achieves Wholesale Market Objective (b).
Proposed RCP formula	The proposed amendments will: <ul style="list-style-type: none"> • improve the responsiveness of the RCP to changing market conditions thereby promoting economic efficiency; • facilitate efficient entry of new competitors by supporting an appropriate level of new investment in capacity; and • minimise the long-term cost of electricity supply by reducing the cost of excess capacity borne by Market Participants. 	Better achieves Wholesale Market Objectives (a), (b) and (d).
Applicable maximum price in the Reserve Capacity Auction	The proposed amendments will ensure that capacity submitted into the Reserve Capacity Auction is valued at the same maximum price that applies to capacity not subject to the auction, thereby avoiding discrimination between capacity procured from different sources.	Better achieves Wholesale Market Objective (c).
Dynamic Reserve Capacity refund factors	The proposed amendments will: <ul style="list-style-type: none"> • improve incentives for efficient scheduling of plant maintenance thereby promoting economically efficient and reliable supply of electricity; • avoid discrimination against Facilities with high utilisation factors by aligning refund factors with prevalent system conditions; and • ensure consistent application of refund rates for both demand-side and supply-side capacity sources thereby avoiding discrimination between different capacity sources⁹. 	Better achieves Wholesale Market Objectives (a) and (c).
Accounting for DSP Capacity Credits covered by Special Price Arrangements	The proposed amendments will ensure consistent application of the limit on refunds between generators and DSPs thereby avoiding discrimination between generators and DSPs.	Better achieves Wholesale Market Objective (c).
Recycling of Capacity Cost Refund revenue	The proposed amendments will: <ul style="list-style-type: none"> • improve incentives for Market Generators to provide capacity at times of greatest system need thereby promoting efficient and reliable supply of electricity in peak 	Better achieves Wholesale Market Objectives (a), (b), (c) and (d).

⁹ It should be noted that the Wholesale Market Objective assessment of the proposed amendments to the calculation of Demand Side Programme Capacity Cost Refund is provided in more detail in RC_2013_10. The proposed amendments to clause 4.26.3A in this Rule Change Proposal ensure that the correct refund rate will apply to DSPs.

Proposed Amendments	Benefits	Wholesale Market Objective Assessment
	<p>periods;</p> <ul style="list-style-type: none"> • reduce value loss in the RCM by redistributing the Capacity Cost Refund revenue to Market Generators instead of Market Customers thereby promoting economic efficiency; • encourage competition between Market Generators by rewarding better availability performance; • avoid discrimination against Facilities with different utilisation factors by recycling refund revenue based on a combination of availability and dispatch in the previous 30-day period; • minimise the long-term cost of electricity by reducing the risk of price spikes (through incentives to increase availability) in the event of unforeseen supply interruptions; and • minimise the long-term cost of electricity by reducing the administrative costs of the IMO and System Management incurred with respect to Reserve Capacity Testing. 	

5.4. Practicality and Cost of Implementation

5.4.1. Cost

The IMO is expected to incur a material cost estimated to lie in the range \$285,000 - \$440,000 in developing and testing the modifications to its IT and settlement systems to implement the proposed amendments. The majority of these costs is expected to be incurred in 2015/16 Financial Year and can be accommodated within the IMO's existing operating budget. The remaining costs to be incurred in 2016/17 Financial Year will need to be included in the IMO's fourth Allowable Revenue submission.

Some Market Participants anticipated in their submissions that changes will be required to their business systems. ERM Power and Bluewaters Power expect some trading and settlement changes but did not consider them to be onerous or costly. Perth Energy anticipates some IT system updates may be required but did not quantify the associated costs. EnerNOC did not anticipate any material implementation costs.

5.4.2. Practicality

The IMO proposes to commence the proposed Amending Rules in order for them to apply for the 2014 Reserve Capacity Cycle. Market Participants should note that:

- the name change from MRCP to BRCP and the proposed RCP formula in clause 4.29.1 of the Market Rules are proposed to commence on 1 July 2014 to become applicable in the 2014 Reserve Capacity Cycle and onwards; and
- the dynamic Reserve Capacity refund factor determination and application of the recycling

of Capacity Cost Refund revenue are proposed to commence on 1 October 2016.

The IMO notes that two Market Participants, ERM Power and Bluewaters Power noted in their submissions that the proposed amendments will take between one and three months to implement. Bluewaters Power and EnerNOC also noted that the proposed changes will have some effect on operational and investment decisions.

No other issues were identified with the practicality of implementation of the proposed changes through the consultation process in the first submission period.

The IMO considers that the proposed commencement date of 1 July 2014 for the proposed amendments to the RCP formula will provide Market Participants adequate time to review their decision to apply for certification of Reserve Capacity in the 2014 Reserve Capacity Cycle¹⁰. Further, the proposed commencement date of 1 October 2016 for all other changes will allow the IMO and Market Participants adequate time to assess, test and implement the necessary changes to operational systems and processes.

As this Rule Change Proposal includes amendments to clause 4.1.19 and section 4.16 of the Market Rules, which are Protected Provisions, the proposed Amending Rules therefore require approval by the Minister under clause 2.8.3 of the Market Rules. The IMO notes that the proposed commencement of the Amending Rules allows the Minister the required 20 Business Days. However, if the Minister requests an extension to the time needed to make a decision, the proposed commencement of the Amending Rules will need to be deferred to become applicable in the 2015 Reserve Capacity Cycle.

5.4.3. Amendments to Associated Market Procedures

The IMO notes that amendments will be required to the following associated Market Procedures if Amending Rules in this Rule Change Proposal are made:

- (a) Market Procedures: Maximum Reserve Capacity Price and Reserve Capacity Security to reflect the name change of the defined term Maximum Reserve Capacity Price to Benchmark Reserve Capacity Price;
- (b) Market Procedure: Balancing Market Forecasts to include the process for publication of forecast spare capacity by Trading Interval; and
- (c) Market Procedure: IMS Interface to ensure the DSP consumption data is transferred from System Management to the IMO to be able to be used in the calculation and publication of forecast spare capacity.

6. The IMO's Proposed Decision

The IMO's proposed decision is to accept the Rule Change Proposal as modified by the amendments outlined in section 5.1 and 5.2 and as presented in Appendix 2 of this Draft Rule

¹⁰ The closing date for application for certification of Reserve Capacity is 1 July 2014. The 2014 Reserve Capacity Cycle timeline is available at: <http://www.imowa.com.au/docs/default-source/Reserve-Capacity/2014-reserve-capacity-mechanism-timetable.pdf?sfvrsn=0>

Change Report.

6.1. Reasons for the Decision

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

- better achieve Wholesale Market Objectives (a), (b), (c) and (d);
- are consistent with Wholesale Market Objective (e); and
- have the general support of the RCMWG, MAC and submissions received during the first submission period.

6.2. Proposed Commencement details

The IMO proposes to stage the commencement of the proposed Amending Rules set out in this Rule Change Proposal in order for them to apply for the 2014 Reserve Capacity Cycle as follows:

- **At 8:00 AM on 1 July 2014:** The amendments that replace the name of the MRCP by BRCP and the adjustments to the RCP formula are proposed to commence on 1 July 2014 to become applicable from Year 1 of the 2014 Reserve Capacity Cycle. This includes clauses 2.26.1, 2.26.2, 2.26.3, 4.1.19, 4.3.1, 4.13.2, 4.16.1, 4.16.2, 4.16.3, 4.16.5, 4.16.6, 4.16.7, 4.16.8, 4.18.2, 4.22.2, 4.28C.9, 4.29.1, 10.5.1, the heading 4.16 in the Table of Contents, the new definitions of Benchmark Reserve Capacity Price and Reserve Capacity Price in the Glossary and the removal of the existing definition of Maximum Reserve Capacity Price in the Glossary of the Market Rules.
- **At 8:00 AM on 1 October 2016:** The amendments relating to the application of the dynamic Reserve Capacity refund factors and the recycling of Capacity Cost Refund revenue are proposed to commence on 1 October 2016 to become applicable from Year 3 of the 2014 Reserve Capacity Cycle. This includes clauses 1.4.1, 4.26.1, 4.26.1A, 4.26.3, 4.26.3A, 4.26.4, 4.26.6, 4.26.7, 4.28.4, 4.28A.1, 4.29.3, 7.6.10A, 7.13.1(eH), 9.7.1 and the new definitions of Facility Capacity Rebate, Maximum Participant Demand Side Programme Refund, Participant Capacity Rebate and Trading Interval Refund Rate, the amended definition of Maximum Participant Generation Refund and the further amendments to the definitions of Off-Peak Trading Interval Rate, Peak Trading Interval Rate and Refund Table (that are proposed to be amended in the proposed Amending Rules in RC_2013_10) in the Glossary of the Market Rules.

7. Proposed Amending Rules

The proposed Amending Rules as presented in the Rule Change Proposal and amended following the first submission period are as follows (~~deleted text~~, added text):

To the extent that the proposed Amending Rules relate to clauses that are proposed to be amended in the Final Rule Change Report for the Rule Change Proposal: Incentives to Improve Availability of Scheduled Generators (RC_2013_09) and the Final Rule Change Report for the Rule Change Proposal: Harmonisation of Demand-Side and Supply-Side Capacity Sources (RC_2013_10), the IMO has used the wording of the proposed Amending Rules as made in the Final Rule Change Reports¹¹.

Additionally, the proposed amendments to clauses 4.26.1 and 4.26.6 are intended to be further amended in the proposed Rule Change Proposal: Outages and the Application of Availability and Constraint Payments to Non-Scheduled Generators (PRC_2013_16), which has not yet been submitted into the formal rule change process. Accordingly, the proposed amendments contained in the proposed Rule Change Proposal, RC_2013_16 are not shown in this Draft Rule Change Report.

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...
4.16. The ~~Maximum~~Benchmark Reserve Capacity Price

...

1.4.1. In these Market Rules, unless the contrary intention appears:

...

- (r) **(Headings and comments):** headings and comments appearing in boxes in these Market Rules (other than ~~the Refund Table in clause 4.26 and the Outage Rate Limit Table in clause 4.11.1D~~) are for convenience only and do not affect the interpretation of these Market Rules.

...

[Note: Drafting of clause 1.4.1(r) reflects the proposed amendment in the proposed Amending Rules in the Final Rule Change Report: Incentives to Improve Availability of Scheduled Generators (RC_2013_09) which is proposed to commence on 1 May 2014]

...

¹¹ Both RC_2013_09 and RC_2013_10 require the proposed Amending Rules to be approved by the Minister.

- 2.26.1. Where the IMO has proposed a revised value for the ~~Maximum~~Benchmark Reserve Capacity Price in accordance with clause 4.16 or a change in the value of one or more Energy Price Limits in accordance with clause 6.20, the Economic Regulation Authority must:
- (a) review the report provided by the IMO, including all submissions received by the IMO in preparation of the report;
 - (b) make a decision as to whether or not to approve the revised value for the ~~Maximum~~Benchmark Reserve Capacity Price or any value comprising the Energy Price Limits;
 - (c) in making its decision, only consider:
 - i. whether the proposed revised value for the ~~Maximum~~Benchmark Reserve Capacity Price or Energy Price Limit proposed by the IMO reasonably reflects the application of the method and guiding principles described in clauses 4.16 or 6.20 (as applicable);

...

2.26.2. Where the Economic Regulation Authority rejects a revised ~~Maximum~~Benchmark Reserve Capacity Price or the Energy Price Limits submitted by the IMO it must give reasons and may direct the IMO to carry out all or part of the review process under clause 4.16 or 6.20 (as applicable) again in accordance with any directions or recommendations of the Economic Regulation Authority.

2.26.3. The Economic Regulation Authority must review the methodology for setting the ~~Maximum~~Benchmark Reserve Capacity Price and the Energy Price Limits not later than the fifth anniversary of the first Reserve Capacity Cycle and, subsequently, not later than the fifth anniversary of the completion of the preceding review under this clause 2.26.3. A review must examine:

- (a) the level of competition in the market;
- (b) the level of market power being exercised and the potential for the exercise of market power;
- (c) the effectiveness of the methodology in curbing the use of market power;
- (d) historical Reserve Capacity Offers and the proportion of Reserve Capacity Offers with prices equal to the ~~Maximum~~Benchmark Reserve Capacity Price, in the case of Reserve Capacity Cycles up to and including 2013;
- (dA) historical Reserve Capacity Offers and the proportion of Reserve Capacity Offers with prices equal to 110 percent of the Benchmark Reserve Capacity Price, in the case of Reserve Capacity Cycles from 2014 onwards;
- (e) historical STEM Bids and STEM Offers and the proportion of STEM Bids and Offers with prices equal to the Energy Price Limits;

- (f) the appropriateness of the parameters and methodology in clauses 4.16 and the Market Procedure referred to in clause 4.16.3 for recalculating the MaximumBenchmark Reserve Capacity Price;

...

...

- 4.1.19. The IMO must commence a review of the MaximumBenchmark Reserve Capacity Price as required by clause 4.16.3 with the objective of completing the review, including consideration of public submissions in relation to that review, so as to allow a reasonable time for the Economic Regulation Authority to approve any proposed change in value and for that value to be implemented prior to the date and time specified in clause 4.1.4 that relates to the following Reserve Capacity Cycle.

...

- 4.3.1. A Request for Expression of Interest for a Reserve Capacity Cycle must include the following information:

...

- (c) for each of the three previous Reserve Capacity Cycles (if applicable):

...

- v. the MaximumBenchmark Reserve Capacity Price;

...

- (f) the then current MaximumBenchmark Reserve Capacity Price;

...

- 4.13.2. For the purposes of this clause 4.13 the amount of Reserve Capacity Security is:

- (a) at the time and date referred to in clause 4.1.13, twenty-five percent of the MaximumBenchmark Reserve Capacity Price included in the most recently issued Request for Expressions of Interest at the time the Certified Reserve Capacity is assigned, expressed in \$/MW per year, multiplied by an amount equal to:
 - i. the Certified Reserve Capacity assigned to the Facility; less
 - ii. the total of any Certified Reserve Capacity amount specified in accordance with clause 4.14.1(d) or referred to in clause 4.14.7(c)(ii); and
- (b) at the time and date referred to in clause 4.1.21, twenty-five percent of the MaximumBenchmark Reserve Capacity Price included in the most recently issued Request for Expressions of Interest at the time the Certified Reserve

Capacity is assigned, expressed in \$/MW per year, multiplied by an amount equal to the total number of Capacity Credits assigned to the Facility under clause 4.20.5A.

...

4.16. The MaximumBenchmark Reserve Capacity Price

- 4.16.1. For all Reserve Capacity Cycles, the IMO must publish a MaximumBenchmark Reserve Capacity Price as determined in accordance with this clause 4.16 prior to the time specified in clause 4.1.4.
- 4.16.2. The MaximumBenchmark Reserve Capacity Price to apply for the first Reserve Capacity Cycle is \$150,000 per MW per year.
- 4.16.3. The IMO must develop a Market Procedure documenting the methodology it uses and the process it follows in determining the MaximumBenchmark Reserve Capacity Price, and:
 - (a) the IMO and Rule Participants must follow that documented Market Procedure when conducting any review and consultations in accordance with that Market Procedure and clause 4.16.6; and
 - (b) the IMO must follow the documented Market Procedure to annually review the value of the MaximumBenchmark Reserve Capacity Price in accordance with this clause 4.16 and in accordance with the timing requirements specified in clause 4.1.19.

...

- 4.16.5. The IMO must propose a revised value for the MaximumBenchmark Reserve Capacity Price using the methodology described in the Market Procedure referred to in clause 4.16.3.
- 4.16.6. The IMO must prepare a draft report describing how it has arrived at a proposed revised value for the MaximumBenchmark Reserve Capacity Price under clause 4.16.5. The IMO must publish the report on the Market Web_Site and advertise the report in newspapers widely distributed in Western Australia and request submissions from all sectors of the Western Australia energy industry, including end-users.
- 4.16.7. After considering of the submissions on the draft report described in clause 4.16.6 the IMO must propose a final revised value for the MaximumBenchmark Reserve Capacity Price and publish that value and its final report, including submissions received on the draft report on the Market Web_Site.

4.16.8. A proposed revised value for the ~~Maximum~~Benchmark Reserve Capacity Price becomes the ~~Maximum~~Benchmark Reserve Capacity Price after the IMO has posted a notice on the Market Web Site of the new value of the ~~Maximum~~Benchmark Reserve Capacity Price with effect from the time specified in the IMO's notice.

...

4.18.2. Each Reserve Capacity Price-Quantity Pair must comprise:

- (a) the identity of the Facility to which it relates;
- (b) an offer price in units of dollars per MW per year expressed to a precision of \$0.01/MW between zero and 110 percent of the ~~Maximum~~Benchmark Reserve Capacity Price;

...

...

4.22.2. If a Market Participant nominates to have Capacity Credits covered by a Long Term Special Price Arrangement, it must at the same time nominate:

...

Where the Long Term Special Price Arrangement is conditional on evidence being provided to the IMO prior to that Long Term Special Price Arrangement taking effect that capital costs in excess of 10% percent of the ~~Maximum~~Benchmark Reserve Capacity Price have been incurred on average with respect to the provision of each Capacity Credit covered by the arrangement; and

...

...

4.26.1. If a Market Participant holding Capacity Credits associated with a ~~generation system~~Facility fails to comply with its Reserve Capacity Obligations applicable to any given Trading Interval then the Market Participant must pay a refund to the IMO calculated in accordance with the following provisions.

(a) The refund factor RF(f,t) for a Facility f in a Trading Interval t is the lesser of:

i. six; and

ii. the greater of RF_dynamic(t) and RF_floor(f,t).

(b) The dynamic refund factor RF_dynamic(t) in a Trading Interval t is equal to:

$$\underline{11.75 - \left(\frac{5.75}{750}\right) \times Spare(t)}$$

where $Spare(t)$ in a Trading Interval t is equal to the sum of the quantities calculated as follows:

- i. for each Scheduled Generator for which a Market Participant holds Capacity Credits:
 1. the MW quantity of Capacity Credits; less
 2. the MW quantity of Outage determined in accordance with clause 7.13.1A(b); less
 3. the Sent Out Metered Schedule multiplied by two so as to be a MW quantity;

[Note: The IMO intends to propose amendments to clause 7.13.1A(b) to receive Outage data as measured at 15 degrees and 41 degrees Celsius in the proposed Rule Change Proposal: Outages and the Application of Availability and Constraint Payments to Non-Scheduled Generators (PRC_2013_16). Clause 4.26.1(b)(i)(2) will be proposed to be further amended in PRC_2013_16 to refer to the Outage data measured at 41 degrees Celsius]

- ii. for each Non-Scheduled Generator that received a Dispatch Instruction to decrease its output under clause 7.6.1C and for which a Market Participant holds Capacity Credits:
 1. the estimate of the maximum quantity of sent out energy which would have been generated had a Dispatch Instruction not been issued, as provided by System Management in accordance with clause 7.13.1(eF), multiplied by two so as to be a MW quantity; less
 2. the Sent Out Metered Schedule multiplied by two so as to be a MW quantity; and
- iii. for each Demand Side Programme within the periods specified in clause 4.10.1(f)(vi) and for which a Market Participant holds Capacity Credits:
 1. the Demand Side Programme Load multiplied by two so as to be a MW quantity; less
 2. the sum of the minimum load MW quantities provided under clause 2.29.5B(c) for the Facility's Associated Loads.

[Note: It should be noted that clause 4.10.1(f)(vi) which is referred to in this clause 4.26.1(b)(iii) is proposed to be amended to reflect the new availability periods for a DSP in the Final Rule Change Report: Harmonisation of Demand-Side and Supply-Side Capacity Resources (RC_2013_10) which is proposed to commence on 1 May 2014]

- (c) Subject to clause 4.26.1(d), the minimum refund factor $RF_{floor}(t)$ in a Trading Interval t is equal to:

$$\underline{1 - 0.75 \times Dispatchable(f, t)}$$

where $Dispatchable(f, t)$ for a Facility f in a Trading Interval t , over the 4,320 Trading Intervals prior to and including that Trading Interval, is determined as:

$$1 - \left(\frac{\sum FO(t)}{\sum Cap(t)} \right)$$

where:

- i. $FO(t)$ is the quantity of Forced Outage determined in accordance with clause 3.21.6(b); and
- ii. $Cap(t)$ is the capacity for the Facility, given by
 1. the number of Capacity Credits held by the Facility in Trading Interval t if the Facility holds Capacity Credits and had its Certified Reserve Capacity assigned using the methodology described in clause 4.11.1(a); or
 2. the Sent Out Capacity of the Facility as recorded in Standing Data (Appendix 1(b)(iii) if the Facility is a Scheduled Generator and Appendix 1(e)(iiiA) if the facility is a Non-Scheduled Generator) during Trading Interval t otherwise.

[Note: The IMO intends to propose amendments to clause 3.21.6(b) to clarify the calculation of Forced Outage MW quantities for Scheduled and Non-Scheduled Generators in the proposed Rule Change Proposal: Outages and the Application of Availability and Constraint Payments to Non-Scheduled Generators (PRC_2013_16). Clause 4.26.1(c) will be proposed to be further amended in PRC_2013_16 based on the proposed amendments to clause 3.21.6(b)]

- (d) For a Facility to which clause 4.26.1A(a)(iv), 4.26.1A(a)(v) or 4.26.1A(a)(vi) applies or for which a non-zero value is determined under clause 4.26.1A(vii), $RF_{floor}(t)$ in a Trading Interval t is equal to one.
- (e) The Trading Interval Refund Rate for a Facility f in a Trading Interval t is equal to:

$$RF(f, t) \times Y$$

where:

- i. for a Non-Scheduled Generator that has either:
 1. operated at a level equivalent to its Required Level, adjusted to 100 percent of the level of Capacity Credits currently held, in at least two Trading Intervals; or
 2. provided the IMO with a report under clause 4.13.10C, where this report specifies that the Facility can operate at a level equivalent to its Required Level, adjusted to 100 percent of the level of Capacity Credits currently held

and that the IMO has determined under clause 4.13.10B, is in Commercial Operation, Y equals zero; and

- ii. for all other Facilities, Y is determined by dividing the Monthly Reserve Capacity Price (calculated in accordance with clause 4.29.1) by the number of Trading Intervals in the relevant Trading Month.

REFUND TABLE

Dates	1 April to October	1 October to December	1 December to February	1 February to April
Business Days Off-Peak Trading Interval Rate (\$ per MW shortfall per Trading Interval)	0.25 x Y	0.25 x Y	0.5 x Y	0.75 x Y
Business Days Peak Trading Interval Rate (\$ per MW shortfall per Trading Interval)	1.5 x Y	1.5 x Y	4 x Y	6 x Y
Non-Business Days Off-Peak Trading Interval Rate (\$ per MW shortfall per Trading Interval)	0.25 x Y	0.25 x Y	0.5 x Y	0.75 x Y
Non-Business Days Peak Trading Interval Rate (\$ per MW shortfall per Trading Interval)	0.75 x Y	0.75 x Y	1.5 x Y	2 x Y
Maximum Participant General Refund	The total value of the Capacity Credit payments paid or to be paid under the Market Rules to the relevant Market Participant for the 12 Trading Months commencing at the start of the Trading Day of the previous 1 October (excluding any payments relating to a Demand Side Programme) assuming IMO acquires all of the Capacity Credits held by the Market Participant (excluding any Capacity Credits held for Demand Side Programmes) and cost of each Capacity Credit so acquired is determined in accordance with clause 4.28.2(b), (c) and (d) (as applicable).			

~~Where:~~

~~For an Intermittent Generator that has:~~

~~(a) either:~~

~~i. operated at a level equivalent to its Required Level, adjusted to 100 percent of the level of Capacity Credits currently held, in at least two Trading Intervals; or~~

~~ii. provided the IMO with a report under clause 4.13.10C, where this report specifies that the Facility can operate at a level equivalent to its Required Level, adjusted to 100 percent of level of Capacity Credits currently held; and~~

~~(b) is, following a request to the IMO by a Market Participant, considered by the IMO to be in Commercial Operation:~~

~~Y equals 0~~

~~For all other facilities: Y is determined by dividing the Monthly Reserve Capacity Price (calculated in accordance with clause 4.29.1) by the number of Trading Intervals in the relevant Trading Month.~~

4.26.1A. The IMO must calculate the Reserve Capacity Deficit refund for each Facility (“**Facility Reserve Capacity Deficit Refund**”) for each Trading Month m as the lesser of:

(a) the sum over all Trading Intervals t in Trading Month m of the product of:

i. the Off-Peak Trading Interval Rate or Peak Trading Interval Refund Rate determined in accordance with the Refund Table applicable to the Facility in Trading Interval t ; and

...

ivA. if the Facility is an Intermittent Generator which is considered by the IMO to have been in Commercial Operation, but for which Y does not equal zero in the Refund Table in clause 4.26.1(e), the minimum of:

...

vii. if the Facility is a Demand Side Programme:

$\max(0, CC - \max(0, (RD - \text{MinLoad})))$

where:

CC is the MW value of Capacity Credits for the Facility determined in accordance with clause 4.20, 4.28B or 4.28C as applicable;

RD is the Relevant Demand for the Facility determined in

accordance with clause 4.26.2CA; and

MinLoad is the sum of the minimum load MW quantities provided under clause 2.29.5B(c) for the Facility's Associated Loads; and

...

[Note: Clause 4.26.1A(vii) shows the proposed amendments presented in the proposed Amending Rules in the Final Rule Change Report: Harmonisation of Demand-Side and Supply-Side Capacity Resources (RC_2013_10) which is proposed to commence on 1 October 2014]

...

- 4.26.3. The Generation Capacity Cost Refund for Trading Month m for a Market Participant p holding Capacity Credits associated with a generation system is the lesser of:
- (a) the Maximum Participant Generation Refund determined for Market Participant p and Trading Month m ~~in accordance with the Refund Table~~, less all Generation Capacity Cost Refunds applicable to Market Participant p in previous Trading Months falling in the same Capacity Year as Trading Month m; and
 - (b) the Generation Reserve Capacity Deficit Refund for Market Participant p and Trading Month m, plus the sum over all Trading Intervals t in Trading Month m of the Net STEM Refund,

where the Net STEM Refund is the product of:

- i. ~~the Off-Peak Trading Interval Rate or Peak Trading Interval Refund Rate determined in accordance with the Refund Table~~ applicable to Facility f in Trading Interval t; and
- ii. the Net STEM Shortfall for Market Participant p in Trading Interval t.

- 4.26.3A. The Demand Side Programme Capacity Cost Refund for Trading Month m for a Market Participant p holding Capacity Credits associated with a Demand Side Programme is equal to the lesser of:

- (a) ~~the Market Participant Demand Side Programme Refund determined for Market Participant p and Trading Month m~~ twelve times the Monthly Reserve Capacity Price for Trading Month m multiplied by the number of Capacity Credits associated with the Facility, less all Demand Side Programme Capacity Cost Refunds applicable to Market Participant p ~~the Facility~~ in previous Trading Months falling in the same Capacity Year as Trading Month m; and
- (b) the sum of:
 - i. the sum over all Trading Intervals t in Trading Month m of:

$$\left(\frac{24}{H}\right) \times TIRR \times S$$

Where:

S is the Capacity Shortfall in MW determined in accordance with clause 4.26.2D in any Trading Interval;

H is the maximum number of hours per Trading Day that the Facility is available to provide Reserve Capacity in accordance with clause 4.10.1(f)(iii); and

$TIRR$ is the ~~Off-Peak Trading Interval Rate or Peak Trading Interval Refund Rate~~ applicable to the Facility in Trading Interval t ; and

- ii. the Facility Reserve Capacity Deficit Refund for Trading Month m for the Facility.

[Note: Drafting of clause 4.26.3A reflects the proposed amendments in the proposed Amending Rules in the Final Rule Change Report: Harmonisation of Demand-side and Supply-side Capacity Resources (RC_2013_10) which is proposed to commence on 1 October 2016]

4.26.4. ~~The IMO must apply any revenue generated from the application of clause 4.26.2E to Market Customers in accordance with clause 4.28.4. For each Market Participant holding Capacity Credits associated with a Scheduled Generator or a Demand Side Programme, the IMO must determine the amount of the rebate (“Participant Capacity Rebate”) to be applied for Trading Month m as the sum of all Facility Capacity Rebates determined in accordance with clause 4.26.6.~~

...

4.26.6 The Facility Capacity Rebate for Facility f , being a Scheduled Generator or a Demand Side Programme for which a Market Participant holds Capacity Credits, is the sum over all Trading Intervals t in Trading Month m of:

$$\frac{CC(f, t) \times E(f, t)}{\sum_{f=1}^F CC(f, t) \times E(f, t)} \times \sum CCR(t)$$

where:

$\sum CCR(t)$ is the sum over all Market Participants of the Capacity Cost Refund for Trading Interval t ; and

$\sum_{f=1}^F CC(f, t) \times E(f, t)$ is the sum, over all Facilities F in Trading Interval t , being Scheduled Generators or Demand Side Programmes for which Market Participants hold Capacity Credits, of the product of:

(a) $CC(f, t)$ which equals:

- i. for a Scheduled Generator, the MW value of Capacity Credits less the MW quantity of Outage as determined in accordance with clause 7.13.1A(b); and
 - ii. for a Demand Side Programme, the Demand Side Programme Load multiplied by two so as to be a MW quantity less the sum of the minimum load MW quantities provided under clause 2.29.5B(c) for the Facility's Associated Loads; and
- (b) $E(f, t)$ which is the eligibility of the Facility f in Trading Interval t , where eligibility is equal to:
- i. one if, subject to clause 4.26.7, Facility f was dispatched and generated (for a Scheduled Generator) or dispatched and reduced (for a Demand Side Programme) a non-zero MW quantity in any one Trading Interval of the 1,440 Trading Intervals prior to and including Trading Interval t ; or
 - ii. zero otherwise.

[Note: The IMO intends to propose amendments to clause 7.13.1A(b) to receive Outage data as measured at 15 degrees and 41 degrees Celsius in the proposed Rule Change Proposal: Outages and the Application of Availability and Constraint Payments to Non-Scheduled Generators (PRC_2013_16). Clause 4.26.6(a)(i) will be proposed to be further amended in PRC_2013_16 to refer to the Outage data measured at 41 degrees Celsius]

4.26.7 For the purposes of clause 4.26.6(b)(i), a Facility is deemed to have generated a non-zero MW quantity if it meets the requirements for a Reserve Capacity Test specified in clause 4.25.1(a) in any one Trading Interval of the 1,440 Trading Intervals prior to and including Trading Interval t .

...

- 4.28.4. For each Trading Month, the IMO must calculate a Shared Reserve Capacity Cost being the sum of:
- (a) the cost defined under clause 4.28.1(b); and
 - (aAb) the net payments to be made by the IMO under Supplementary Capacity Contracts less any amount drawn under a Reserve Capacity Security by the IMO and distributed in accordance with clause 4.13.11A(a); less
 - ~~(b) the Capacity Cost Refunds for that Trading Month; less~~
 - ~~(bAc) the Intermittent Load Refunds for that Trading Month; less~~
 - (ed) any amount drawn under a Reserve Capacity Security by the IMO and distributed in accordance with clause 4.13.11A(b)

and the IMO must allocate this total cost to Market Customers in proportion to each Market Customer's Individual Reserve Capacity Requirement.

...

4.28A.1 The IMO must determine for each Intermittent Load registered to Market Participant p the amount of the refund (“Intermittent Load Refund”) to be applied for each Trading Month m in respect of that Intermittent Load as the sum over all Trading Intervals t of Trading Day d in the Trading Month m of the product of:

- (a) the applicable value of Y in the ~~Refund Table~~ described in clause 4.26.1 is that which applies for Scheduled Generators; and

...

...

4.28C.9. The amount for the purposes of clauses 4.28C.8 and 4.28C.12 is twenty-five percent of the ~~Maximum~~ Benchmark Reserve Capacity Price included in the most recent Request for Expressions of Interest at the time and date associated with either clause 4.28C.8 or 4.28C.12 as applicable, multiplied by an amount equal to the Early Certified Reserve Capacity assigned to the Facility.

...

4.29.1. The Monthly Reserve Capacity Price to apply during the period specified in clause 4.1.29 is to equal:

- (a) if a Reserve Capacity Auction was run for the Reserve Capacity Cycle, the Reserve Capacity Price for the Reserve Capacity Cycle divided by 12; or
- (b) if no Reserve Capacity Auction was run for the Reserve Capacity Cycle:
 - i. prior to 1 October 2008, 85% of the ~~Maximum~~ Benchmark Reserve Capacity Price for the Reserve Capacity Cycle divided by 12;
 - ii. ~~from 1 October 2008~~ up to and including the 2013 Reserve Capacity Cycle, 85% of the ~~Maximum~~ Benchmark Reserve Capacity Price for the Reserve Capacity Cycle multiplied by the ~~E~~excess C~~apacity A~~adjustment and divided by 12;
- (c) the ~~E~~excess C~~apacity A~~adjustment is equal to the minimum of:
 - i. one; and
 - ii. the Reserve Capacity Requirement for the Reserve Capacity Cycle divided by the total number of Capacity Credits assigned by the IMO in accordance with clause 4.20.5A for the Reserve Capacity Cycle.
- (d) if no Reserve Capacity Auction was run for the Reserve Capacity Cycle from 2014 onwards, the value calculated as below and divided by 12:

$$\frac{MIN\left\{\left(\frac{BRCP \times 1.1}{1 - ((surplus + 0.03) \times -3.75)}\right), BRCP \times 1.1\right\}}{12}$$

where:

- i. BRCP is the Benchmark Reserve Capacity Price determined in accordance with clause 4.16; and
- ii. surplus is the amount of excess capacity calculated as:
 1. the total number of Capacity Credits assigned by the IMO in accordance with clause 4.20.5A for the Reserve Capacity Cycle;
less
 2. the Reserve Capacity Requirement for the Reserve Capacity Cycle,
divided by the Reserve Capacity Requirement for the Reserve Capacity Cycle.

4.29.3. The IMO must prepare and provide the following information to the Settlement Systems in time for settlement of Trading Month m:

...

(d) subject to clause 4.29.4, for each Market Participant p and for Trading Month m:

...

- v. the Individual Reserve Capacity Requirement for each Market Customer for that Trading Month; ~~and~~
- vi. the total Capacity Cost Refund to be paid by the Market Participant to the IMO; and
- vii. the total Participant Capacity Rebate to be paid to the Market Participant by the IMO.

...

...

7.6.10A. System Management must provide the IMO the consumption data received under clause 7.6.10 from each Market Participant with a Demand Side Programme, as soon as reasonably possible after receipt of that data.

7.13.1. System Management must provide the IMO with the following data for a Trading Day by noon on the first Business Day following the day on which the Trading Day ends:

...

~~(eH) the consumption data provided to System Management by each Market Participant with a Demand Side Programme under clause 7.6.10;~~

[Note: Drafting of clause 7.13.1(eH) reflects the proposed amendments in the proposed Amending

...

- 9.7.1. The Reserve Capacity settlement amount for Market Participant p for Trading Month m is:

$$\begin{aligned} \text{RCSA}(p,m) = & \\ & \text{Monthly Reserve Capacity Price}(m) \times (\text{CC_NSPA}(p,m) \\ & \quad - \text{Sum}(q \in P, \text{CC_ANSPA}(p,q,m))) \\ & + \text{Sum}(a \in A, \text{Monthly Special Price}(p,m,a) \times (\text{CC_SPA}(p,m,a) \\ & \quad - \text{Sum}(q \in P, \text{CC_ASPA}(p,q,m,a)))) \\ & - \text{Capacity Cost Refund}(p,m) \\ & - \text{Intermittent Load Refund}(p,m) \\ & + \text{Participant Capacity Rebate}(p,m) \\ & + \text{Supplementary Capacity Payment}(p,m) \\ & - \text{Targeted Reserve Capacity Cost}(m) \times \text{Shortfall Share}(p,m) \\ & - \text{Shared Reserve Capacity Cost}(m) \times \text{Capacity Share}(p,m) \\ & + \text{LF_Capacity_Cost}(m) \times \text{Capacity Share}(p,m) \end{aligned}$$

Where:

...

LF_Capacity_Cost(m) is the total Load Following Service capacity payment cost for Trading Month m as specified in clause 9.9.2(q); and

Participant Capacity Rebate(p,m) is the Participant Capacity Rebate payable to the Market Participant p for Trading Month m.

...

- 10.5.1. The IMO must set the class of confidentiality status for the following information under clause 10.2.1, as Public and the IMO must make each item of information available from the Market Web Site after that item of information becomes available to the IMO:

...

- (e) details of bid, offer and clearing price limits as approved by the Economic Regulation Authority including:
- i. the ~~Maximum~~ Benchmark Reserve Capacity Price;

...

...

11 Glossary

...

Balancing Forecast: Means a forecast, determined by the IMO in accordance with the Balancing Forecast Market Procedure, for a Trading Interval, of the following:

- (a) the Relevant Dispatch Quantity for the Trading Interval;
- (b) the aggregate output of all Non-Scheduled Generators which are Balancing Facilities for the Trading Interval; ~~and~~
- (c) the Balancing Price for the Trading Interval; ~~and~~;
- (d) the spare capacity for the Trading Interval.

...

Benchmark Reserve Capacity Price: In respect of a given Reserve Capacity Cycle, the price in clause 4.16.2 as revised in accordance with clause 4.16.

...

Facility Capacity Rebate: Has the meaning given in clause 4.26.6.

...

Maximum Participant Demand Side Programme Refund: The total value of the Capacity Credit payments paid or to be paid under these Market Rules to the relevant Market Participant in relation to its Demand Side Programmes, for the relevant Capacity Year assuming the IMO acquires all of the Capacity Credits held by the Market Participant in relation to its Demand Side Programmes and the cost of each Capacity Credit so acquired is determined in accordance with clause 4.28.2(b), (c) and (d) (as applicable).

...

Maximum Participant Generation Refund: Has the meaning given in clause 4.26.1. The total value of the Capacity Credit payments paid or to be paid under these Market Rules to the relevant Market Participant in relation to all of its generating Facilities, for the relevant Capacity Year assuming the IMO acquires all of the Capacity Credits held by the Market Participant in relation to its generating Facilities and the cost of each Capacity Credit so acquired is determined in accordance with clause 4.28.2(b), (c) and (d) (as applicable).

...

~~**Maximum Reserve Capacity Price:** In respect of a given Reserve Capacity Cycle, the price in clause 4.16.2 as revised in accordance with clause 4.16.~~

...

~~**Off-Peak Trading Interval Rate:** means the rate determined for the applicable Off-Peak Trading Interval under the Refund Table.~~

...

Participant Capacity Rebate: Has the meaning given in clause 4.26.4.

...

~~**Peak Trading Interval Rate:** means the rate determined for the applicable Peak Trading Interval under the Refund Table.~~

...

~~**Refund Table:** The table titled “Refund Table” and set out in clause 4.26.1.~~

[Note: Drafting of the definitions for Off-Peak Trading Interval Rate, Peak Trading Interval Rate and Refund Table reflects the proposed amendments in the Final Rule Change Report: Harmonisation of Demand-Side and Supply-Side Capacity Resources (RC_2013_10)]

...

Reserve Capacity Price: In respect of a Reserve Capacity Cycle, the price for Reserve Capacity determined in accordance with clause 4.29.1 and multiplied by 12, where this price is expressed in units of dollars per megawatt per year and has a value between zero and 110 percent of the Maximum Benchmark Reserve Capacity Price.

...

Trading Interval Refund Rate: The refund rate applicable in a Trading Interval, and in respect of a Facility, as calculated in accordance with clause 4.26.1(e).

...

Appendix 1: The IMO's Response to Submissions Received During the First Submission Period

	Submitter	Comment/Change Requested	IMO's Response
<i>General</i>			
1.	Alinta Energy	The State Government will be shortly undertaking a review of the design and functions of the WEM which is expected to include a review of a design of the capacity mechanism. It is preferable that issues such as the responsiveness of the capacity mechanism to market conditions are considered as part of this more holistic review of the market design. This will ensure that alternative directions for the markets development are not taken in quick succession given the associated implementation costs and investment uncertainty this would create. On this basis Alinta recommends that the progression of this rule change should be postponed until after the findings of the State Governments review are published.	The IMO notes the suggestions made in relation to the State Government's Electricity Market Review. However, the IMO considers it appropriate to continue to progress reforms that are underway to ensure that the Market Rules remain relevant and support the Wholesale Market Objectives. It should be noted that under the rule change process set out in clauses 2.4 to 2.8 of the Market Rules, the IMO must make a decision to either accept or reject a Rule Change Proposal at each stage of the process. However, the IMO does not have the discretion to cease the progress of a Rule Change Proposal once it has been submitted into the rule change process.
	Perth Energy	Perth Energy is concerned that these material changes to the Reserve Capacity Mechanism and Reserve Capacity Price have the potential to conflict with the broader WEM Review outcome being undertaken by the Government this year. Adopting any of these material changes proposed by the IMO at present will have a detrimental impact on market confidence and cause unnecessary instability. In terms of process and consistency of industry policy, we therefore strongly recommend the IMO to suspend material Rule change proposals until the WEM Review program has been completed. Perth Energy considers it imperative that the IMO should consult with the Government to coordinate any further changes to WEM as material Rule changes of this nature are complex and expensive in terms of impact on	

	<p>Market Participants.</p> <p>Perth Energy agrees with the principles behind the shift to dynamic refund factors. Using dynamic refund factors allows Market Participants to be exposed to cost signals that are more reflective of the actual scarcity of capacity rather than being linked to fixed factors that may at times be completely divorced from the demand/supply balance of capacity on the system. If this particular aspect of the change proposal could be implemented at relatively low cost it may in our view be worth considering progressing as a standalone change proposal. However, if significant costs are associated with this change we propose that this aspect of the Rule Change Proposal also be deferred until the WEM Review is undertaken.</p> <p>In light of the comments we have made [with respect to the recycling regime], we would advocate delaying proceeding with any proposed changes to the way the capacity refunds are redistributed and await the outcome of the WEM Review.</p>	
Synergy	<p>While Synergy has been concerned about the excess capacity prevalent in the WEM over the past few years, it considers that this Rule Change Proposal should be deferred until the outcomes of the State Government's holistic review (WEM Review) of the design and functions of the WEM are published.</p> <p>Synergy understands that the role and functioning of the RCM will form a significant part of the WEM Review, and as such, Synergy considers that it is inappropriate to continue with this proposal in the face of further significant review.</p> <p>Synergy notes that the RCM is a complex administrative mechanism and changing too many aspects of such a mechanism, or changing the aspects too frequently creates significant regulatory uncertainty and risk. As such, Synergy suggests that the prudent approach of deferring this work would be the most appropriate outcome under the current circumstances.</p>	

2.	Perth Energy	<p>Perth Energy continues to be extremely concerned with the significant amount of CRC awarded to demand side providers of capacity. For the 2015/16 Capacity Year, a total of 551MW of CRC has been awarded to demand side providers. This represents almost the entire oversupply of CRC for that year (564MW). We remain of the view that demand side providers are not capable of delivering the same CRC product that conventional generators deliver. Evidence is that demand side products are not dispatched into the energy market and do not have the same significant financial incentives to ensure that they are able to deliver capacity to the system as conventional generators do. This is because their investment in their Facility has an alternative value (the primary purpose of the Facility) and their investment would not be stranded if capacity payments from the WEM were no longer available.</p> <p>Some steps are being taken to improve the value of the current demand side provision of capacity through RC 2013 10 “Harmonisation of Supply-Side and Demand-Side Capacity Resources”. Although the proposed amendments are improvements on the current situation, they also miss the point. We do not believe that demand side should be provided with CRC.</p>	<p>The IMO notes that the RCMWG agreed at its outset to uphold the principle that all capacity should be treated the same irrespective of its source. Additionally, the IMO notes that any type of discrimination between different technologies is contrary to the Wholesale Market Objective (c).</p>
3.	Alinta Energy	<p>Alinta notes its general concern that the proposed changes to address Issues 2 (applicable price in a Reserve Capacity Auction), 3 (renaming the MRCP) and 5 (applicable refund rate for DSPs) have not been reflected in the IMO’s Market Objective Assessment, as presented in its Rule Change Proposal. Alinta considers it is good regulatory practice to ensure each proposed change is assessed against the objectives and presented to industry.</p> <p>Alinta also notes the IMO’s view that there is likely to be a “net economic benefit over time”. However given that the IMO has identified it will incur significant costs to build and test the proposed changes to</p>	<p>The IMO presented its assessment of each concept against the Wholesale Market Objectives in the Rule Change Proposal. The IMO considers that the issues highlighted by Alinta form an integral part of those concepts addressed as part of the IMO’s Wholesale Market Objective assessment presented in the Rule Change Proposal and section 5.3 of this Draft Rule Change Report. Additionally, the IMO has provided its assessment for the specific issues raised by Alinta in section 5.3 of this report.</p> <p>Various papers presented at the RCMWG by The Lantau Group provide further detail on the cost and benefit implications of the</p>

		<p>the settlement systems, Alinta considers that a cost-benefit assessment of each of the proposed changes should be conducted and taken into consideration when making the IMO's draft decision on the proposed amendments. In considering the costs/benefits of the changes to the RCP formula the IMO needs to take into account the impacts of the current excess capacity adjustment which results in a dilution of the capacity price paid to generators rather than impacting directly on customers (as is implied by the IMO in its proposal – refer to page 5). Alinta suggests that the IMO refers to the original proposal put forward by Synergy which sought to address this issue by introducing the excess capacity adjustment.</p> <p>Finally, the proposed changes will introduce significant complexity into settlements for the WEM. It's unclear how the proposed changes are consistent with the IMO's broader intentions to simplify settlements. Introducing greater complexity into the market design is also likely to create additional barriers to entry.</p>	<p>overall package of the proposed amendments¹². The IMO provided a quantitative assessment of the proposed RCP formula in the concept paper presented at the October 2013 MAC meeting. The IMO also provided its qualitative assessment of the costs and benefits in the Rule Change Proposal. Additionally, the IMO has provided an estimate of its IT and settlement costs in this Draft Rule Change Report. The IMO notes that it is unable to quantify the costs that would be incurred by Market Participants in implementing these changes, although some submissions indicated these costs would be minimal.</p> <p>The IMO notes that the proposed amendments will require modification of the settlement calculations for a component of the settlement systems and does not consider that it will introduce any increased complexity in the current systems. From a Market Participant's perspective, the components of the Settlement Statement will remain unchanged.</p>
4.	Bluewaters Power	<p>Bluewaters would like to see implementation earlier than the 2016/17 Capacity Year as outlined in the IMO's submission. While the net RCP/refund impact may be minimal relative to the status quo, the positive impacts of the behavioural changes as a result of the dynamic refunds and the proposed recycling regime should be a high priority.</p>	<p>The IMO notes Bluewaters Power's comment but considers that the implementation of the proposed changes any earlier than the 2014 Reserve Capacity Cycle (and therefore the 2016/17 Capacity Year) will have unexpected and adverse outcomes for capacity providers that were certified in the previous Capacity Cycles.</p>
Reserve Capacity Price			
5.	Alinta Energy	<p>Adjusting the RCP is only one of a number of alternative mechanisms that can be potentially introduced to ensure that the signals for the entry of new capacity are better aligned to the market's needs. While the Lantau Group considered alternative options such as introducing a restriction on the quantity of capacity that is procured in each year, Alinta does not consider that the market has adequately contemplated</p>	<p>The IMO notes the RCMWG discussed various design options to improve the signals for entry or deferment of new capacity in the RCM. This included a quantity-based spigot approach, a buy-sell spread approach, an auction approach and a binding declaration of intent to trade Capacity Credits bilaterally. The IMO also notes that some of these alternative approaches were suggested by some</p>

¹² More details are available in the The Lantau Group's report: http://www.imowa.com.au/docs/default-source/Governance/Market-Advisory-Committee/MAC-Working-Groups/combined_rcmwg_mtg_10_papers.pdf?sfvrsn=2

		the multitude of potential alternative design options available to it. It is expected that the broader WEM review will undertake a more fundamental consideration of these points.	RCMWG members. Discussions held at various meetings on this topic are available at the Market Web Site: http://www.imowa.com.au/governance/market-advisory-committee-(mac)/mac-working-groups/inactive---reserve-capacity-mechanism-working-group
	EnerNOC	We still believe that a capacity auction is the best way to discover the appropriate price for capacity. However, we agree with the Lantau Group's view that it would be a formidable challenge to devise a workable auction mechanism for the WEM that avoided problems with market power and the "zero-infinity issue", and that the cost of administering such a mechanism would be prohibitive for a small market. The proposed changes to the Reserve Capacity Price formula represent a practical solution that should achieve outcomes comparable to those of such an auction, including providing appropriate incentives for all participants, but with much less complexity.	Additionally, as noted in EnerNOC's submission, price-discovery through a capacity auction was discussed at the RCMWG but was considered too substantial a change to be implemented at this stage and therefore the proposed amendments to the RCP formula were generally agreed to be the best option to progress. The IMO also notes Bluewaters Power's comment regarding a formal review of the proposed values. As noted in Bluewaters' submission, the current slope of -1 was considered inadequate and a move to a greater magnitude was considered a step in the right direction. The IMO notes that the proposed value for the slope (-3.75) was considered to be the best option to progress at this stage. The IMO considers that any future reviews of this (and other) RCP parameters should be undertaken in consultation with industry stakeholders and can be progressed through a rule change process at any time.
	Bluewaters Power	Bluewaters agrees with the concept [of steepening the slope of the RCP formula] and supports the move to a -3.75 slope. Given the influx of excess capacity over the last four years under the current RCP formula Bluewaters has some reservations that the current adjustment to the mechanism may in fact have a slope that is still too gentle. This is a setting that should be formally reviewed.	
6.	Bluewaters Powers	Bluewaters believes that there are still areas in the RCP determination which need appropriate attention in a second stage of review. A fundamental weakness embedded in the existing systems that the price signal in general is effectively only a two-year price signal. This provides a high degree of investment uncertainty – an undesirable element in a mechanism designed to provide the underlying foundation for large capital investment. This uncertainty may provide an incentive to seek bilateral arrangements to under-write the investment or incentives to lock in supply certainty (in line with the bilateral intent of the market design) however it may also discourage or delay the provision of lower-	As noted by Alinta, the RCM is primarily based on Bilateral Contracts struck between capacity providers and capacity users. The Lantau Group's analysis showed that the current RCM design creates asymmetrical incentives for capacity providers and capacity users to manage their risk exposure through Bilateral Contracts ¹³ . The Lantau Group suggested that the most feasible solution to address the costs of excess capacity should be focussed on improving the symmetry of bilateral contracting incentives. The Lantau Group's recommendations indicate that the proposed RCP formula will strengthen the incentives for retailers to bilaterally

¹³ See Appendix 3 of this report for more details.

		cost capacity that is not conducive to bilateral offtake (eg. DSM and other peaking capacity). We believe a clearer signal would be achieved if, in parallel with this rule change proposal, the RCP assigned to a new facility was fixed for a period (eg. 5 years) before then reverting to the prevailing RCP at the time. This sends a clear signal about the value at the time the unit is built and reduces investment speculation (which Bluewaters believes is a factor responsible for holding back larger reforms in our current market).	contract capacity so as to hedge against Shared Reserve Capacity Costs. Additionally, the steeper downward adjustment of the RCP with increasing excess capacity will send stronger signals to capacity providers to defer investment in new capacity. The IMO considers that over time, these signals will ensure a stable RCM that responds appropriately to changing levels of excess capacity.
	Alinta Energy	The proposed amendments will introduce significant potential pricing volatility and investment uncertainty for those facilities which choose to not bilaterally contract their capacity. Alinta acknowledges that the design of the capacity mechanism is based on the assumption that the majority of capacity is bilaterally contracted.	Additionally, it should also be noted that price volatility in the RCM in the past has resulted from significant changes to the input components (such as transmission costs) of the MRCP and not the adjusted RCP formula itself.
	Perth Energy	We have for some time advocated reviewing the way the RCM operates to reduce price volatility. The proposed changes to the calculation of the administered price are significant and would result in an even more volatile pricing regime than currently the case, in a market considered to be appropriately an infrastructure market. Stability of earnings is paramount in this market to avoid substantial risks being priced into project financing costs. If implemented, the changes would seriously dent investor confidence with potential long term adverse impacts for private sector investment in generation capacity in the WEM.	In this regard, the IMO is also considering the recommendation made by the Economic Regulation Authority in its 'Review of methodology for setting the Maximum Reserve Capacity Price and Energy Price Limits' ¹⁴ to lengthen the review period for the MRCP from the current annual determination. This could be expected to provide greater long-term certainty to investors.
7.	Alinta Energy	A number of the aspects of the proposed RCP formula, including adjusting the slope function from -1 to -3.75 and the ability for the RCP to reach 110% of the MRCP when 97% of the RCR has been fulfilled, appear to have been arbitrarily determined based on the Lantau Group's "gut instinct". While the evidence presented to date suggests that the new formula will provide a sharper price signal to the market than the current formula it is	The IMO notes that the proposed amendments to the RCP formula are based on analyses undertaken by The Lantau Group and extensive discussions among the RCMWG members. Briefly, the proposed values were chosen to balance the strengthening of the price signal with industry appetite for a substantial change. It was noted that allowing the RCP to rise above the MRCP as supply and demand approach balance (i.e. 110 percent of MRCP at 97 percent

¹⁴ Available on the ERA's website: <http://www.erawa.com.au/energy-markets/electricity-markets/review-of-methodology-for-setting-the-maximum-reserve-capacity-price-and-energy-price-limits>

		<p>unclear that what is proposed is the “best” outcome for the market. For example there appears to be no stated rationale as to why the RCP should be able to go to 110% of the MRCP as opposed to say 120%.</p>	<p>of RCR) will strengthen the incentives for Market Customers to contract bilaterally for capacity. Further, steepening the slope by a greater magnitude will send stronger signals to defer investment in new capacity as excess capacity increases. Detailed explanations underpinning the proposed values and the progress over various RCMWG meetings are available on the Market Web Site:</p> <p>http://www.imowa.com.au/governance/market-advisory-committee-(mac)/mac-working-groups/inactive---reserve-capacity-mechanism-working-group</p> <p>It should be noted that the RCMWG members were also invited to provide alternative values for these parameters in the RCP formula. However, no alternatives were provided that could deliver a significant advantage over the proposed values. In addition, no submissions from Market Participants provided any alternative values. However, Bluewaters power and ERM Power supported a more aggressive steepening of the slope.</p> <p>Further, the IMO notes that some RCMWG members, MAC members and the majority of submissions received in the first submission period have expressed support for the proposed amendments to the RCP formula noting that it is an incremental improvement over the current formula and would deliver better signals for investment in new capacity.</p>
8.	Alinta Energy	<p>If the IMO determines to continue to progress the proposed changes [to the RCP formula] a price floor should be incorporated into the proposed formula. This will ensure symmetry with the inclusion of a price ceiling and provide greater certainty to investors as to the minimum price their investment may receive from Capacity Credits if traded through the IMO.</p>	<p>The IMO notes that the RCMWG discussed the inclusion of a floor to the RCP formula at various meetings but no conclusion was reached as to its appropriate value.</p> <p>The IMO also considers that in the current environment where excess capacity has consistently increased in the RCM (~11 percent of the RCR in 2015/16 Capacity Year), the inclusion of a floor price will dilute the signal for deferring investment in capacity at higher levels of excess capacity.</p>
	Synergy	<p>Synergy recognises that this proposal seeks to make the RCP more responsive to the capacity balance – a concept that Synergy supports in principle.</p> <p>However, with greater responsiveness comes greater volatility (an unavoidable result of using price to ration supply). Due to this increased volatility risk Synergy considers that the IMO should also consider a</p>	

		<p>price floor in order to limit the extent to which the administered capacity price can be adjusted downward.</p> <p>The specific level for the floor should be consulted on, but a level of 70% of the MRCP should balance the objective of achieving a low enough price to ensure there is no residual investment signal while recognising the importance of a stable and predictable long-term investment environment.</p>	
9.	Alinta Energy	<p>It would be preferable to consider how the RCR is set for each Capacity Year in conjunction with considering how the RCP is determined. Alinta considers that these two mechanisms are intricately linked and so more analysis of the interrelationship between the two mechanisms is required. While it may not be necessary to set these two values as part of the same process, refinements to how the RCR is set may deliver better market outcomes than the proposed amendments to the RCP. This needs to be explored further by the market.</p>	<p>The IMO notes that under the Market Rules, the IMO is required to conduct a review of the Planning Criterion and the processes by which it forecasts SWIS peak demand (which are two key inputs in the RCR determination) at least once every five years.</p> <p>The most recent reviews of the Planning Criterion and demand forecasting processes were completed in 2012, following which the Rule Change Proposal: 5-Yearly Review of the Planning Criterion (RC_2012_21) was progressed to reduce the reserve margin outlined in clause 4.5.9(a)(i) of the Market Rules from 8.2 to 7.6 percent. Additionally, the IMO has adopted the recommendations outlined in the final report of the review of SWIS demand forecasting processes in the preparation of the Statement of Opportunities from 2013 onwards. More information on these reviews is available on the Market Web Site: http://www.imowa.com.au/reserve-capacity/reserve-capacity-reviews/reserve-capacity-reviews-overview</p> <p>The IMO does not consider that a separate review for the determination of the RCR is required.</p>
10.	Alinta Energy	<p>It is unclear from the proposal why the IMO considers that it is appropriate for the applicable ceiling price in a Reserve Capacity Auction to be set at 110% of the MRCP. While Alinta appreciates that this will ensure consistency with the proposed changes to the RCP formula, to date no other evidence as to why this is an appropriate for the purposes of capping the auction price has been presented to industry for its consideration.</p>	<p>The IMO notes that the proposed amendments to the RCP formula allow the RCP to rise up to 110 percent of the MRCP when 97 percent of the RCR has been met. This price indicates the value of a Capacity Credit as supply and demand approach balance. If sufficient capacity does not become available at this time for supply and demand to balance, then a Reserve Capacity Auction would be held to procure the additional requirement. Noting that the value of additional capacity at this time (irrespective of the auction) is 110 percent of the MRCP, it is appropriate to value the capacity</p>

			submitted into the auction at 110 percent of the MRCP. Therefore, the IMO considers it appropriate to raise the ceiling price in the Reserve Capacity Auction to 110 percent of the MRCP, keeping the value of capacity consistent in both scenarios.
Dynamic Reserve Capacity refund factors			
11.	Alinta Energy	<p>Under the dynamic refund mechanism it is not possible to be 100% certain of the amount of spare capacity in the market in advance. While Alinta notes that the IMO is still considering when exactly to publish details of the spare capacity in the market, regardless of the timing for publishing this information there will never be complete certainty as to a generators exposure at any one time. That is, even if information is published ex-ante this may invoke a response from a participant which then renders the previous information out of date. For example a participant that has exceeded its allowed level of Planned Outages may determine to schedule outages (which for all intents and purposes will be treated as Forced Outages) during periods when there are high levels of spare capacity so as to minimise its exposure to refunds.</p> <p>The current capacity refund mechanism provides complete certainty to generators as to their exposure to refunds in any one trading interval making it easy to account for in decision making. Under the proposed dynamic refund mechanism it is not possible to be certain of the amount of spare capacity in the market in advance and therefore the exact exposure of a generator is uncertain. That is the dynamic refund mechanism will change the risk profile for generation assets.</p>	<p>The IMO notes that the proposed dynamic refund mechanism, in and of itself, does not affect the current likelihood of exposure to refunds for an existing Market Generator. However, it is expected to change the magnitude of refunds that an existing Market Generator with its current risk profile will face.</p> <p>The IMO notes that the publication of forecast spare capacity in a Trading Interval will be additional information to that already available to Market Generators to better inform their risk management strategies. The IMO acknowledges that a forecast cannot provide complete certainty; however, in accordance with the principles outlined in clause 7A.3.20 of the Market Rules, the IMO will provide the latest information, to the extent reasonably practicable, for Market Generators to inform their Balancing Submissions.</p>

12.	Alinta Energy	<p>The proposed dynamic refund regime is highly likely to result in maximum exposure to refunds occurring during shoulder periods when generation is on Planned Outage. Under the current market design if a large amount of generation is on outage in winter there are significant incentives for other generation to operate as there are likely to be high energy prices and low refund risk. Under the proposed mechanism while there may be high energy prices there is also likely to be high refund risk. This will potentially impact on some generators decision making.</p>	<p>The IMO considers that incentives for Market Generators to be available already exist in the market irrespective of the season. Further, the proposed Amending Rules in the Rule Change Proposal: Incentives to Improve Availability of Scheduled Generators (RC_2013_09) are aimed at maximising availability of capacity from Scheduled Generators. Coupled with RC_2013_09, the proposed dynamic refund mechanism will further strengthen the incentives for a Market Generator to be available in times of low system availability (i.e. when other plants are on Outage) thereby putting a downward pressure on prevailing energy prices.</p> <p>Also as noted previously, the proposed dynamic refund mechanism itself does not change the current likelihood of exposure to refunds for existing Market Generators. However, it is expected that Market Generators will take into account the implementation of various incentives, including the proposed dynamic refund mechanism, in their commercial decision-making, thereby increasing the overall efficiency of the market.</p>
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13.	Synergy	<p>While supportive of the proposal, Synergy is concerned about the interaction of this dynamic refunds proposal and RC_2013_09: Availability Incentives of Scheduled Generators (both of which provide incentives for generators to maximise their availability).</p> <p>Synergy considers that the dynamic Reserve Capacity refund regime leads to additional, undue, risk for Market Generators which have Facilities above the refund exempt Planned Outage cap who make a decision to undertake further Planned Outages. As part of RC_2013_09: Availability Incentives of Scheduled Generators the IMO has quite rightly recognised that a rational Market Participant would not risk the high costs of plant failure by failing to undertake necessary maintenance, even where a Facility has reached the proposed cap on refund exempt Planned Outages. A rational Market Participant would appropriately schedule this additional maintenance for a time when there is sufficient margin available to ensure system security can be maintained.</p> <p>However, under the proposed dynamic Reserve Capacity refund regime, the Market Participant – despite having scheduled its maintenance at an appropriate time - may now be exposed to a far higher refund factor resulting from unforeseen supply interruptions. Synergy considers that this is not the correct outcome for the Market Participant who has acted appropriately by scheduling its maintenance at a time that was deemed suitable for the market (via its approval from System Management). Synergy can accept that there will be a penalty for taking Planned Outages over the proposed cap, but it cannot accept that this penalty be applied anywhere from a 0.25 refund factor to a maximum of 6 refund factor. Synergy considers that it is unreasonable to expose a Facility on an approved Planned Outage, albeit that it has exceeded its Refund Exempt Planned Outage, to potentially punitive penalties because of unforeseen Forced Outages.</p>	<p>The IMO notes Synergy's concern but considers that it is appropriate to apply the prevailing refund rate consistently across all Facilities. This includes Facilities that schedule a Planned Outage over and above its Refund Exempt Planned Outage cap.</p> <p>The IMO considers that where a Facility has exceeded its Refund Exempt Planned Outage cap and then schedules a Planned Outage for a period when due to an unforeseen circumstance, the spare capacity is low and the prevailing refund rate is high, the affected Market Participant should either reschedule its discretionary maintenance (and bid into the energy market which is likely to clear at high prices) or take the Planned Outage and pay the prevailing refund rate. The IMO considers that a higher refund rate is appropriate in these circumstances as it correctly reflects the adverse impact of the Facility's unavailability.</p>
14.	Alinta Energy	<p>The proposed inflection points for the maximum refund factor (750MW) and minimum refund factor (1500MW) are based off the minimum reserve generally used by System Management in its outage planning processes. Alinta queries whether it is possible that the appropriateness of these values could change over time (i.e. if System Management may</p>	<p>The IMO notes that the proposed inflection points were originally proposed by the IMO in 2011 in its paper titled 'Review of Capacity Cost Refunds' noting that these values represented the range of required minimum reserve in the system that System Management is likely to use for Outage planning. The Lantau Group used those</p>

		<p>determine to use alternative values if there is a change in industry composition in the future) and whether it would be necessary to adjust for this in the calculation of dynamic refunds.</p> <p>Assuming that updates to the inflection points would be appropriate:</p> <ul style="list-style-type: none"> • If it is expected that the appropriateness of these values will differ very little over time then it would be appropriate for the IMO to simply facilitate a rule change if necessary in the future to update these values where they become significantly out of line with the values applied by System Management. A simple mechanism for formally monitoring the appropriateness of the values may also need to be developed; or • If the appropriateness of these values will differ significantly year on year than it would be appropriate to incorporate a formal review and update process into either the Market Rules or a relevant Market Procedure. 	<p>values to build the recommended dynamic refund factors proposal.</p> <p>The IMO notes that these values have been discussed at both the RCMWG and MAC which considered that they are appropriate at this stage and are not expected to vary greatly year on year but noted that they may require revision in the future.</p> <p>The IMO considers that any changes to these values in the future should be undertaken in consultation with System Management and other industry stakeholders and can be progressed through a rule change process at any time.</p>
Recycling of Capacity Cost Refund revenue			
15.	Alinta Energy	<p>Alinta generally supports the IMO's proposal to recycle capacity refunds to available generators so as to encourage greater levels of availability. Alinta however provides the following observation regarding the proposed changes:</p> <p>The requirement for a facility to have generated electricity during any one Trading Interval in the past 30-day period will create an incentive for some peaking generation to run at non-peak times so as to be entitled to refunds. This will be a commercial decision for generators based on whether they consider the likely capacity refund income will be greater than the costs that they incur in ensuring a non-zero level of generation occur during the relevant time period. It's unclear what potential impact this behaviour will have on the overall efficiency of the mix of generation running in the WEM, i.e. suboptimal outcomes may occur as a consequence of peakers bidding themselves into the market at low prices to ensure dispatch can occur. Alinta recommends that the IMO adjusts the eligibility criteria to be based on the availability of the generator during the past 30 days.</p>	<p>The IMO notes that a decision to become available for dispatch at any time is a commercial decision based on an assessment of risk exposure.</p> <p>The IMO does not agree with Alinta's comment that a peaking generator bidding into the energy market to be dispatched (so as to satisfy the eligibility for the rebate pool) may result in a sub-optimal outcome. The IMO considers that this is an appropriate and intended outcome because more capacity will be available at cheaper rates to be dispatched thereby putting a downward pressure on prevailing energy prices. The relevant Market Generator may decide it is beneficial to be dispatched taking into account the likely energy price and potential refund pool. The IMO does not consider that there is any detrimental effect on the overall mix of generation dispatched in the energy market by the participation of peaking generators at lower costs.</p>

	Synergy	Typically, peaking generators sell their capacity to the IMO so unwinding existing bilateral contracts to reallocate capacity refund risk would not arise. Such generators have high short run marginal cost and are infrequently dispatched. Peakers can perform necessary maintenance when the reserve margin is high and therefore be ready to dispatch when the system is under stress. This practice ensures that they are available when needed and minimises their exposure to capacity refunds. Reallocating refunds to peaking generators is unlikely to result in any decrease in their Forced Outages and so will similarly not improve system reliability to the benefit of electricity users.	The IMO considers that where a peaking generator considers that its potential revenue from being dispatched in a Trading Interval where prevailing energy prices and the allocation of refund revenue will be higher than its costs of a potential Forced Outage in that interval, the peaking generator may decide to make its capacity available for dispatch. This is likely to be in situations where availability in the system is running low and therefore appropriately incentivises increased capacity to be available at potentially lower costs.
16.	Community Electricity	Capacity Refunds are more efficiently 'recycled' to other generators rather than to Market Customers as at present. In particular, Market Customers receive sufficient capacity credits regardless of generator performance and where a generator defaults on its availability obligations, other generators bear the impact of that default in the form of increased probability of dispatch - and thereby, increased exposure to refunds. We consider that Market Customers will still be 'compensated' via the recycling-eligibility provision, in that energy prices are likely to be lower via the extra incentive for a generator to be online. That said, while we recognise the 'compromise' between optimising availability of capacity versus availability of energy, we would prefer that in respect of an interval, refunds be recycled among generators that are actually on line rather than generators that have run in the previous month. We consider that this would further incentivise the availability of lower cost energy.	The IMO notes Community Electricity's concern with the recycling of Capacity Cost Refund revenue to generators based on the eligibility criterion of dispatch in the previous 30-day period. The IMO considers that the eligibility criterion to qualify for the rebate pool allows for the minimisation of inefficient value transfers between generators with differing utilisation factors. Availability-based rebates would risk creating a value transfer from base-load and mid-merit generators to peaking generators. On the other hand, dispatch-based rebates would risk creating a value transfer the opposite way. The IMO considers that a balance needs to be achieved between risk exposure and the probability of earning reward across the spectrum of generators and considers that the most practicable way of doing this is through the application of the eligibility criterion.
17.	Perth Energy	With regards to the redistribution of the capacity refunds Perth Energy does not consider there to be any rationale for directing these refunds to capacity providers rather than to Market Customers as is currently the case. We note that the IMO and some of its advisors are of the view that as long as Market Customers are getting the product they have paid for (i.e. safe and reliable power supply) there should be no need to provide them with a refund when capacity is unavailable. There are flaws in this view. First, the same logic could be applied to the proposed new redistribution to capacity providers: Capacity providers that deliver the product that	Based on queries from some MAC members on the concept paper presented at the October 2013 MAC meeting, the IMO further elaborated on the economic principles underpinning the recycling regime in the pre Rule Change Proposal presented at the December 2013 MAC meeting. Detailed discussion on this topic was also presented in the Rule Change Proposal. In these discussions, the IMO noted that the current distribution of refund revenue to Market Customers represents an inefficient value transfer from Market Generators. This is because the current MRCP and RCP (which determine the price of Capacity Credits) do not

	<p>they are being paid to deliver have been fully compensated and there is no need to provide them with any further payment. Second, the current way of distributing the refunds is logical in that customers are getting a refund whenever some of the product is not being delivered (whether that non-delivery has any tangible impact or not).</p> <p>The current methodology also ensures that these benefits flow in a more direct way back to customers rather than an indirect way via generators. In a competitive market it should not really matter whether such refunds are directed to generators or retailers as the end result should always find its way to the customer's bottom line.</p> <p>However, Perth Energy considers that it would be reasonable to make an allowance for normal forced outage ratios and the impact forced outages have on capacity credit refunds when determining the MRCP. Explicitly allowing for some "expected refunds" when determining the MRCP would ensure that efficient generators are able to survive in the market with forced outage ratios that are in line with industry practice. At the same time, generators would continue to have strong financial incentives to minimise forced outages and ensure a high level of availability of their plant.</p>	<p>incorporate an expected refund cost for potential unplanned Outages in the delivery of capacity in the energy market. Therefore if the quality of service remains unaffected for Market Customers implying that they receive the full benefit of the capacity product they paid for, the current distribution of refund revenue to Market Customers represents an inefficient value transfer from Market Generators which does not lead to any economic benefit in the overall market. More detail on this issue is provided in section 3.1 of this report.</p> <p>The IMO notes Perth Energy's comment on including an allowance for forced outage ratios in the MRCP. However, the IMO notes that Forced Outage rates differ significantly across generators based on a number of factors including maintenance, utilisation etc. Additionally, the MRCP and RCP also compensate for Capacity Credits from demand-side sources. It is impractical to apply the concept of Forced Outages to DSPs. Based on these considerations, the IMO considers that it is not feasible to determine an expected refund cost that could apply uniformly to all capacity sources and be included in the MRCP determination.</p>
Synergy	<p>While Synergy supports the adoption of dynamic refund multipliers Synergy does not support the recycling of refunds to generators. On balance, Synergy considers that the proposal to recycle refunds to generators will not generally lead to a change in the availabilities for either energy or peaking generators and is in fact an unjustified increase in costs transferred to tax payers. The current capacity credit structure is balanced: in return for the right to receive capacity payments from the market, generators must make their capacity available to the market. Where generators fail to keep their part of the bargain, they must make a refund i.e. they must compensate the market for not providing the contracted service. The prospect of refunds provides sufficient incentive for a generator on a forced outage to return to service.</p> <p>The IMO's proposal, to recycle refunds to generators, means generators not on forced outages will get paid twice for delivering the contracted service. Synergy considers that this "unbalances" the Capacity Credit structure by transferring value from retailers to generators for</p>	<p>Further, the IMO also notes that under the Rule Change Proposal: Incentives to Improve the Availability of Scheduled Generators (RC_2013_09), previous Outage rates will now directly affect the outcomes of the certification process for Reserve Capacity which would further incentivise generators to minimise Forced Outages.</p> <p>The IMO disagrees with Synergy's comment that generators not on Forced Outages will get paid twice. As noted previously, the expected refund cost is not accounted for in the MRCP or the RCP which implies that generators do not get a double payment in the energy market if they assume the risk of another plant going on a Forced Outage.</p>

		questionable improvements in overall system reliability.	
17.	Synergy	Generators with bilateral energy contracts are exposed to price risk when they suffer Forced Outages. This is because their bilateral energy commitments to retailers will be supplied from the market at prevailing prices. This acts a strong incentive for such generators to minimise Forced Outages. It is therefore open to question whether the possibility of receiving refunds (from other generators experiencing forced outages) will change the way energy producing generators respond to forced outages.	The IMO agrees with Synergy's comment that generators are exposed to price risk when they suffer Forced Outages. However, the IMO considers that the potential of earning rebates in a Trading Interval through the recycling regime, in addition to the likely high prevailing energy prices (because of Forced Outages), may create an incentive for generators to become available for dispatch as soon as possible. This is an appropriate outcome in the market.

Appendix 2: Further Amendments to Proposed Amending Rules

The IMO has made the following further amendments to the proposed Amending Rules presented in the Rule Change Proposal (added text, ~~deleted text~~):

- 4.26.1. If a Market Participant holding Capacity Credits associated with a Facility fails to comply with its Reserve Capacity Obligations applicable to any given Trading Interval then the Market Participant must pay a refund to the IMO calculated in accordance with the following provisions.

...

- (b) The dynamic refund factor $RF_dynamic(t)$ in a Trading Interval t is equal to:

$$11.75 - \left(\frac{5.75}{750}\right) \times Spare(t)$$

where $Spare(t)$ in a Trading Interval t is equal to the sum of the quantities calculated as follows:

- i. for each Scheduled Generator for which a Market Participant holds Capacity Credits:
 1. the MW quantity of Capacity Credits; less
 2. the MW quantity of Outage determined in accordance with clause 7.13.1A(b)(ii); less
 3. the Sent Out Metered Schedule multiplied by two so as to be a MW quantity;

[Note: The IMO intends to propose amendments to clause 7.13.1A(b) to receive Outage data as measured at 15 degrees and 41 degrees Celsius in the proposed Rule Change Proposal: Outages and the Application of Availability and Constraint Payments to Non-Scheduled Generators (PRC_2013_16). Clause 4.26.1(b)(i)(2) will be proposed to be further amended in PRC_2013_16 to refer to the Outage data measured at 41 degrees Celsius]

- ii. for each Non-Scheduled Generator that received a Dispatch Instruction to decrease its output under clause 7.6.1C and for which a Market Participant holds Capacity Credits:
 1. the estimate of the maximum quantity of sent out energy which would have been generated had a Dispatch Instruction not been issued, as provided by System Management in accordance with clause 7.13.1(eF), multiplied by two so as to be a MW quantity; less

2. the Sent Out Metered Schedule multiplied by two so as to be a MW quantity; and
- iii. for ~~each~~ Demand Side Programme within the periods specified in clause 4.10.1(f)(vi) and for which a Market Participant holds Capacity Credits:
 1. the Demand Side Programme Load multiplied by two so as to be a MW quantity; less
 2. the sum of the minimum load MW quantities provided under clause 2.29.5B(c) for the Facility's Associated Loads.

[Note: It should be noted that clause 4.10.1(f)(vi) which is referred to in this clause 4.26.1(b)(iii) is proposed to be amended to reflect the new availability periods for a DSP in the Final Rule Change Report: Harmonisation of Demand-Side and Supply-Side Capacity Resources (RC_2013_10)]

- (c) Subject to clause 4.26.1(d), the minimum refund factor $RF_{\text{floor}}(t)$ in a Trading Interval t is equal to:

$$1 - 0.75 \times Dispatchable(f, t)$$

where $Dispatchable(f, t)$ for a Facility f in a Trading Interval t , over the 4,320 Trading Intervals prior to and including that Trading Interval, is determined as:

$$1 - \left(\frac{\sum FO(t)}{\sum Cap(t)} \right)$$

where:

- i. $FO(t)$ is the quantity of Forced Outage determined in accordance with ~~Appendix 10~~ clause 3.21.6(b); and
- ii. $Cap(t)$ is the capacity for the Facility ~~determined in accordance with Appendix 10.~~ given by
 1. the number of Capacity Credits held by the Facility in Trading Interval t if the Facility holds Capacity Credits and had its Certified Reserve Capacity assigned using the methodology described in clause 4.11.1(a); or
 2. the Sent Out Capacity of the Facility as recorded in Standing Data (Appendix 1(b)(iii) if the Facility is a Scheduled Generator and Appendix 1(e)(iiiA) if the facility is a Non-Scheduled Generator) during Trading Interval t otherwise.

...

[Note: The IMO intends to propose amendments to clause 3.21.6(b) to clarify the calculation of Forced Outage MW quantities for Scheduled and Non-Scheduled Generators in the proposed Rule Change Proposal: Outages and the Application of Availability and Constraint Payments to Non-Scheduled Generators (PRC_2013_16). Clause 4.26.1(c) will be proposed to be further amended in PRC_2013_16 based on the proposed amendments to clause 3.21.6(b)]

...

- (e) The Trading Interval Refund Rate for a Facility f in a Trading Interval t is equal to:

...

and that the IMO has determined under clause 4.13.10B, is in Commercial Operation, Y equals θ zero; and

...

...

- 4.26.3A. The Demand Side Programme Capacity Cost Refund for Trading Month m for a Market Participant p holding Capacity Credits associated with a Demand Side Programme is equal to the lesser of:

- (a) the Maximum Participant Demand Side Programme Refund determined for Market Participant p and Trading Month m ~~twelve times the Monthly Reserve Capacity Price for Trading Month m multiplied by the number of Capacity Credits associated with the Facility,~~ less all Demand Side Programme Capacity Cost Refunds applicable to Market Participant p ~~the Facility~~ in previous Trading Months falling in the same Capacity Year as Trading Month m ; and

...

- 4.26.4. For each Market Participant holding Capacity Credits associated with a Scheduled Generator or a Demand Side Programme, the IMO must determine the amount of the rebate ("**Participant Capacity Rebate**") to be applied for Trading Month m as the sum of all Facility Capacity Rebates determined in accordance with clause 4.26.6.

...

4.26.6 The Facility Capacity Rebate for Facility f , being a Scheduled Generator or a Demand Side Programme for which a Market Participant holds Capacity Credits, is the sum over all Trading Intervals t in Trading Month m of:

...

(a) $CC(f, t)$ which equals:

- i. for a Scheduled Generator, the MW value of Capacity Credits less the MW quantity of Outage as determined in accordance with clause 7.13.1A(b)(ii); and

...

(b) $E(f, t)$ which is the eligibility of the Facility f in Trading Interval t , where eligibility is equal to:

- i. one if, subject to clause 4.26.7, Facility f ~~was dispatched and generated~~ (for a Scheduled Generator) or dispatched and reduced (for a Demand Side Programme) a non-zero MW quantity value in any one Trading Interval of the 1,440 Trading Intervals prior to and including Trading Interval t ; or
- ii. zero otherwise.

[Note: The IMO intends to propose amendments to clause 7.13.1A(b) to receive Outage data as measured at 15 degrees and 41 degrees Celsius in the proposed Rule Change Proposal: Outages and the Application of Availability and Constraint Payments to Non-Scheduled Generators (PRC_2013_16). Clause 4.26.6(a)(i) will be proposed to be further amended in RC_2013_16 to refer to the Outage data measured at 41 degrees Celsius]

4.26.7 For the purposes of clause 4.26.6(b)(i), a Facility is deemed to have generated a non-zero MW ~~value~~quantity if it meets the requirements for a Reserve Capacity Test specified in clause 4.25.1(a) in any one Trading Interval of the 1,440 Trading Intervals prior to and including Trading Interval t .

...

4.28A.1 The IMO must determine for each Intermittent Load registered to Market Participant p the amount of the refund (“~~Intermittent Load Refund~~**Intermittent Load Refund**”) to be applied for each Trading Month m in respect of that Intermittent Load as the sum over all Trading Intervals t of Trading Day d in the Trading Month m of the product of:

- (a) the applicable value of Y ~~in the Refund Table~~ described in clause 4.26.1 is that which applies for Scheduled Generators; and

...

...

4.29.1. The Monthly Reserve Capacity Price to apply during the period specified in clause 4.1.29 is to equal:

...

(d) if no Reserve Capacity Auction was run for the Reserve Capacity Cycle from 2014 onwards, the value calculated as below and divided by 12:

$$\text{MIN}\left\{\left(\frac{BRCP \times 1.1}{1 - ((\text{surplus} + 0.03) \times -3.75)}\right), BRCP \times 1.1\right\}$$

where:

- i. *BRCP* is the Benchmark Reserve Capacity Price determined in accordance with clause 4.16; and
- ii. *surplus* is the percentage amount of excess capacity calculated as:
 1. the total number of Capacity Credits assigned by the IMO in accordance with clause 4.20.5A for the Reserve Capacity Cycle; less
 2. the Reserve Capacity Requirement for the Reserve Capacity Cycle,

divided by the Reserve Capacity Requirement for the Reserve Capacity Cycle, ~~multiplied by 100.~~

...

7.6.10A. System Management must provide the IMO the consumption data received under clause 7.6.10 from each Market Participant with a Demand Side Programme, as soon as reasonably possible after receipt of that data.

7.13.1. System Management must provide the IMO with the following data for a Trading Day by noon on the first Business Day following the day on which the Trading Day ends:

...

~~(eH) the consumption data provided to System Management by each Market Participant with a Demand Side Programme under clause 7.6.10;~~

[Note: Drafting of clause 7.13.1(eH) reflects the proposed amendments in the proposed Amending Rules in the Final Rule Change Report: Harmonisation of Demand-Side and

Supply-Side Capacity Resources (RC_2013_10) which is proposed to commence on 1 October 2016.]

...

11 Glossary

...

Balancing Forecast: Means a forecast, determined by the IMO in accordance with the Balancing Forecast Market Procedure, for a Trading Interval, of the following:

- (a) the Relevant Dispatch Quantity for the Trading Interval;
- (b) the aggregate output of all Non-Scheduled Generators which are Balancing Facilities for the Trading Interval; ~~and~~
- (c) the Balancing Price for the Trading Interval; ~~and~~;
- (d) the spare capacity for the Trading Interval.

...

Maximum Participant Demand Side Programme Refund: The total value of the Capacity Credit payments paid or to be paid under these Market Rules to the relevant Market Participant in relation to its Demand Side Programmes, for the relevant Capacity Year assuming the IMO acquires all of the Capacity Credits held by the Market Participant in relation to its Demand Side Programmes and the cost of each Capacity Credit so acquired is determined in accordance with clause 4.28.2(b), (c) and (d) (as applicable).

...

Maximum Participant Generation Refund: The total value of the Capacity Credit payments paid or to be paid under these Market Rules to the relevant Market Participant in relation to all of its generating Facilities, for the relevant Capacity Year~~12 Trading Months commencing at the start of the Trading Day of the previous 1 October (excluding any payments relating to a Demand Side Programme)~~ assuming the IMO acquires all of the Capacity Credits held by the Market Participant in relation to its generating Facilities ~~(excluding any Capacity Credits held for Demand Side Programmes)~~ and the cost of each Capacity Credit so acquired is determined in accordance with clause 4.28.2(b), (c) and (d) (as applicable).

...

Appendix 3: Analysis of the Proposed Amendments for the Reserve Capacity Price and Dynamic Reserve Capacity Refunds Regime

The IMO has prepared this appendix to the Draft Rule Change Report for RC_2013_20 to summarise the key recommendations and supporting analyses presented at the Reserve Capacity Mechanism (RCM) Working Group (RCMWG) over 2012 with a view to facilitate Market Participants' assessment of the proposed amendments presented in this Rule Change Proposal.

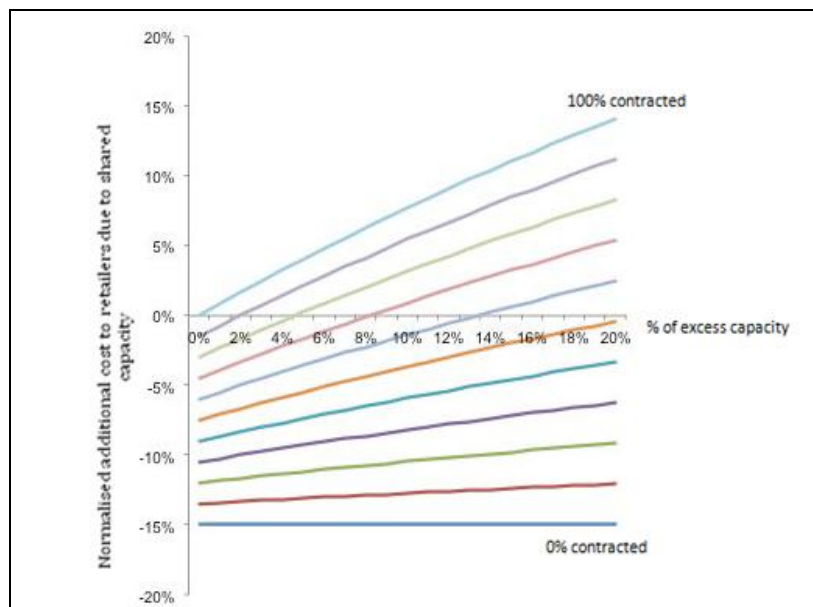
1. Changes to the Reserve Capacity Price Formula

Issue

A key issue with the current RCM is the asymmetry of incentives between capacity users (Market Customers) and capacity providers (predominantly Market Generators) to contract bilaterally for capacity. Additionally, the current downward adjustment in the Reserve Capacity Price (RCP) formula, which is triggered by excess capacity, is not dynamic enough to respond to changing market conditions.

Figure 1 below shows the current risk management options available to a Market Customer. It should be noted that in the current RCM, bilateral contracting is not a preferred option for a Market Customer to mitigate its exposure to shared reserve capacity cost¹⁵ (SRCC).

Figure 1: SRCC compared with excess capacity at different levels of contracting- current RCP formula



¹⁵ Shared Reserve Capacity Cost is defined in clause 4.28.4 of the Market Rules. Broadly, it is the cost of Capacity Credits acquired by the IMO but not allocated to fulfilling the RCR.

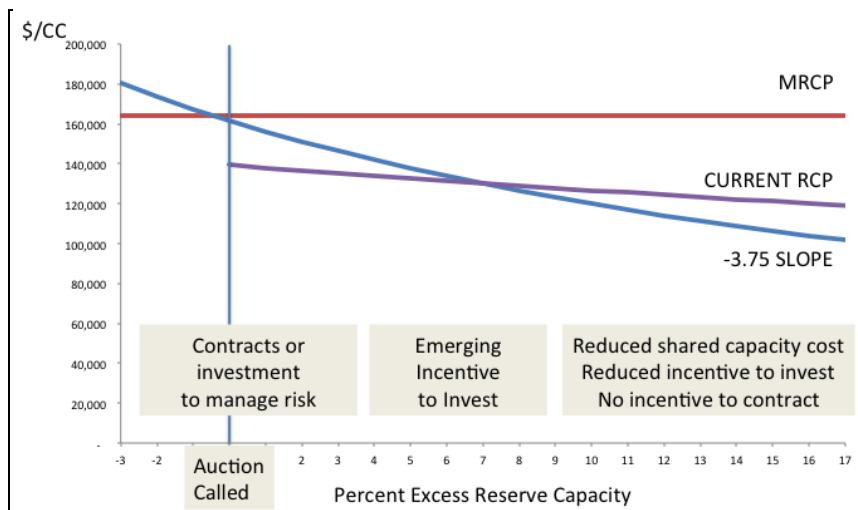
Proposed amendments

The solutions proposed at the RCMWG and in this Rule Change Proposal incorporate:

- (a) the ability for the RCP to rise up to 110 percent of the Maximum Reserve Capacity Price (MRCP) such that the price of an uncontracted Capacity Credit would be 110 percent of the MRCP when 97 percent of the Reserve Capacity Requirement has been fulfilled; and
- (b) a change in the Excess Capacity Adjustment component of the RCP formula to increase the rate of discount of the RCP in response to excess capacity which is effected by a steeper slope function recommended to be -3.75 replacing the current -1 slope embedded into this component of the RCP formula.

Figure 2 illustrates the difference between the current and the proposed new RCP formula.

Figure 2: Proposed RCP formula compared with current RCP formula



Source: The Lantau Group's paper presented to the RCMWG on 22 November 2012

Outcomes

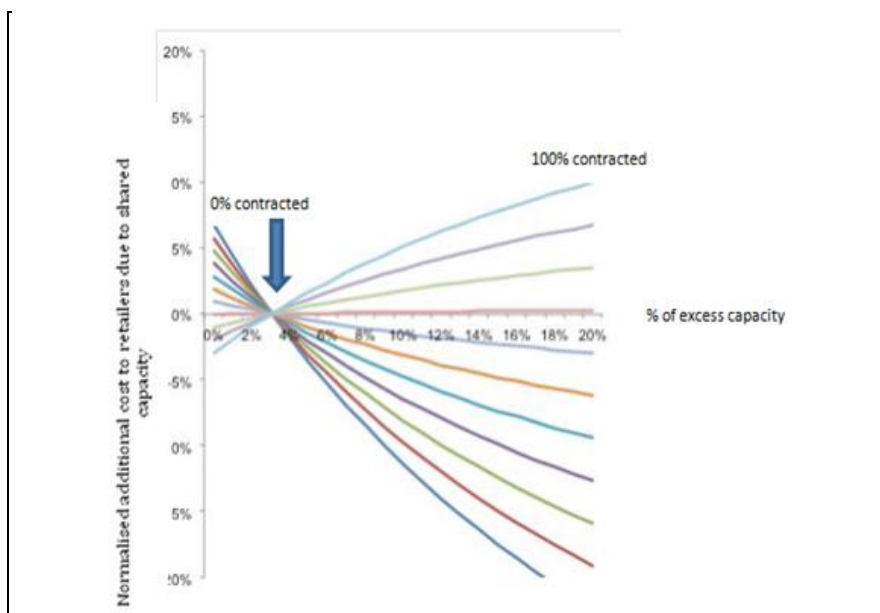
The current initial set-point of the RCP (being 85 percent of the MRCP) distorts the incentive for Market Customers to hedge their risks of purchasing Capacity Credits through Bilateral Contracts. By setting the initial set-point of the RCP as 110 percent of the MRCP, Market Customers become exposed to the risk of purchasing Capacity Credits at a higher cost from the IMO as excess capacity declines. This provides for symmetry of risk between Market Customers and Market Generators and creates an incentive for the Market Customer to contract for new capacity as the market requires new investment.

Steepening the slope function creates greater sensitivity to market conditions. The value of a Capacity Credit therefore declines at a faster rate as excess capacity

increases, sending a signal to defer investment that is not required.

Overall, the proposed RCP formula strengthens the incentives for a Market Customer to bilaterally contract for capacity so as to hedge against Shared Reserve Capacity Costs. This is illustrated in Figure 3 which shows that a Market Customer's SRCC remains at approximately zero if it contracts for 70% of its capacity requirement.¹⁶

Figure 3: SRCC compared with excess capacity at different levels of contracting- proposed RCP formula



Source: RCM Recommendation- presented by Mike Thomas of The Lantau Group to RCMWG on 11 October 2012

Table 1 below shows the RCP values that the current and proposed formula would yield.

Capacity Year	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Actual/projected ¹⁷ RCR	5312	5308	5119	5263	5438	5604	5759
Actual/projected ¹⁸ capacity	6086.829	6040.161	5683.315	5708	5733	5758	5783
Surplus (MW)	775	732	564	445	295	154	24
Surplus (%)	14.6%	13.8%	11.0%	8.5%	5.4%	2.7%	0.4%
Actual/projected ¹⁹ MRCP	\$240,600	\$163,900	\$157,000	\$176,800	\$181,200	\$185,700	\$190,300
RCP ²⁰ - current formula	\$178,477	\$122,428	\$120,199	\$138,564	\$146,095	\$153,623	\$161,084
RCP - proposed formula	\$159,483	\$110,624	\$113,179	\$136,041	\$151,467	\$168,047	\$185,555

¹⁶ Detailed analyses of various hedging options are provided in The Lantau Group's memo available here: http://www.imowa.com.au/f5415.2978683/Combined_Meeting_9_RCMWG_Papers.pdf.

¹⁷ Taken from 2013 Statement of Opportunities. It should also be noted that 2015/16 figure assumes Kwinana C retirement.

¹⁸ Assumes increase of 25 MW per year.

¹⁹ Indexed at 2.5 percent after 2016/17.

²⁰ For illustration purposes, RCP calculations assume that administered price applies, even in shortfall.

2. Dynamic Refund Factors and Recycling of Capacity Cost Refund Revenue

Issue

RCMWG members noted the following issues with the current Capacity Cost Refund mechanism:

- (a) refund factors are not aligned to time periods of greatest system need resulting in inefficient decisions by generators on the scheduling of maintenance and presentation of capacity;
- (b) the value of refunds potentially greatly exceeds the economic value of capacity when excess capacity exists in the WEM;
- (c) the current Capacity Cost Refund mechanism is more punitive for generators with high utilisation rates such as baseload generators as they can be exposed to the risk of refunds in practically every Trading Interval of the year; and
- (d) refunds are distributed to Market Customers however it is the RCM as a whole, not the performance of individual capacity resources that is responsible for ensuring adequate capacity. The MRCP and RCP (that determine the payment for capacity made by Market Customers) do not currently include an expected refund cost to account for unplanned supply interruptions. As a consequence, the Capacity Cost Refund revenue currently received by Market Customers amounts to an uncertain revenue stream with no long-term benefits. This value transfer from Market Generators to Market Customers would ultimately need to be offset by higher energy costs or higher capacity prices.

Proposed amendments

The solutions proposed at the RCMWG and in this Rule Change Proposal incorporate:

- (a) the determination of refund factors based on the available spare capacity in a Trading Interval while retaining the maximum refund factor of 6 (triggered at 750MW) and the minimum refund factor of 0.25 (triggered at 1500MW);
- (b) the minimum refund factor scaling up from 0.25 to 1 for Facilities that were unavailable in the previous 90-day rolling period; and
- (c) the Capacity Cost Refund revenue collected in a Trading Interval being recycled to capacity providers that have met the eligibility criterion of generating (in the case of Scheduled Generators) or reducing consumption in response to a Dispatch Instruction (in the case of DSPs) a non-zero MW quantity in any one Trading Interval in the previous 30-day rolling period. Rebates for a Trading Interval would be allocated to capacity providers based on their share of available Capacity Credits in that Trading Interval.

Outcomes

Dynamic refund factors will appropriately reflect the greater value associated with capacity that is presented when system reserve is becoming low. This will focus the incentives for Market Generators to maximise their availability and reduce their risk of exposure to refunds arising from plant failure at these times. Retaining the maximum refund factor of 6 will provide certainty on the level of refund exposure in low reserve periods.

Allowing the minimum refund factor to scale up to 1 based on a Facility's level of availability in the previous 90-day period will achieve a balance between implementing the fundamental principle that capacity payments should be forfeited by Market Participants that do not deliver capacity during the Capacity Year and ensuring the protection for generators with high utilisation factors from punitive refund exposure when reserves in the system are relatively high.

Recycling the Capacity Cost Refund revenue to capacity providers will minimise inefficient value transfers from Market Generators to Market Customers. It will promote a balance between risk and reward for all generators in the energy market and promote efficient scheduling of plant maintenance so that capacity is readily available for dispatch when the market needs it the most. Additionally, it is likely to reduce administrative costs of the IMO and System Management with regard to Reserve Capacity Tests for those generators that have already met the eligibility criterion.

Figure 4 below shows the dynamic determination of refund factors based on the spare capacity in a Trading Interval.

Figure 4: Dynamic refund factors with a floating minimum refund factor

