Wholesale Electricity Market – Procedure Change Proposal

Procedure Change No: PC_2011_06

Change requested by:

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Procedure change title:	5-yearly Review of the Methodology and Process for Determining the Maximum Reserve Capacity Price
Market Procedure affected:	Market Procedure for Maximum Reserve Capacity Price

Introduction

The Independent Market Operator (IMO) or System Management, as applicable, may initiate the Procedure Change Process by developing a Procedure Change Proposal. Rule Participants may notify the IMO or System Management, as applicable, where they consider an amendment or replacement of a Market Procedure would be appropriate.

If an Amending Rule requires the IMO or System Management to develop new Market Procedures or to amend or replace existing Market Procedures, then the IMO or System Management, as applicable, is responsible for the development, amendment, or replacement of Market Procedures so as to comply with the Amending Rule.

Market Procedures:

(a) must:

i. be developed, amended or replaced in accordance with the process in the Market Rules;

ii. be consistent with the Wholesale Market Objectives; and

iii. be consistent with the Market Rules, the Electricity Industry Act and Regulations; and

(b) may be amended or replaced in accordance with clause 2.10 and must be amended or replaced in accordance with clause 2.10 where a change is required to maintain consistency with Amending Rules.

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.

Details of Procedure Change Requested

1. Provide a reason for the proposed new, amended or replacement Market Procedure:

Background

The Maximum Reserve Capacity Price (MRCP) sets the maximum bid that can be made in a Reserve Capacity Auction and is used to determine an administered Reserve Capacity Price if no auction is required. The MRCP aims to reflect the marginal cost of providing additional Reserve Capacity. Each year the IMO determines the MRCP.

Clause 4.16.9 of the Market Rules requires the IMO to review the MRCP Market Procedure once in every five year period. To assist in undertaking this five year review, the MAC established the MRCP Working Group (WG) in 2010 to consider, assess and develop any recommendations for changes to the Market Procedure. The MRCPWG first met on 31 May 2010 and last met on 20 June 2011 with a total of ten meetings held. A record of the proceedings of the MRCPWG can be found at www.imowa.com.au/MRCPWG.

To enact the outcomes of the MRCPWG review, the IMO has made related amendments to the MRCP Market Procedure as detailed in the attached copy of the Market Procedure.

The MRCPWG's Review

Early in its review the MRCPWG agreed that the MRCP should continue to be based on the concept of a 160 MW Open Cycle Gas Turbine (OCGT) power plant. However the MRCPWG has agreed a number of changes, as follows, that will require amendments to the Market Procedure:

- where cost effective to do so the definition of the model power station is to include a provision for an inlet air cooling system which will affect power station capital costs and impact the summer de-rating factor. The likely capacity value for the model power station is also to be assessed annually in the consultant report on the power station capital costs. The MRCPWG agreed that a developer for a facility similar to the model plant would be likely to install inlet cooling as a cost effective method of boosting Capacity Credit income;

- the Fixed Fuel Cost should include an allowance to initially fill the fuel tank with sufficient distillate for 14 hours of operation, not 12 hours as currently indicated in the Market Procedure. This aligns the Market Procedure with the requirements for Certified Reserve Capacity under clause 4.11.1 of the Market Rules;
- where the minimum available land size in any particular location is greater than 3ha, a greater land size is to be considered for that location. In addition the IMO shall have the scope to include additional locations, where appropriate, for purposes of the MRCP. The MRCPWG adopted these changes to allow for instances where a minimum land size of 3ha is not available and the inclusion of additional regions to reflect the areas, within the South West interconnected system (SWIS), where generation projects are most likely to be proposed. With the Transmission Connection Cost estimate method being amended (described below) and decoupled from specific location, the calculation of the Capital Cost shall be made using the average of the Land Costs across all locations;
- the effective compensation period for the total investment costs for the generic power station cost, which was previously 2 years, is to be changed to 6 months. This was based on the assumption that the total investment cost of the generic power station will be incurred in even incremental amounts over the 12 month period immediately preceding the first Capacity Year. PricewaterhouseCoopers (PwC) recommended the change in assumed construction period in their report on the Weighted Average Cost of Capital (WACC)[1] methodology and the MRCPWG agreed the change. In relation to this it was agreed that the total investment costs for the generic power station shall be determined as at the same date, being April of Year 3 of the relevant Reserve Capacity Cycle;
- escalation of values in respect of power station, transmission, switchyard and Operating and Maintenance (O&M) costs to April of Year 3 is to be performed by the consultant(s) developing the cost estimates, with the methods to be explained;
- an allowance for annual asset insurance costs for the model power plant is to be included within Fixed O&M Costs. The MRCPWG agreed a provision should be made within the Market Procedure for the inclusion of annual asset insurance costs;
- the methodology for forecasting Transmission Connection Works costs is to be based on historical connection costs and relevant access offers determined by Western Power. The Sinclair Knight Merz (SKM)[2] report on determining Deep Connection Costs recommended the use of an alternative methodology of using historic connection costs to indicate future connection costs. The MRCPWG agreed to adopt the recommended methodology;
- debt issuance costs are to be included within the WACC and corresponding debt financing costs are to be removed from within margin M. The Market Procedure will continue to maintain an allowance for financing costs associated with equity raising in the determination of margin M;
- the “Minor” and “Major” components as listed under procedure step 1.13.8 are to be been renamed as having “Annual” and “5-yearly” “Review Frequency” as the MRCPWG deemed that this would clarify the review status of the components listed under procedure step 1.13.8;

[1] Maximum Reserve Capacity Price – WACC methodology http://www.imowa.com.au/f2179,1210106/PwC_MRCP_WACC_-_Final_Report_28_February_2011.pdf

[2] Calculation Methodology to be Applied in Determining Deep Connection Costs http://www.imowa.com.au/f2179,1254370/WP04128_-_IMO041_MRCP_Deep_Connection_Cost_Calculation_Method_Interim_Report_Rev3.pdf

- the WACC components are to be re-classified to reflect the need for annual review. Specifically the Statutory Corporate tax rate is to be classified for "Annual" review (formerly classed as a "Minor" component) component as the rate of corporate tax can change from year to year. The Debt issuance costs are to be classified for "5-yearly" review (formerly classed as a "Major" component) component, with a fixed value of 0.125%, as they are not considered to be significantly volatile on an annual basis; and
- given the reducing availability of bond market data and current regulatory uncertainty, the IMO is to have discretion to nominate a method for determining the Debt Risk Premium (DRP) that is consistent with current accepted Australian regulatory practice. In addition the MRCPWG also agreed that the Market Procedure is to include a statement expressing the intent to amend the Procedure if the "Bond Yield Approach" developed by the Economic Regulation Authority (ERA)[3] becomes accepted Australian regulatory practice.

The MRCPWG considered the limitations of the existing DRP calculation methodology based data supplied by Bloomberg. The ERA presented an alternative approach that it has applied in a recent regulatory decision (WAGN[4]), however that decision is being challenged at the Australian Competition Tribunal by WAGN[5]. The MRCPWG noted the merits of the ERA's approach, but also noted that the method could not be considered as accepted regulatory practice whilst the decision was being challenged. Based on this the IMO considers it prudent to allow for the continued use of the current methodology with some minor amendments as recommended by PwC. However noting the in principle agreement by the MRCPWG of the merits of the ERA's approach the IMO intends to further amend the Market Procedure if and when the ERA's proposed methodology is adopted as accepted regulatory practice.

The MRCPWG has noted that the basis of the contingency cost in the calculation of Margin M was ambiguous and incompatible with the rest of the Market Procedure. As a result it was agreed that the Market Procedure should be updated, to clarify and align the contingency provision with the current practice of applying the contingency allowance to the full Power Station cost rather than the other components of margin M. The proposed revised Market Procedure reflects this agreement.

In addition it should also be noted that the IMO has made a number of minor changes to the format and wording of the Market Procedure. These changes are intended to improve clarity and the readability of the Market Procedure.

Impact of the proposed amendments to the Market Procedure

Analysis has been performed by the IMO to estimate the impact of implementation of the agreed changes with regards to annual insurance costs, the increase in the fuel requirement from 12 to 14 hours, the allowance for a minimum land size above 3 ha, the application of a construction uplift factor, the inclusion of inlet cooling in the Power Station definition, the revised Transmission Connection Cost (TCC) methodology and the reduced effective construction period of 6 months.

[3] Debt Risk Premium – ERA Methodology http://www.imowa.com.au/f2179,1210187/Appendix_A_-_ERA_presentation_-_DRP_to_the_MRCPWG_-_24_March_2011.pdf
[4] ERA Final decision on WA Gas Networks Pty Ltd proposed revised access arrangement http://www.erawa.com.au/cproot/9382/2/20110228%20Final%20decision%20on%20WA%20Gas%20Networks%20Pty%20Ltd%20proposed%20revised%20access%20arrangement%20for%20the%20MW%20and%20SW%20GDS.pdf
[5] WA Gas Networks (WAGN) Media Release http://www.wagn.com.au/LinkClick.aspx?fileticket=RwkyI238dUs%3d&tabid=39

The analysis considers the impact of the changes if they had been in place at the time of determination of the MRCP for the 2013/14 Capacity Year. It should be noted that this indicative comparison is provided for information only and is reflective of the outcomes of the proposed methodology at a point in time. Future MRCP determinations could be affected by changes in MRCP cost components, including construction costs, currency exchange rates or future transmission connection offers.

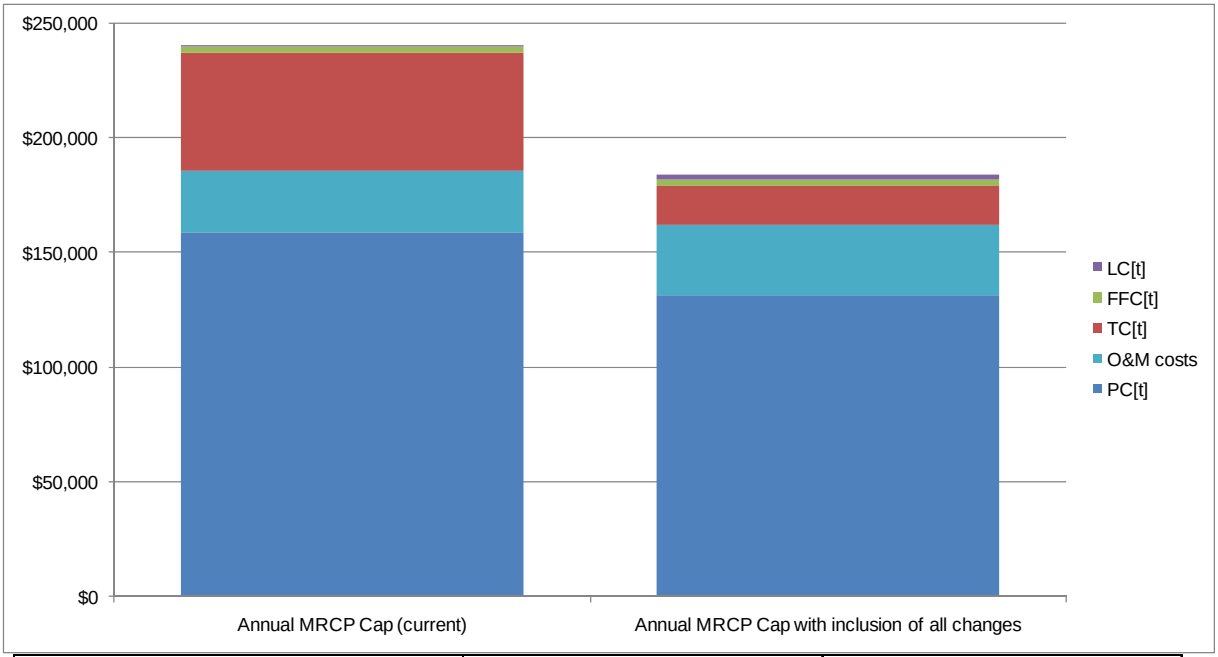
The comparison is based on the following assumed variations:

- The WACC has been applied to allow 6 months of return during the construction period (as proposed by PwC and endorsed by the MRCPWG) versus 2 years, as is currently applied. In order to calculate a value at 6 months prior to completion of construction (April of Year 3) an escalation rate of 3% has been estimated and applied for 22 months. The rate of 3% has purely been used for comparison purposes;
- The TCC methodology as proposed by SKM and endorsed by the MRCPWG, producing a TCC of $127,000 per MW versus the current value of $305,000 per MW has been used for comparison purposes;
- Inlet Cooling, including water injection, has been included in the Power Station definition increasing the estimated power station capital cost from $121.8M to $127.3M (+4.5%) and effective capacity at 41°C from 135.6MW to 159.9MW (+17.9%);
- The fuel requirement has been increased from 12 to 14 hours at full operation;
- The average land cost across all locations which increases the total Land Cost value used from $773,000 to $2,808,300; and
- The inclusion of annual insurance premiums within the fixed O&M cost as agreed by the MRCPWG. An estimated asset insurance cost of $2,500 per MW has been used for this exercise. This estimate is based on indicative quotations obtained from insurance brokers. This cost shall be determined on an annual basis.

The table below provides indicative analysis of the impact of the changes listed above on the 2013/14 MRCP. However the IMO notes that if the changes are implemented through this Procedure Change Proposal, they would be applied for the first time in the determination of the 2014/15 MRCP.

The graph following the table illustrates the relative contribution of the various component costs to the total MRCP, both under the current methodology and under a methodology where all of the changes listed in the table above are implemented. A comparison for implementation of the revised DRP methodology has not been included as the proposed amendments to the Market Procedure provide an option to use an alternative methodology rather than a requirement to do so.

	MRCP ($)	Percentage change (%)
Annual MRCP Cap (current)	240,621	0%
MRCP with Insurance costs	243,121	1%
MRCP with increase in fuel requirement from 12 to 14 hours	241,241	0.3%
MRCP using average land cost	242,614	0.8%
MRCP with WACC applied based on 6 months return	227,836	-5%
MRCP with inlet cooling (including water injection)	214,172	-11%
MRCP with new Transmission Cost methodology	210,657	-12%
MRCP with all changes incorporated	**184,035**	**-24%**



Capacity Year	13/14 current	13/14 indicative
Power Station Cost	$ 158,710	$ 131,261
Transmission Costs	$ 51,621	$ 17,137
Fixed O& M	$ 26,649	$ 30,805
Fuel Costs	$ 2,825	$ 2,608
Land Costs	$ 818	$ 2,163
MRCP (nearest $100)	$ 240,600	$ 184,000

Implications to the operation of existing WEM processes and physical outcomes

Any changes to future MRCPs resulting from these proposed amendments will be proportionately reflected in the Reserve Capacity Price and Reserve Capacity Refunds. The IMO notes that it is reviewing both the Reserve Capacity Price calculation and the refund regime in its Reserve Capacity Mechanism review, which is due to be presented to the MAC in late 2011.

The Short Term Energy Market and Balancing mechanism are both based on Short Run Marginal Cost. These should not be directly affected by changes to the MRCP methodology.

Financial costs and benefits

The proposed amendments to the Market Procedure are anticipated to require slightly higher consultancy fees in the annual MRCP determination, particularly through the appointment of an auditor to review the transmission cost estimate calculated by Western Power. However, the proposed transmission cost methodology is easier for Western Power to calculate and would require less of Western Power's resources to be diverted away from real access applications. The IMO is currently obtaining quantitative estimates of the cost increases and reduction in Western Power's requirements.

As noted in Section 4 below, the IMO considers that the proposed amendments better address the Market Objectives.

Public workshop

The IMO held a public workshop on 1 September to discuss the proposed amendments to the MRCP methodology. The presentations and minutes from this workshop are available on the following Market Web Site: http://www.imowa.com.au/PC_2011_06

Following this workshop, minor amendments have been made to the proposed Market Procedure as developed by the MRCPWG. These changes relate to:

- The addition of water receival and storage facilities to allow 14 hours of continuous operation;
- Clarification that no additional costs are to be added to the direct connection cost scope in steps 1.8.2 a-h of the Market Procedure when this value is used for a year for which no connection data is available; and
- Clarification of the facilities that are considered in the transmission connection cost estimate.

Request for public consultation

The IMO is seeking submissions regarding this proposal. The submission period is 20 Business Days from the publication of this Procedure Change Proposal. Submissions must be delivered to the IMO by **5:00pm on Tuesday 4 October 2011.**

The IMO prefers to receive submissions by email to market.development@imowa.com.au using the submission form available on the IMO website: http://www.imowa.com.au/procedure-changes

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

Independent Market Operator
Attn: Group Manager, Market Development
PO Box 7096
Cloisters Square, Perth, WA 6850
Fax: (08) 9254 4399

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2. Provide the wording of the Procedure

The proposed revised Market Procedure for Maximum Reserve Capacity Price is provided as an attachment to this proposal.

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3. Describe how the proposed changes to the Market Procedure would be consistent with the Market Rules, the Electricity Industry Act and Regulations

The proposed revised Market Procedure has been reviewed as a whole by the IMO to ensure compliance of the Market Procedure with the relevant provisions in the:

- Market Rules;
- Electricity Industry Act 2004; and
- Regulations made under the Electricity Industry Act 2004.

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4. Describe how the proposed changes to the Market Procedure would be consistent with the Wholesale Market Objectives

The IMO considers that the revised Market Procedure will better Market Objective (a) by promoting economic efficiency through greater alignment of the MRCP with real-world costs.

The IMO considers that the steps are drafted in a way that does not change the operation or objectives of the Market Rules. As a result the IMO considers that the revised Market Procedure, as a whole, is consistent with the Wholesale Market Objectives.