

Issues Paper: Ancillary Service Margin_Peak, Margin_Off-Peak and Cost_LR parameters 2010/11 to 2012/13

24 December 2009

Economic Regulation Authority



WESTERN AUSTRALIA

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1 Introduction

1.1 Background and Scope of this Issues Paper

Under clause 3.13 of the Wholesale Electricity Market Rules (**Market Rules**), the Economic Regulation Authority (**Authority**) is required to determine the ancillary service Margin_Peak, Margin_Off-Peak and Cost_LR parameters. Determinations are made for review periods of three years duration, the first of which was 1 July 2007 to 30 June 2010 (**first review period**), and the second of which is 1 July 2010 to 30 June 2013 (**second review period**).

Pursuant to the Market Rules, the Authority has received submissions from:

- the Independent Market Operator (**IMO**) proposing the Margin_Peak and Margin_Off-Peak parameters;¹ and
- System Management proposing the Cost_LR parameter.²

These proposals are available on the Authority's [web site](#).³

The Authority has prepared this issues paper to assist interested parties in understanding and making submissions on the proposals.

The remainder of this issues paper addresses the following matters:

- the requirements of the Market Rules for determinations of these ancillary service parameters;
- the process to be followed by the Authority in making determinations on these parameters;
- background information on the parameters; and
- summary information on the proposals submitted by the IMO and System Management.

1.2 How to Make a Submission

A notice has been posted on the Authority's web site advising the release of this issues paper. This notice invites submissions to be lodged with the Authority by **4.00pm (Western Standard Time) on Wednesday 27 January 2010**. Submissions should be in written and electronic form (where possible) and addressed to:

Issues Paper: Determination of allowable revenue for the IMO and System Management, and ancillary service parameters 2010/11 to 2012/13

Economic Regulation Authority
PO Box 8469
Perth Business Centre

¹ Independent Market Operator, 11 December 2009, 2009 Margin Peak and Margin Off-Peak Report (inclusive of an independent assessment by the consultant McLennan Magasanik Associates).

² Western Power, 26 November 2009, Determination of Cost_LR Ancillary Service Parameters.

³ ERA web site, Determination of the IMO and System Management Allowable Revenue, http://www.era.wa.gov.au/2/272/42/determination_o.pm

PERTH WA 6849

Email: publicsubmissions@era.wa.gov.au

Fax: (08) 9213 1999

In general, submissions from interested parties will be treated as in the public domain and placed on the Authority's web site. Where an interested party wishes to make a confidential submission, it should clearly indicate the parts of the submission that are confidential.

The receipt and publication of a submission shall not be taken as indicating that the Authority has knowledge either actual or constructive of the contents of a particular submission and, in particular, whether the submission in whole or in part contains information of a confidential nature and no duty of confidence will arise for the Authority in these circumstances.

Further information regarding this issues paper can be obtained from:

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1.3 Summary of Issues

Issues

Submissions are invited from interested parties on the process that the Authority intends to follow in making a determination on the:

- Margin_Peak and Margin_Off-Peak parameters; and
- Cost_LR parameter.

Submissions are invited from interested parties on the proposed Margin_Peak and Margin_Off-Peak parameter values as determined under clause 3.13.3A of the Market Rules.

Submissions are invited from interested parties on the proposed:

- “L” value of the Cost_LR parameter; and
- “R” value of the Cost_LR parameter.

2 Requirements of the Market Rules

Clause 3.13.3A and 3.13.3B of the Market Rules require the Authority to determine values for the ancillary service parameters, namely Margin_Peak and Margin_Off-Peak, and Cost_LR.

The Margin_Peak and Margin_Off-Peak parameters are used in the ancillary service settlement calculations under clause 9.9.2 of the Market Rules. The Margin_Peak parameter reflects the margin applied to the Marginal Cost Administered Price (**MCAP**) parameter of the settlement calculations which is paid to Verve Energy for being available to provide ancillary service during Peak Trading Intervals (referred to as a ‘reserve availability payment’), while the Margin_Off-Peak parameter reflects the reserve availability payment margin applying for Off-Peak Trading Intervals. The Cost_LR parameter covers the payment to a market generator for the costs of providing the load rejection reserve, system restart ancillary services and dispatch support ancillary services not paid under specific contracts.⁴

In determining values for the ancillary service Margin_Peak and Margin_Off-Peak parameters,⁵ and Cost_LR parameters,⁶ the Authority must take into account the Wholesale Market Objectives and the submissions received from the IMO (proposing the Margin_Peak⁷ and Margin_Off-Peak parameters)⁸ and System Management (proposing

⁴ Dispatch Support Ancillary Services contracted through clause 3.11.8B of the Market Rules.

⁵ Market Rule clause 3.13.3A.

⁶ Market Rule clause 3.13.3B.

the Cost_LR parameter).⁹ The Authority must also undertake a public consultation process on these parameters, which must include publishing an issues paper and issuing an invitation for public submissions.

3 Process to be followed by the Authority

3.1 Determination of the Margin_Peak and Margin_Off-Peak Parameters

Clause 3.13.3A of the Market Rules set out how the Margin_Peak and Margin_Off-Peak parameters are to be determined. The consultant McLennan Magasanik Associates (**MMA**) was commissioned by the IMO to carry out these determinations in accordance with this clause. Subsequent to the IMO's public consultation process held during October 2009 in respect of fuel prices and associated assumptions relevant to the review,¹⁰ MMA provided a final report to the IMO on 30 November 2009.¹¹ Subsequently the IMO submitted to the Authority proposed Margin_Peak and Margin_Off-Peak parameters as set out in MMA's final report. A public version of MMA's final report is included as an attachment to the IMO's proposal for the Margin_Peak and Margin_Off-Peak parameters, which is available on the Authority's web site.¹²

The Authority sets out in Section 5 of this issues paper how clause 3.13.3A of the Market Rules has been interpreted by MMA and the findings in MMA's report. The Authority intends to determine the margin values in accordance with clause 3.13.3A of the Market Rules.

3.2 Determination of the Cost_LR Parameter

The Authority sets out in Section 6 of this issues paper System Management's proposal for the Cost_LR parameter. The Authority intends to determine the Cost_LR parameter based on a comparison of the proposed value with that from the first review period and supporting information provided by System Management.

⁷ In proposing the Margin_Peak parameter, the IMO must take into account: the margin Verve Energy could reasonably have been expected to earn on energy sales forgone due to the supply of Spinning Reserve during Peak Trading Intervals; and the loss in efficiency of Verve Energy Registered Facilities that System Management has scheduled to provide Spinning Reserve during Peak Trading Intervals that could reasonably be expected due to the scheduling of those reserves.

⁸ In proposing the Margin_Off-Peak parameter, the IMO must take into account: the margin Verve Energy could reasonably have been expected to earn on energy sales forgone due to the supply of Spinning Reserve during Off-Peak Trading Intervals; and the loss in efficiency of Verve Energy Registered Facilities that System Management has scheduled to provide Spinning Reserve during Off-Peak Trading Intervals that could reasonably be expected due to the scheduling of those reserves.

⁹ Cost_LR must cover the costs for providing the Load Rejection Reserve and System Restart Ancillary Services and Dispatch Support Ancillary Services except those provided through clause 3.11.8B.

¹⁰ IMO web site, 2009 Margin_Peak and Margin_Off-Peak Review, <http://www.imowa.com.au/n1286.html>

¹¹ MMA updated this report on 10 December 2009 to correct a minor input data error.

¹² ERA web site, Determination of the IMO and System Management Allowable Revenue, http://www.era.wa.gov.au/2/272/42/determination_o.p.m.

Issue

Submissions are invited from interested parties on the process that the Authority intends to follow in making a determination on the:

- Margin_Peak and Margin_Off-Peak parameters; and
- Cost_LR parameter.

4 Background Information

4.1 Margin_Peak and Margin_Off-Peak Parameters

For reliable operation of the power system, some generating units are run in a manner that allows for the generators' output to be rapidly changed to balance real-time fluctuations between load and generation, particularly in the case of electricity from wind generators (which can fluctuate significantly over short periods of time). Generating units running in this manner are providing the ancillary service defined under the Market Rules as "load following". Some of these generating units and also other units (that are not able to rapidly change output as quickly as units providing load following ancillary service) are run in such a manner as to be able to pick up any generation supply lost in an unplanned generator outage. Generating units running in this manner are providing the ancillary service defined under the Market Rules as "spinning reserve". The purpose of the provision of these ancillary services is to ensure that the power system's frequency remains within an acceptable limit.

Due to the nature of the services provided, generating units providing load following and spinning reserve ancillary services are not run in the most efficient manner, and they may also be run instead of more efficient units which are not capable of providing the fast response that is required. Under the Market Rules, the providers of these services are compensated through applying a compensation factor to the balancing price (being the MCAP) through the Margin_Peak parameter over the peak hours, and Margin_Off-Peak parameter over the off-peak hours. In the market settlement processes prescribed under clause 9.9.2 of the Market Rules, the MCAP is multiplied by these margins. The resulting values from this calculation are the rates at which the generating capacity reserved for such services is priced to compensate the provider.

Clause 3.13.3A of the Market Rules, which sets out how the margins are to be determined, recognises Verve Energy as the sole provider for these services. However, the Market Rules allow other generators to provide such services as well.

4.2 Cost_LR Parameter

In order to keep the power system stable, some generating units are selected to be shut down quickly in the event of lost load, such as when a transmission line trips. Such generators are providing the ancillary service defined under the Market Rules as "load rejection reserve". It is noteworthy that while there could be a sudden loss of load, the power system often could sustain the loss through the interconnected network and the generators providing the load following, spinning reserve; the load rejection reserve

generators may not need to be called upon. The load rejection reserve generators are compensated through the load rejection reserve ancillary service (being the “L” value of the Cost_LR parameter).

System restart ancillary services are provided by generators capable of starting up without the need to use power from the power system and are also able to energise the power system to enable other generators to be started up. After considering information about network flows, System Management has divided the South West Interconnected System into three sub-regions for system restart purposes, thereby requiring a system restart unit in each of the sub-regions. The system restart ancillary service (being the “R” value of the Cost_LR parameter) is designed to compensate generators providing this service.

Unlike Margin_Peak and Margin_Off-Peak, both the “L” and “R” values of the Cost_LR parameter are expressed in dollars per year, and these values represent a maximum, or ceiling, the market will be called upon to pay for these load rejection reserve and system restart ancillary services.

5 Margin_Peak and Margin_Off-Peak Parameters

Currently the Margin_Peak and Margin_Off-Peak parameters are set at 15 per cent and 12 per cent respectively. It is noteworthy that these parameters were set at these values prior to market commencement and the values of these parameters were not changed for the first review period. As shown in Table 5.1 below, the proposed values of these parameters for the second review period are significantly higher.

Table 5.1 Margin_Peak and Margin_Off-Peak Parameters

Margin (%)	First review period	Second review period
	Actual	Proposed
Margin_Peak	15	103
Margin_Off-Peak	12	30

Essentially, clause 3.13.3A of the Market Rules require estimates of Verve Energy generation costs with and without providing the load following and spinning reserve ancillary services. As indicated in Section 4, load following and spinning reserve generators are run at lower efficiencies and possibly out of merit order. Thus, when the balancing price (MCAP) is multiplied by the margins and the capacities reserved for these services, the product equates to the generation cost compensation (i.e. margin x MCAP x capacities reserved = generation cost compensation).

In carrying out the Margin_Peak and Margin_Off-Peak determination, MMA had several discussions with the IMO and the Authority to check the significant movements in these parameters from the current levels. The major contributing factor in the margin values being significantly higher is considered to be the cost of constraining a more costly Verve Energy unit on (i.e. requiring the unit to remain operational in place of a more cost efficient unit), thereby dispatching generating plant out of merit order, in order to provide load following and spinning reserve ancillary services. This happens particularly overnight.

It should be noted that, while the proposed Margin_Peak and Margin_Off-Peak are significantly higher than the current levels, the estimated availability cost, proportionately, is not expected to increase as much as the margin values on the basis of the simulations used to determine these parameter values, i.e. the MCAPs are projected to be lower.

Issue

Submissions are invited from interested parties on the proposed Margin_Peak and Margin_Off-Peak parameter values as determined under clause 3.13.3A of the Market Rules.

6 Cost_LR Parameter

System Management has proposed a nil value for the load rejection reserve ancillary service ("L" value of the Cost LR parameter), which is the same as the value proposed in the first review period. The value proposed by System Management for the system restart ancillary service ("R" value of the Cost_LR parameter) is higher for the last two years of the second review period. The comparison is as indicated in Table 6.1 below.

Table 6.1 Cost_LR Parameter

Cost (\$ per year)	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
	Actual	Actual	Actual	Proposed	Proposed	Proposed
L value (of Cost_LR)	0	0	0	0	0	0
R value (of Cost_LR)	250,000	250,000	250,000	250,000	800,000	800,000

Currently, system restart ancillary service is provided only by Verve Energy under a contractual arrangement organised prior to market commencement. This arrangement will expire at the end of the first year of the second review period. System Management has advised that the proposed values for 2011/12 and 2012/13 are based on an advanced negotiation with a third party for the south metropolitan sub-region. System Management is in the process of procuring System Restart services for the other two sub-regions. The payment amounts should therefore be available before November 2010 when System Management has the opportunity to advise of revisions to Cost_LR under clause 3.13.3C of the Market Rules.

System Management has advised that the commercial terms for system restart ancillary service contracts are consistent with those set out in the ancillary service deed published on Western Power's web site.¹³

¹³ Western Power web site, *Ancillary Services Deed*,
http://www.westernpower.com.au/documents/systemManagement/lfas/WE_n6641988_v1_SYSTEM_MANAGEMENT_-_ANCILLARY_SERVICES_-_DEED.pdf

Issue

Submissions are invited from interested parties on the proposed:

- “L” value of the Cost_LR parameter; and
- “R” value of the Cost_LR parameter.