

# Determination of the Ancillary Service Margin\_Peak and Margin\_Off-Peak parameters

Issues Paper

Economic Regulation Authority

WESTERN AUSTRALIA

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## Introduction

The Ancillary Service Margin\_Peak and Margin\_Off-Peak parameters (**Margin Values**) are required under clause 9.9.2 of the *Wholesale Electricity Market Rules* (**Market Rules**). These parameters reflect the margins applied to the Balancing Price in the settlement calculations of the availability costs to be paid to Synergy<sup>1</sup> for the provision of Spinning Reserve Ancillary Service.<sup>2</sup>

Clause 3.13.3A(a) of the Market Rules requires the Independent Market Operator (**IMO**) to submit a proposal for the Margin Values to the Economic Regulation Authority (**Authority**) by 30 November of the year prior to the start of the financial year. The Authority received a submission from the IMO on 28 November 2013 proposing the Margin Values for the period from 1 July 2014 to 30 June 2015. These values were recommended by its consultant, Sinclair Knight Merz (**SKM**) in its final report to the IMO.<sup>3</sup> The IMO also provided the Authority with a confidential report prepared by SKM on the key modelling assumptions for the Margin Values.

Clause 3.13.3A of the Market Rules requires that the Authority determine the Margin Values by 31 March 2014. The time period to which the determination applies is from 1 July 2014 to 30 June 2015.

Clause 3.13.3A(b) of the Market Rules requires the Authority, in determining the Margin Values, to undertake a public consultation process, which must include publishing an issues paper and issuing an invitation for public submissions.

The IMO's submission and SKM's reports are available on the Authority's [website](#).<sup>4</sup>

The Authority has prepared this issues paper to assist interested parties in making submissions on the proposed values for the Margin Values for the 2014/15 financial year as submitted by the IMO.

## Invitation to make submissions

Interested parties are invited to make submissions on the Authority's issues paper by **4:00 pm (WST) Wednesday, 5 March 2014** via:

Email address: [publicsubmissions@erawa.com.au](mailto:publicsubmissions@erawa.com.au)

Postal address: PO Box 8469, PERTH BC WA 6849

Office address: Level 4, Albert Facey House, 469 Wellington Street, Perth WA 6000

Fax: 61 8 6557 7999

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<sup>1</sup> Prior to the merger of Synergy and Verve Energy on 1 January 2014, this entity was known as Verve Energy.

<sup>2</sup> Synergy is currently the default provider of the Spinning Reserve Ancillary Service under the Market Rules.

<sup>3</sup> SKM's final report is included as an attachment to the IMO's proposal of the values for the Margin\_peak and Margin\_Off-Peak parameters.

<sup>4</sup> See ERA website, Determination of Ancillary Service Parameters, <http://www.erawa.com.au/markets/electricity-markets/determination-of-ancillary-service-parameters>

## CONFIDENTIALITY

In general, all submissions from interested parties will be treated as being in the public domain and placed on the Authority's website. Where an interested party wishes to make a submission in confidence, it should clearly indicate the parts of the submission for which confidentiality is claimed, and specify in reasonable detail the basis for the claim. Any claim of confidentiality will be considered in accordance with the provisions of section 55 of the *Economic Regulation Authority Act 2003*.

The publication of a submission on the Authority's website 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 part contains information of a confidential nature and no duty of confidence will arise for the Authority.

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## Modelling of the values for the Margin\_Peak and Margin\_Off-Peak parameters

Under the current *Wholesale Electricity Market Rules* (**Market Rules**), Synergy<sup>5</sup> is the sole provider of spinning reserve. The Margin Values determined by the Authority are used to determine the amount Synergy receives for providing spinning reserve services<sup>6</sup>. The Margin Values are applied to the Balancing Price in calculating the payment to Synergy.

The Market Rules require the Margin Values to take account of:

- the margin Synergy could reasonably have been expected to earn on energy sales forgone due to the supply of spinning reserve services; and
- the generation efficiency losses that could reasonably be expected to be incurred by Synergy as a consequence of providing spinning reserve.

To estimate the reserve availability cost that could reasonably be expected to be incurred by Synergy, the IMO commissioned SKM to undertake market simulations that compare the revenue and generation cost outcomes with and without the provision of spinning reserve by Synergy. SKM used the following equation in their modelling for the reserve availability cost in peak and off-peak periods.

Reserve availability cost =

$$\begin{aligned}
 & \text{Synergy's total generation costs with spinning reserve provision} \\
 - & \text{Synergy's total generation costs without spinning reserve provision} \\
 + & \text{(Synergy's total generation volume without spinning reserve provision} \\
 & \quad - \text{Synergy's total generation volume with spinning reserve provision)} \\
 & * \text{System marginal price with spinning reserve provision}
 \end{aligned}$$

Having determined the reserve availability cost, average annual spinning reserve capacity amount for peak and off-peak periods, and the system marginal price for peak and off-peak periods through market simulations, SKM re-arranged the equation in clause 9.9.2(f)<sup>7</sup> of the Market Rules to derive the Margin Values.

This method is described in detail in SKM's 2014/15 Margin Peak and Margin Off-Peak Review – assumptions report (10 September 2013), which is published on the IMO's

<sup>5</sup> Prior to the merger of Synergy and Verve Energy on 1 January 2014, this entity was known as Verve Energy.

<sup>6</sup> Spinning reserve is reserve that is synchronised to the system that can respond almost immediately and provide frequency or voltage support for a short duration.

<sup>7</sup> Clause 9.9.2(f) provides the settlement equation to be used in calculating spinning reserve payment to be paid to Synergy.

website.<sup>8</sup> This method of modelling to determine the Margin Values has been used for the past four reviews.

The Authority notes that the IMO conducted a full review of the methodology and process applied in deriving the Margin Values pursuant to the Authority's recommendation in its determination of the Margin Values for the 2011/12 financial year<sup>9</sup>. The Authority acknowledged the difficulties in further refining SKM's modelling approach in determining the Margin Values and accepted that this approach is consistent with the requirements under the Market Rules. Further detail of the outcome of this review can be found in the Authority's determination of the Margin Values for the 2013/14 financial year.<sup>10</sup>

The Authority notes that SKM has undertaken a backcasting exercise to compare modelled outcomes against actual market outcomes for the 2012/13 financial year as part of the review of the Margin Values for the 2014/15 financial year.

As part of the Margin Values determination for the 2014/15 financial year, the Authority intends to examine the outcome of the backcasting exercise and SKM's current modelling approach. This is to ensure SKM's approach is appropriate and the modelled Margin Values reflect: the margin Synergy could reasonably have been expected to earn on energy sales forgone due to the supply of spinning reserve services; and the generation efficiency losses that could reasonably be expected to be incurred by Synergy as a consequence of providing spinning reserve, as required under the Market Rules.

Submissions are invited from interested parties on the methodology used by SKM in its modelling to derive the Margin Values for the 2014/15 financial year.

## Proposed values for the Margin\_Peak and Margin\_Off-Peak parameters

Table 1 below shows the IMO's proposed Margin Values for 2014/15 compared with the current Margin Values. The table also shows other parameters used in deriving the Margin Values.

The IMO's initial proposal assumes that the carbon tax will still be in effect for the 2014/15 financial year. The carbon tax impacts on the short run marginal costs and relative dispatch order of generators. Consequently the Margin Values would change if it was assumed the carbon tax was removed. The Federal Government has indicated its intention to repeal the carbon price but it is not clear whether such changes will be made to the legislation prior to the 2014/15 financial year.

Given the uncertainty surrounding the timing of any carbon tax repeal, the Authority requested the IMO to provide calculations of the Margin Values without the carbon tax.

<sup>8</sup> See IMO website, SKM's *2014/15 Margin Peak and Margin Off-Peak Review – Assumptions report* – public (10 September 2013), [http://www.imowa.com.au/docs/default-source/rules/imo-wem-procedures-and-other-documents/sh43499\\_assumptions\\_report-v7\\_0-1\\_public.pdf?sfvrsn=0](http://www.imowa.com.au/docs/default-source/rules/imo-wem-procedures-and-other-documents/sh43499_assumptions_report-v7_0-1_public.pdf?sfvrsn=0)

<sup>9</sup> See ERA website, Determination of the Ancillary Service Margin\_Peak and Margin\_Off-Peak Parameters, [http://www.erawa.com.au/cproot/9479/2/20110331%20Determination%20of%20the%20Ancillary%20Service%20Margin\\_Peak%20and%20Margin\\_Off-Peak%20Parameters.pdf](http://www.erawa.com.au/cproot/9479/2/20110331%20Determination%20of%20the%20Ancillary%20Service%20Margin_Peak%20and%20Margin_Off-Peak%20Parameters.pdf)

<sup>10</sup> See ERA website, Determination of the Ancillary Service Margin\_Peak and Margin\_Off-Peak Parameters, [http://www.erawa.com.au/cproot/11213/2/20130318%20-%20Determination%20of%20the%20Ancillary%20Service%20Margin\\_Peak%20and%20Margin\\_Off-Peak%20Parameters.pdf](http://www.erawa.com.au/cproot/11213/2/20130318%20-%20Determination%20of%20the%20Ancillary%20Service%20Margin_Peak%20and%20Margin_Off-Peak%20Parameters.pdf)



These values are shown in the final column of the table below. The Authority has published SKM's final report on 2014/15 Margin Peak and Margin Off-Peak Values – no carbon price on its website.<sup>11</sup>

The Authority intends to determine Margin Values with and without the carbon tax with the appropriate one coming into effect depending on what happens in relation to the repeal of the carbon tax.

**Table 1      Margin Values and other parameters used in deriving the Margin Values**

Margin Values	Current 2013/14	Proposed 2014/15 Assuming Carbon Tax remains	Proposed 2014/15 Assuming Carbon Tax repealed
Margin Off-Peak	27%	27%	14%
Margin Peak	17%	14%	15%
Average Annual Spinning Reserve Capacity_Off-Peak (MW)	197.18	200.03	201.29
Average Annual Spinning Reserve Capacity_Peak (MW)	220.16	221.01	220.48
Estimated Annual Availability Cost (\$M)	7.22	8.93	5.11
System Marginal Price_Off- Peak (\$/MWh)	47.01	48.89	31.10
System Marginal Price_Peak (\$/MWh)	50.81	60.78	45.83

In SKM's final report on 2014/15 Margin Peak and Margin Off-Peak Review, it states the reason for the reduction in the Margin Peak value (assuming carbon tax remains) is principally due to an increase in the modelled marginal peak price. The modelled marginal peak price has increased by a larger amount than the increase in modelled availability cost, which has driven a reduction in Margin Peak. SKM notes the increase in marginal peak price is driven by a combination of factors including changes to assumptions on unit availability, increases in carbon prices, increases in the marginal costs assumed for some units, and constraints on cogeneration in excess of the host demand for steam.

SKM states one reason for the reduction in Margin Off-Peak value (assuming carbon tax repealed) is that the projected marginal off-peak price has reduced. The modelled availability cost has reduced by a large amount that outweighs the decrease in marginal off-peak price, which has driven a reduction in Margin-Off-peak. It notes this reduction, driven by the removal of the carbon tax, is proportionally greater in the off-peak periods when less efficient coal units are generally the marginal plant. This has in turn reduced the profit forgone by Synergy due to the provision of spinning reserve. In addition, SKM notes there is a smaller increase in generation cost, largely due to reduction in start-up costs for Synergy units in the simulations when spinning reserve is modelled.

<sup>11</sup> See ERA website, Determination of Ancillary Service Parameters,  
<http://www.erawa.com.au/markets/electricity-markets/determination-of-ancillary-service-parameters>

The Authority invites public submissions on the IMO's proposed Margin Values, with and without carbon price, for the 2014/15 financial year.

Submissions are invited from interested parties on proposed Margin Values, with and without the carbon tax, for the 2014/15 financial year.