



**Independent Market Operator**

**Final Rule Change Report:  
Treatment of negative MCAP on  
the settlement of Ancillary  
Services**

**Ref: RC\_2009\_21**

**Date: 16 October 2009**

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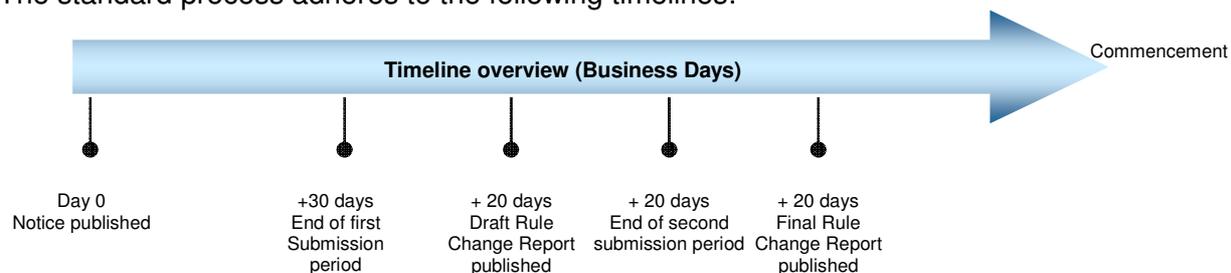
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## 1. INTRODUCTION

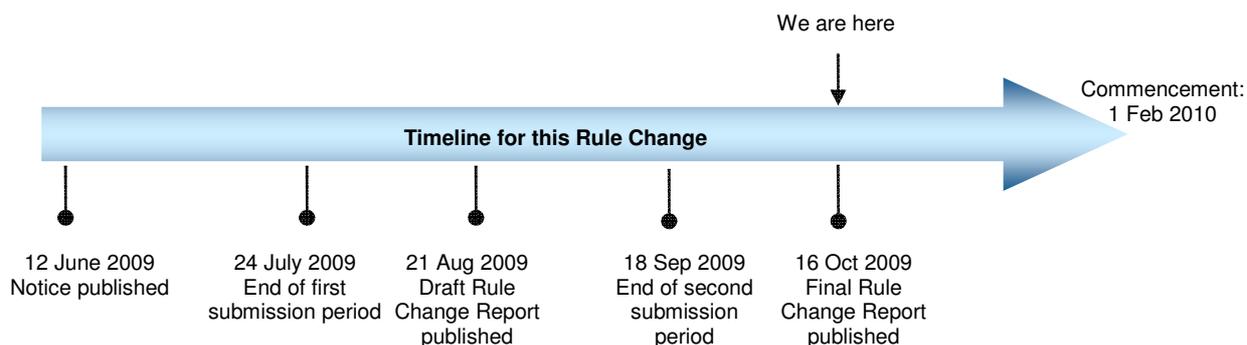
On 11 June 2009 Verve Energy submitted a Rule Change Proposal regarding an amendment to clause 9.9.2 of the Wholesale Electricity Market Rules (Market Rules).

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

The standard process adheres to the following timelines:



The key dates in processing this Rule Change Proposal are:



The IMO's final decision is to accept the Rule Change Proposal. The detailed reasons for the IMO's decision are set out in section 8 of this report.

In making its final decision on the Rule Change Proposal, the IMO has taken into account:

- the Wholesale Market Objectives;
- the practicality and cost of implementing the proposal;
- the views of the Market Advisory Committee (MAC); and
- the submissions received.

All documents related to this Rule Change Proposal can be found on the IMO website: [http://www.imowa.com.au/RC\\_2009\\_21](http://www.imowa.com.au/RC_2009_21)

## 2. THE RULE CHANGE PROPOSAL

### 2.1 Submission Details

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|---------------------------------|--|
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| <b>Address:</b>                 | GPO Box F366, Perth WA 6841  |
| <b>Date submitted:</b>          | 11 June 2009   |
| <b>Urgency:</b>                 | Standard Rule Change Process                                       |
| <b>Change Proposal title:</b>   | Treatment of Negative MCAP on the settlement of Ancillary Services |
| <b>Market Rule(s) affected:</b> | Clause 9.9.2   |

### 2.2 Summary Details of the Proposal

The settlement equations for Ancillary Services specified under clause 9.9.2 of the Market Rules can result in a negative availability cost payment when Marginal Cost Administered Price (MCAP) prices are less than zero. This would result in the Electricity Generation Corporation (Verve Energy) paying to supply Ancillary Services to the market while having no realistic expectation of having offsetting cost savings.

This Rule Change Proposal incorporates a price floor set at \$0/MWh on the value of MCAP used in the Ancillary Service availability cost calculations.

The detailed information on the proposal is contained in Appendix 1 and can be found in the Rule Change Proposal contained on the IMO's website.

### 2.3 The Proposal and the Wholesale Market Objectives

Verve Energy contended that the proposed changes will allow the Market Rules to better address market objective (a):

*"to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;"*

Verve Energy contended that by making certain the system can adequately respond to real time changes in load and generation under a range of scenarios the proposed changes will ensure the safe and reliable production of electricity can be maintained by incentivising supply of Ancillary Services. This will be achieved by better reflecting the true value of Ancillary Services to the market when MCAP is negative in the payment calculations.

Verve Energy considered that the proposed Amending Rules are consistent with the remaining Market Objectives.

## **2.4 The Amending Rules Proposed by Verve Energy**

The amendments to the Market Rules originally proposed by Verve Energy are provided in section 9 of this report.

## **2.5 The IMO's Initial Assessment of the Proposal**

The IMO decided to proceed with the proposal on the basis of its preliminary assessment, which indicated that the proposal was consistent with the Wholesale Market Objectives.

## **3. FIRST SUBMISSION PERIOD**

The first submission period for this Rule Change Proposal was between 15 June 2009 and 24 July 2009.

### **3.1 Submissions received**

The IMO received a submission from Landfill Gas & Power (LGP). The details of the submission are summarised below, with the full text available on the IMO website.

#### **3.1.1 Submission from Landfill Gas & Power**

LGP provided support for the proposed changes in its submission. This support was on the grounds that it corrects a manifest error whereby Verve Energy would be required to pay the market in order for it to supply Ancillary Services in the event of MCAP being negative, which it is from time to time.

Additionally, LGP submitted that removing the inequity of the current rule, the rule change would make it easier for non-Verve generators to compete in the Ancillary Services market.

LGP supported Verve's contention that the rule change promotes market objective (a) and would also enhance the integrity of the market.

### **3.2 Public Forums and Workshops**

No public forums or workshops were held in relation to this Rule Change Proposal during the first submission period.

## **4. THE IMO'S DRAFT ASSESSMENT**

The IMO's assessment, as contained in its Draft Rule Change Report, can be viewed on the IMO's website.

## 5. THE IMO'S DRAFT DECISION

Based on the matters set out in the Draft Rule Change Report, the IMO's draft decision, in accordance with clause 2.7.7(f) was to accept the proposed amendments to clause 9.9.2 of the Market Rules.

The IMO made its decision on the following basis:

- The Amending Rules:
  - Will allow the Market Rules to better address Wholesale Market Objective (a);
  - Are consistent with the remaining Wholesale Market Objectives;
  - Have the support of the MAC; and
  - Have the support of the submission received during the first submission period.

## 6. SECOND SUBMISSION PERIOD

Following the publication of the Draft Rule Change Report on the IMO website, the second submission period was between 24 August 2009 and 18 September 2009.

### 6.1 Submissions received

The IMO received a submission from LGP during the second submission period. The details of LGP's submission is summarised below, with the full text of the public submission available on the IMO's website.

#### 6.1.1 Submission from Landfill Gas & Power

In its submission LGP provides support for the IMO's decision to proceed with the Rule Change Proposal.

### 6.2 Public Forums and Workshops

No public forums or workshops were held in relation to this Rule Change Proposal during the second submission period.

## 7. THE IMO'S FINAL ASSESSMENT

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

Market Rule 2.4.2 outlines that the IMO "*must not make Amending Rules unless it is satisfied that the Market Rules, as proposed to be amended or replaced, are consistent with the Wholesale Market Objectives*".

Additionally, clause 2.4.3 states, when deciding whether to make Amending Rules, the IMO must have regard to the following:

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

The IMO notes that there has not been any applicable policy direction from the Minister in respect of this Rule Change nor has it commissioned a technical review in respect of this Rule Change Proposal.

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

### 7.1 Market Objectives

The IMO considers that the Market Rules as a whole, if amended, will be consistent with the Wholesale Market Objectives.

| Wholesale Market Objective  | Consistent with objective |
|---|---------------------------|
| (a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system  | Yes                       |
| (b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors   | Yes                       |
| (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 | Yes                       |
| (d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system   | Yes                       |
| (e) to encourage the taking of measures to manage the amount of electricity used and when it is used  | Yes                       |

Further, the IMO considers that the Market Rules if amended would not only be consistent with the Wholesale Market Objectives but also allow the Market Rules to better address Wholesale Market Objective (a):

| Impact   | Wholesale Market Objectives |
|--|-----------------------------|
| Allow the Market Rules to better address objective | a                           |
| Consistent with objective                          | b, c, d, e                  |

The IMO's assessment against market objective (a) is as follows:

- (a) *to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;*

The proposed changes will support market objective (a) by ensuring the system can adequately respond to real time changes in load and generation under a range of scenarios. The proposed changes will incentivise the supply of Ancillary Services by better reflecting the true value of Ancillary Services to the market when MCAP is negative. This will ensure the safe and reliable production of electricity can be maintained in the South West interconnected system (SWIS).

The IMO considers that the proposed changes are consistent with the other market objectives.

### **7.2 Practicality and cost of implementation**

The proposed changes will require some changes to the settlement systems operated by the IMO. It has been estimated that the associated changes to settlement systems operated by the IMO and the associated personnel costs will cost approximately AUD \$7,000.

### **7.3 Views expressed in submissions**

The proposed changes had the support of all submissions received during the two consultation processes.

### **7.4 Views expressed by the Market Advisory Committee**

The concept of introducing a price floor on the value of MCAP used in the Ancillary Service availability cost calculations was first presented to the MAC at the 10 June 2009 meeting. This was as a pre-rule change discussion paper.

During the June meeting, the MAC provided unanimous support that Verve Energy progress the paper through the Rule Change Process.

The Rule Change Proposal was also noted by the MAC at the 14 July 2009.

Further details are available in the MAC meeting minutes available on the IMO website:  
<http://www.imowa.com.au/market-advisory-committee>

## **8. THE IMO'S FINAL DECISION**

The IMO's final decision is to accept the proposed amendments to clauses 9.9.2 of the Market Rules.

### **8.1 Reasons for the decision**

The IMO has made its decision on the following basis:

- The Amending Rules:

- Will allow the Market Rules to better address Wholesale Market Objective (a);
- Are consistent with the remaining Wholesale Market Objectives;
- Have the support of the MAC; and
- Have the support of the submissions received during the consultation process.

Additional detail outlining the analysis behind the IMO's reasons is outlined in section 7 of this Final Rule Change Report.

## 9. AMENDING RULES

### 9.1 Commencement

The amendments to the Market Rules resulting from this Rule Change Proposal will commence at **8:00am** on **1 February 2010**.

### 9.2 Amending Rules

The following clauses are amended (~~deleted text~~, added text):

9.9.2. The following terms related to Ancillary Service availability costs:

(a) the total availability cost for Trading Month  $m$ :

$$\begin{aligned}
 \text{Availability\_Cost}(m) = & \\
 & 0.5 \times (\text{Margin\_Peak}(m) \times \text{Sum}(d \in D, t \in \text{Peak}, \text{MCAP}(d, t) \\
 & \times (\text{Capacity\_R\_Peak}(m) - \text{Sum}(i \in I, \text{ASP\_SRQ}(i, t)))) \\
 & + 0.5 \times (\text{Margin\_Off-Peak}(m) \times \text{Sum}(d \in D, t \in \text{Off-Peak}, \text{MCAP}(d, t) \\
 & \times (\text{Capacity\_R\_Off-Peak}(m) - \text{Sum}(i \in I, \text{ASP\_SRQ}(i, t)))) \\
 & + \text{Sum}(i \in I, \text{ASP\_SRPayment}(i, m)) \\
 & + \text{Sum}(i \in I, \text{ASP\_LFPayment}(i, m))
 \end{aligned}$$

(b) the Spinning Reserve Cost Share for Market Participant  $p$ , which is a Market Generator, for Trading Month  $m$ :

$$\begin{aligned}
 \text{Reserve\_Cost\_Share}(p, m) = & \\
 & 0.5 \times (\text{Margin\_Peak}(m) \times \text{Sum}(d \in D, t \in \text{Peak}, \text{MCAP}(d, t) \\
 & \times \text{Reserve\_Share}(p, t) \\
 & \times (\text{Capacity\_R\_Peak}(m) - \text{Sum}(i \in I, \text{ASP\_SRQ}(i, t)) - 0.5 \text{LFR}(m))) \\
 & + 0.5 \times (\text{Margin\_Off-Peak}(m) \times \text{Sum}(d \in D, t \in \text{Off-Peak}, \text{MCAP}(d, t) \\
 & \times \text{Reserve\_Share}(p, t) \\
 & \times (\text{Capacity\_R\_Off-Peak}(m) - \text{Sum}(i \in I, \text{ASP\_SRQ}(i, t)) \\
 & - 0.5 \times \text{LFR}(m)))
 \end{aligned}$$

$$+ \text{Sum}(t \in \text{Peak and Off\_Peak}, \text{Reserve\_Share}(p,t) \\ \times \text{Sum}(i \in I, \text{ASP\_SRPayment}(i,m) / \text{TITM}))$$

(c) the total Spinning Reserve Availability Cost for Trading Month m:

$$\text{Availability\_Cost\_R}(m) = \\ \text{Sum}(p \in P, \text{Reserve\_Cost\_Share}(p,m))$$

(d) the total Load Following Availability Cost for Trading Month m:

$$\text{Availability\_Cost\_LF}(m) = \\ \text{Availability\_Cost}(m) - \text{Availability\_Cost\_R}(m)$$

Where

ASP\_SRQ(i,t) is the quantity of Spinning Reserve provided by Ancillary Service Provider i in Trading Interval t (this being one of the quantities referred to in clause 9.9.3);

ASP\_SRPayment(i,m) is defined in clause 9.9.3;

ASP\_LFPayment(i,m) is defined in clause 9.9.3;

TITM is the number of Trading Intervals in the Trading Month (excluding any Trading Intervals prior to Energy Market Commencement);

Reserve\_Share(p,t) is the share of the Spinning Reserve service payment costs allocated to Market Participant p in Trading Interval t, where this is to be determined by the IMO using the methodology described in clause 3.14.2;

Margin\_Peak(m) is the reserve availability payment margin applying for Peak Trading Intervals for Trading Month m as specified by the IMO under clause 3.22.1(c);

Margin\_Off-Peak(m) is the reserve availability payment margin applying for Off-Peak Trading Intervals for Trading Month m as specified by the IMO under clause 3.22.1(d);

Capacity\_R\_Peak(m) is the capacity necessary to cover the Ancillary Services Requirement for Spinning Reserve for Peak Trading Intervals for Trading Month m as specified by the IMO under clause 3.22.1(e);

Capacity\_R\_Off-Peak(m) is the capacity necessary to cover the Ancillary Services Requirement for Spinning Reserve for Off-Peak Trading Intervals for Trading Month m as specified by the IMO under clause 3.22.1(f);

LFR(m) is the capacity necessary to cover the Ancillary Services Requirement for Load Following for Trading Month m as specified by the IMO under clause 3.22.1(fA);

MCAP(d,t) has the meaning given in clause 9.8.1 and = 0 if MCAP(d,t) < 0;

Peak denotes the set of Trading Intervals occurring during Peak Trading Intervals, where “t” refers to a Trading Interval during a Trading Day;

Off-Peak denotes the set of Trading Intervals occurring during Off-Peak Trading Intervals, where “t” refers to a Trading Interval during a Trading Day; and

D denotes the set of Trading Days within Trading Month m, where “d” is used to refer to a member of that set.

## APPENDIX 1: FULL DETAILS OF THE PROPOSAL

### Background

In its proposal Verve Energy noted that Ancillary Services are used to guarantee the safe, secure and reliable production of electricity on the SWIS by ensuring the system can adequately respond to real time changes in load and generation under a range of scenarios. Ancillary Services are used to control key technical characteristics of the power system such as frequency and voltage. In particular Ancillary Services:

- help maintain Power System Security (ability of SWIS to deliver energy within reliability standards);
- help maintain Power System Reliability (ability of the SWIS to withstand sudden disturbances including restoration in the case of blackout);
- facilitate orderly trading in electricity; and
- ensure that electricity supplies are of acceptable quality.

Ancillary Services are required to support the Wholesale Electricity Market (WEM) but are not traded as part of the WEM. System Management is required to procure adequate quantities of these services, either from Electricity Generation Corporation (Verve Energy) resources (the default option) or on a contestable basis from independent providers (if they provide a least cost option to Verve's Facilities).

Verve Energy also noted that System Management will budget the cost of procuring Ancillary Services, where budgeted costs must be in accordance with those approved by the Economic Regulation Authority. However, System Management will not fund Ancillary Services. Rather, the IMO recovers the costs of the Ancillary Services from Market Participants through the WEM settlement systems, and will use the revenue received to fund Ancillary Services provided by Verve Energy and any contracted Ancillary Service providers.

In its proposal, Verve Energy noted that the Market Rules provide for the settlement of Ancillary Services based on an availability payment, whereas energy is settled separately. Clause 9.9 of the Market Rules outlines the Ancillary Service settlement calculations for a Trading Month. In particular, clause 9.9.2 outlines the availability payment arrangements for the provision of Ancillary Services by Verve Energy.

The calculations use the value of the MCAP as the price input and the quantity of Ancillary Services provided to calculate the total availability cost for the supply of Ancillary Services. Payments to other Market Generators for the supply of Ancillary Services are determined through arrangements directly between System Management and the provider.

### Issue

Verve Energy noted in its submission that the provision of Ancillary Services such as load following and spinning reserve imposes additional costs on the service provider including increased plant maintenance, out-of-merit plant dispatch and lost energy sales opportunities.

The costs incurred will vary and it is foreseeable that they could tend towards zero on occasions. However it is highly improbable that cost savings would result from providing the services.

Verve Energy noted that their main concern is that the equations specified under clause 9.9.2 can result in a negative availability cost payment when MCAP prices are less than zero. This would result in Verve Energy paying to supply Ancillary Services to the market whilst having no realistic expectation of having offsetting cost savings. Thus Verve Energy would be subsidising the cost of service to the market. This is clearly an inequitable and economically inefficient outcome. In addition, the potential requirement to supply below cost acts as a disincentive to supply and may discourage independent providers from offering competitive Ancillary Services.

## **Proposal**

Verve Energy proposed that clause 9.9.2 of the Market Rules be amended to incorporate a price floor on the value of MCAP used in the Ancillary Service availability cost calculations, to address this issue. Verve Energy proposed that this price floor be set at \$0/MWh.

Verve Energy contended that adopting a price floor of zero for Ancillary Services would:

- Ensure Verve Energy is not required to pay to supply Ancillary Services when MCAP is negative;
- Better reflect the cost of provision of Ancillary Services by Verve Energy to the market;
- Reduce disincentives to supply; and
- Represent a balance between demonstrating the value of the services to the market and the potential for over recovery of costs if a higher priced floor, say \$10/MWh, was adopted.

In its submission Verve additionally noted that it considers the proposed amendments to represent a temporary fix in the absence of a better mechanism. Verve Energy commented that they expect the advent of that better mechanism in the future.