

The background of the lower half of the page is a photograph of a wind farm and power lines, overlaid with a semi-transparent blue filter. On the left, several white wind turbines are visible, with their blades extending outwards. On the right, a tall, lattice-structured power transmission tower stands prominently. The overall scene is set against a clear sky and a hilly landscape.

Independent Market Operator

**Final Rule Change Report:
Application of Spinning Reserve
to Aggregated Facilities**

Ref: RC_2010_06

Date: 8 October 2010

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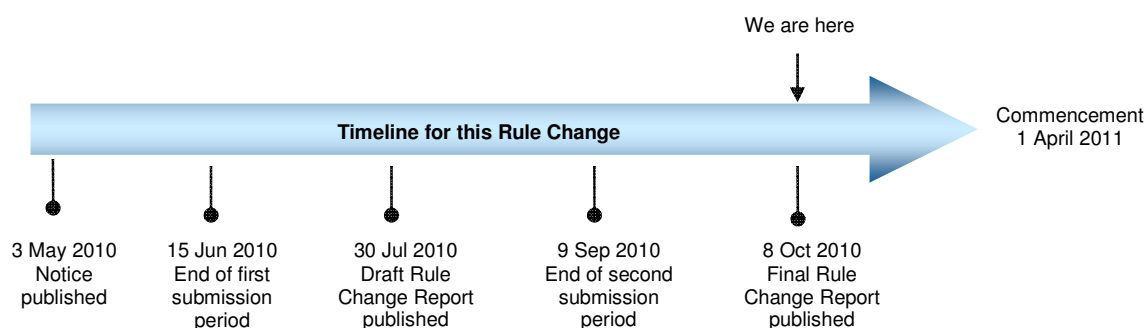
1. INTRODUCTION

On 17 April 2010 Griffin Energy submitted a Rule Change Proposal regarding amendments to clauses 2.30.6, 2.30.7, and Appendix 2 and the proposed new clause 2.30.7A of the Wholesale Electricity Market Rules (Market Rules).

The 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 in a modified form. The detailed reasons for the IMO's decision are set out in section 7 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_2010_06

2. THE RULE CHANGE PROPOSAL

2.1 Submission Details

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Date submitted:	27 April 2010
Urgency:	2-medium
Change Proposal title:	Application of Spinning Reserve to Aggregated Facilities
Market Rules affected:	Clause 2.30.6, 2.30.7, and Appendix 2 and new clause 2.30.7A

2.2 Summary Details of the Proposal

Griffin Energy's Rule Change Proposal sought to amend the Market Rules to treat aggregated Facilities as individual Facilities for the purpose of the calculation and provision of Ancillary Services. This was on the basis that each individual (physical) Facility comprising the aggregated Facility will have the same impact on the market with respect to the requirement for Ancillary Services whether it is aggregated or not.

The full details of the Rule Change Proposal are available in Appendix 1 of this report.

2.3 The Proposal and the Wholesale Market Objectives

Griffin Energy submitted that the proposed changes would allow the Market Rules to better address Wholesale Market Objectives (a), (c) and (d).

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

Griffin Energy considered that applying Ancillary Service (Spinning Reserve) costs to aggregated facilities based on the sum of their available capacity has no practical benefit to the market, but may lead to a loss in market efficiency as generators choose not to aggregate facilities to achieve operational efficiencies.

c) to avoid discrimination in the 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.

Griffin Energy noted that the current Market Rules imply that aggregating two (or more) facilities to create an aggregated facility larger than 200MW incurs more costs than aggregating two (or more) smaller facilities, the sum of which is less than 200MW. Griffin Energy considered that such a disparity in cost allocation based on the size of units is discrimination.

d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system;

Griffin Energy considered that encouraging Market Participants to aggregate facilities may lead to lower wholesale generation costs as operational efficiencies are realised.

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

2.4 The Amending Rules Proposed by Griffin Energy

The amendments to the Market Rules proposed by Griffin Energy are available in the Rule Change Notice and presented in Appendix 2 of this report.

2.5 The IMO's Initial Assessment of the Proposal

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

3. FIRST SUBMISSION PERIOD

The first submission period for this Rule Change Proposal was between 4 May 2010 and 15 June 2010.

3.1 Submissions received

The IMO received submissions from ERM Power, Landfill Gas & Power (LGP), Perth Energy, and Synergy during the first submission period. The IMO also received a submission from Alinta outside of the first submission period and a submission from System Management just prior to its publication of the Draft Rule Change Report¹. The main points raised in the submissions are summarised below. A copy of the full text of all submissions is available on the IMO website.

In summary, all the submissions received during the first submission period, including the out of session submission from Alinta, supported the Rule Change Proposal. Alinta however noted that this support was based on the assumption that System Management determines the required amount of Spinning Reserve by treating aggregated Facilities as separate Facilities. Alinta requested confirmation from System Management that this assumption was accurate.

ERM Power noted that there have been concerns raised that the proposal would potentially allow Intermittent Generators with many small generators to register as an aggregated Facility to avoid Spinning Reserve costs. ERM suggested that if this is a valid concern specifications regarding the registration of an aggregated Facility may be required. Similarly, Perth Energy suggested that an alternative methodology, which would complement Griffin's proposal, would be to charge all generation units for Spinning Reserve, with a fixed fee component to cover non-size related costs and a \$/MW variable component to cover the variable costs of providing Spinning Reserve.

The assessment by submitting parties of whether the proposal would better facilitate the Wholesale Market Objectives is summarised below:

Submitter	Wholesale Market Objective
Alinta (out of session)	a, b and c
ERM Power	a and d
LGP	a and d
Perth Energy	a, c, and d
Synergy	a, c, and d

¹ Note that System Management's submission was not received until 26 July 2010. As a result the IMO did not include this submission in its Draft Rule Change Report, published on 30 July 2010.

In its late submission System Management noted that an individual Facility's operation (in respect of MW inflows and outflows) is measured at its connection point to the network. Therefore, an individual Facility is defined by its connection point to the network (usually its meter point(s)) and is required to submit an individual Resource Plan. System Management submitted that an aggregated Facility must comprise more than one meter point for the purposes of the allocation of Spinning Reserve costs as proposed by Griffin Energy. That is, an individual Facility with one meter point and multiple generating units cannot become an aggregated facility without additional meter points.

3.2 *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 3.

3.3 *Public Forums and Workshops*

No public forums or workshops were held in relation to this Rule Change Proposal.

3.4 *Additional Amendments to the Amending Rules*

Following the first public submission period the IMO has made some minor changes to the proposed Amending Rules to ensure that the cost allocation methodology reflects System Management's system planning methodology and does not inherently treat aggregated units differently. These additional amendments are contained in Appendix 4 of this paper.

3.5 *IMO's Response to Griffin Energy's Rule Change Proposal*

In making its draft decision the IMO provided a response with regard to the following three aspects of Griffin Energy's proposed amendments:

- Allocation of Costs: The IMO did not agree that the application of the modified runway model was discriminatory, noting that the rationale for the adoption of this approach was the causer pays principle (consistent with Market Objective (a))
- Operational Efficiency: The IMO noted that while there may be some operational efficiency gains available to Market Participants through the aggregation of units this would not necessarily equate with the optimal use of resources from an industry perspective.
- Effect of the proposal on other market segments: The IMO noted that the proposed amendments would not change the total costs paid for Spinning Reserve but rather would amend the distribution of these costs to Market Generators.

The full draft response to the Rule Change Proposal is available in Appendix 5 of this report.

4. THE IMO'S DRAFT ASSESSMENT

The IMO's draft assessment, against clauses 2.4.2 and 2.4.3 of the Market Rules, and analysis of the Rule Change Proposal can be viewed in the Draft Rule Change Report (available 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, as modified following the first submission period, to clauses 2.30.6, 2.30.7, 2.30.7A, 3.9.2 and Appendix 2 of the Market Rules.

The IMO made its decision on the basis that 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 general support of the MAC members;
- have the general support of submissions received during the first submission period;
- do not impose additional costs on Market Customers; and
- ensures that costs are allocated on a causer pays basis.

6. SECOND SUBMISSION PERIOD

Following the publication of the Draft Rule Change Report on the IMO website, the second submission period was between 2 August 2010 and 9 September 2010.

6.1 Submissions received

The IMO received submissions from LGP and Synergy. The full submissions are available on the IMO website.

In summary, both submissions support the proposed amendments as presented in the Draft Rule Change Report.

The IMO's response to Synergy's submission

In its submission Synergy suggested a typographical amendment to the drafting to refer to "one aggregated Facility" rather than "one aggregated Facilities". The IMO agrees with Synergy that the proposed amendment would improve the integrity of the Amending Rules and has consequently adopted the proposed amended drafting.

6.2 Additional Amendments to the Amending Rules

The IMO has made the following amendment to Appendix 2 (bullet point 3) of the Amending Rules to improve their integrity:

These changes are as follows (~~deleted text~~, added text):

- If facility f is a Scheduled Generator that is the sum of more than one aggregated ~~Facilities~~ Facility, each with an interval meter and each injecting energy at an individual connection point to the South West interconnected system, then each individual Facility is treated as an individual Scheduled Generator under Appendix 2.

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. Clause 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
Inconsistent 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*

The IMO acknowledges that currently Spinning Reserve costs are allocated based on the causer pays principle, however there is currently a disjoint between the basis that System Management determines the requirement for Spinning Reserve (based on connection points) and the allocation of these costs. This disjoint will be amended by the proposed Amending Rules.

Therefore the IMO considers that the proposed amendments will improve allocative efficiency by ensuring that the causer pays principle is reflected in the allocation of Spinning Reserve costs. The IMO considers that the treatment of aggregated units, with separate connection points to the SWIS, as individual units for the purposes of allocation of Spinning Reserve will ensure that the associated costs of providing Spinning Reserve are more appropriately allocated to those who cause them.

For example an aggregated facility (220MW) which consists of two separate 110MW units with individual connection points to the SWIS would, for the purposes of System Planning, only pose individual risks of 110MW each to the system. These units should therefore be allocated Spinning Reserve costs based on this system impact of 110MW each and so be in Block 3. However under the current Market Rules these units would be considered at an aggregated level they would be in Block 1, and therefore pay a higher share of costs despite not posing a greater risk to the system than 2 separate 110 MW units.

7.2 Practicality and cost of implementation

Cost:

The proposed amendments will require changes to the Wholesale Electricity Market Systems operated by the IMO. These costs are estimated to be approximately \$50,000.

The proposed amendments do not require any change to the systems operated by System Management. In addition there have been no identified changes to other Rule Participants' costs.

Practicality:

The IMO has not identified any issues with the practicality of implementing the proposed changes.

7.3 Views expressed in submissions

The IMO received four submissions and two out of session submissions during the first submission period. In summary, all the submissions received during the first submission period, including the out of session submission from Alinta, supported the Rule Change Proposal. In its late submission System Management noted that the requirement for aggregated Facilities to each have a connection point to the SWIS for the purposes of being treated as single units when allocating Spinning Reserve costs. The IMO's response to the submission received during the first submission period is presented in Appendix 3 of this report.

During the second submission period IMO received two submissions. In summary both submissions supported the Rule Change Proposal. The IMO's response to Synergy's typographical suggestion is presented in section 6.1 of this report.

7.4 Views expressed by the Market Advisory Committee

The MAC discussed the proposal at the 10 March 2010 MAC meeting. An overview of the discussion from the MAC meeting is presented below.

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

March 2010 MAC meeting

During the March MAC meeting the following points were raised.

- Alinta suggested that System Management may need to consider whether two units registered as separate facilities should have two separate meters. System Management confirmed that this was the case.
- Verve Energy noted that there may be merit in the proposed amendments but considered the proposal requires detailed assessment from all perspectives. In particular, Verve Energy noted that the treatment of wind farms should be subject to further assessment. This is because a large number of wind turbines at one location could cause system issues but if a single wind turbine is less than 10MW it would not be assigned Spinning Reserve costs.
- The Chair noted that the proposed changes would provide a concession for aggregated facilities that would not also be given to other Market Participants. The Chair noted that this form of concession has not been previously considered by the market.
- Alinta considered that it may be better to consider the issue of allowing a Market Participant to meet its obligation at a portfolio level provided there are no system security issues. The IMO clarified that if one unit tripped the Market Participant would still be required to log a Forced Outage. The Market Participant would also still experience a capacity shortfall but would however not be exposed to DDAP.
- NewGen noted that if a Forced Outage of one of the aggregated units occurs and another unit is not scheduled to run, the Forced Outage will have occurred across the two units. NewGen added that if the second unscheduled unit is called to start up it would not be compensated for start up costs as the aggregated units would be treated as one unit under the Market Rules.
- System Management noted that it supports the combined treatment of aggregated facilities for the purposes of Ancillary Services provided there is no physical risk to the system.
- Synergy noted that consideration of how the determination of Ancillary Services takes wind farms into account may be required as opposed to considering this as an aggregation issue.
- The Chair noted that Griffin Energy's proposal may have some fundamental merit; however the Chair also noted a general concern that moving towards greater facility aggregation may not be in the best interests of the market.

8. THE IMO'S FINAL DECISION

Based on the matters set out in this report, the IMO's final decision, in accordance with clause 2.7.8 (e), is to accept the amendment of clauses 2.30.6, 2.30.7, 2.30.7A, 3.9.2 and Appendix 2 of the Market Rules as proposed in the Rule Change Proposal as modified by the amendments outlined in section 6.2 and Appendix 4 of this report.

8.1 *Reasons for the Decision*

The IMO has made its decision on the basis that 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 general support of the MAC members;
- have the general support of submissions received during the first and second submission period;
- do not impose additional costs on Market Customers; and
- ensures that costs are allocated on a causer pays basis.

Additional detail outlining the analysis behind the IMO's decision 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 April 2011**.

9.2 *Amending Rules*

The IMO's final decision is to amend the Market Rules. The following clauses are amended (~~deleted wording~~, new wording):

- 2.30.6. If the individual Facilities forming part of an aggregated facility have their own meters, and there is no single meter for the entire aggregated facility, then the settlement meter data for the aggregated facility must be the sum of the meter readings for its component facilities. Subject to clause 2.30.7A, an An aggregated facility which has been registered as a Facility is taken to be treated as a single Facility for the purpose of these rules.
- 2.30.7. If the IMO approves the aggregation of Facilities then, subject to clause 2.30.7A, that aggregated facility must be registered as a single Facility for the purpose of these Market Rules.
- 2.30.7A. If the IMO approves the aggregation of Facilities of a Scheduled Generator then each individual facility in that aggregated Facility that injects energy at an individual network connection point to the South West interconnected

system must be treated as an individual Facility for the purpose of determining the Reserve Share(p,t) values under Appendix 2.

- 3.9.2. Spinning Reserve Service is the service of holding capacity associated with a synchronised Scheduled Generator, Dispatchable Load or Interruptible Load in reserve so that the relevant Facility is able to respond appropriately in any of the following situations:
- (a) to retard frequency drops following the failure of one or more ~~Registered Facilities~~ generating works or transmission equipment; and
 - (b) in the case of Spinning Reserve Service provided by Scheduled Generators and Dispatchable Loads, to supply electricity if the alternative is to trigger involuntary load curtailment.
 - (c) [Blank]

Appendix 2

...

For the purpose of determining the Reserve_Share(p,t) values, each applicable facility f has an applicable capacity associated with it for Trading Interval t.

- If facility f is an Intermittent Generator with an interval meter then this is double the MWh average interval meter reading for the Trading Month containing Trading Interval t.
- If facility f is a Scheduled Generator with an interval meter then this is double the MWh interval meter reading for Trading Interval t.
- If facility f is a Scheduled Generator that is the sum of more than one aggregated Facility, each with an interval meter and each injecting energy at an individual network connection point to the South West interconnected system, then each individual Facility is treated as an individual Scheduled Generator under Appendix 2.
- If facility f is an Electricity Generation Corporation Intermittent Generator without an interval meter then this is double the average monthly MWh sent out generation of that facility based on SCADA data over the Trading Month containing Trading Interval t.
- If facility f is an Electricity Generation Corporation Scheduled Generator without an interval meter or an unmetered generation system serving Intermittent Load then this is double the MWh sent out generation of that facility based on SCADA data for Trading Interval t.

...

APPENDIX 1: FULL DETAILS OF THE PROPOSAL

In its proposal Griffin Energy notes that the Market Rules currently allow Market Participants to aggregate facilities under certain circumstances. The aggregation of facilities may lead to more efficient nomination and real time generating behaviour, as Market Participants have a more flexible arrangement for engagement with the market.

Clause 2.30.6 of the Rules ensures that “An aggregated facility which has been registered as a Facility is taken to be treated as a single Facility for the purpose of these rules.”

Spinning Reserve, an Ancillary Service, is allocated under the Market Rules in accordance with Appendix 2. Allocation is heavily biased towards larger facilities, with those facilities operating at a level over 200MW incurring a greater proportion of the costs.

Griffin Energy contends that practically, an aggregated facility is the conceptual sum of two (or more) separate physical facilities. Each individual (physical) facility will have the same impact on the market with respect to the requirement for Ancillary Services whether it is aggregated or not. Griffin Energy considers that the allocation of Spinning Reserve costs to a single Facility which comprises the sum of the aggregated facilities, as currently contemplated by the Rules, may act as a disincentive for Market Participants to aggregate facilities. Griffin Energy considers that this may lead to a loss of a potential market efficiency, achieved by generators being able to operate their facilities more flexibly.

APPENDIX 2: PROPOSED AMENDING RULES IN THE RULE CHANGE PROPOSAL

Griffin Energy proposed the following amendments to the Market Rules in its Rule Change Proposal (~~deleted text~~, added text):

- 2.30.6. If the individual Facilities forming part of an aggregated facility have their own meters, and there is no single meter for the entire aggregated facility, then the settlement meter data for the aggregated facility must be the sum of the meter readings for its component facilities. Subject to clause 2.30.7A, an An aggregated facility which has been registered as a Facility is taken to be treated as a single Facility for the purpose of these rules.
- 2.30.7. If the IMO approves the aggregation of Facilities then, subject to clause 2.30.7A, that aggregated facility must be registered as a single Facility for the purpose of these Market Rules.
- 2.30.7A. If the IMO approves the aggregation of Facilities of a Scheduled Generator then each individual facility in that aggregated Facility must be treated as an individual Facility for the purpose of the calculation of Spinning Reserve.

Appendix 2

...

For the purpose of determining the Reserve_Share(p,t) values, each applicable facility f has an applicable capacity associated with it for Trading Interval t.

- If facility f is an Intermittent Generator with an interval meter then this is double the MWh average interval meter reading for the Trading Month containing Trading Interval t.
- If facility f is a Scheduled Generator with an interval meter then this is double the MWh interval meter reading for Trading Interval t.
- If facility f is a Scheduled Generator that is the sum of more than one aggregated Facilities, each with an interval meter, then each individual Facility is treated as an individual Scheduled Generator under Appendix 2.
- If facility f is an Electricity Generation Corporation Intermittent Generator without an interval meter then this is double the average monthly MWh sent out generation of that facility based on SCADA data over the Trading Month containing Trading Interval t.
- If facility f is an Electricity Generation Corporation Scheduled Generator without an interval meter or an unmetered generation system serving Intermittent Load then this is double the MWh sent out generation of that facility based on SCADA data for Trading Interval t.

.....

APPENDIX 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 the following table:

Clause/Issue	Submitter	Comment/Change Requested	IMO's response
2.30.7A	Alinta	Suggested that the IMO consider whether the reference should be to "Reserve_Share" in place of "Spinning Reserve".	Clause 2.30.7A was amended to refer to the determination of the Reserve_Share(p,t) values in Appendix 2.
3.9.2(a)	Perth Energy	Amend to clarify that Spinning Reserve is the service of holding capacity in reserve to be able to respond appropriately to retard frequency drops following the failure of one or more generation units rather than Registered Facilities.	Clause 3.9.2 was amended to refer to generating works and transmission equipment. This ensures consistency with the definition for Spinning Reserve provided in Chapter 11.
Treatment of aggregated units for system planning	Alinta	System Management should be asked to advise whether, in determining the required amount of Spinning Reserve, it treats (or would treat) aggregated Facilities as a single Facility or as separate Facilities.	<p>Under clause 3.10.2 System Management's standard for Spinning Reserve service is a level that is sufficient to cover 70% of the total output of the generation unit synchronized to the SWIS with the highest total output at that time or the maximum load ramp expected over a period of 15 minutes.</p> <p>System Management confirmed that:</p> <ul style="list-style-type: none"> • an individual Facility comprising an aggregated Facility with a separate connection point to the SWIS will for the purposes of system planning be treated as an independent generation unit; and • Aggregated facilities (or two individual facilities) which are both connected to the SWIS at one common metered point (connection point) will be treated as one unit for system planning². <p>The IMO considered that consistent with the methodology for determining the Spinning Reserve requirements multiple units at a single connection point should be treated as an aggregated facility when allocating costs. This will ensure that a large wind farm (consisting of a number of units below</p>

² This confirmation was consistent with the late submission also received from System Management prior to the publication of the Draft Rule Change Report.

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Clause/Issue	Submitter	Comment/Change Requested	IMO's response
			<p>10MW) with one connection point to the SWIS would still be required to pay its share of Spinning Reserve Costs.</p> <p>Appendix 2 of the Amending Rules was clarified to reflect this.</p>
Treatment of aggregated units for system planning	Perth Energy	It would be most efficient for the market to plan Spinning Reserve requirements around the size of individual units, rather than the size of aggregated Facilities, where those Facilities consist of two or more stand alone, independent generation units.	Refer to the above response.
Treatment of aggregated units for system planning	ERM Power	It does not appear reasonable for a Market Generator to incur higher Spinning Reserve charges for an aggregated facility where System Management would treat the reserve requirements for the facility on an individual basis.	If an aggregated facility (or two or more units comprising a part of an aggregated facility) has a single mode of connection then for the purposes of determining Spinning Reserve requirements they will be treated as one unit. This ensures that the scenario of a common mode failure is taken into account by System Management when undertaking its planning process. Appendix 2 of the Amending Rules has been clarified to reflect this.
Exemption of units smaller than 10MW	Perth Energy	Concern that generation units smaller than 10MW being exempt from funding Spinning Reserve costs is not equitable within the market and does not reflect the overarching principle of causer pays.	<p>The rationale for allocating Spinning Reserve costs to generators in the WEM is based on the principle of economic efficiency, where costs should be allocated to those who cause them (the causer-pays principle). While the causer pays principle would ensure there is no distinction across different types of generating units, at some point the costs of treating small generating units in exactly the same way as larger units exceed the benefits. On this basis the IMO considers that generation units smaller than 10MW should remain exempt from funding Spinning Reserve costs.</p> <p>This conclusion is consistent with other jurisdictions and, for example, is supported in PA Consulting's memorandum titled "Summary of the Treatment of Small and Embedded Generation in the NEM"³. In the Australian National Electricity Market costs for Spinning Reserve are differentiated on the basis of capacity, with variations in output from units below 10MW being covered directly by Load Following Service. This is also similar to the Singapore Wholesale Electricity Market.</p>

³ PA Consulting Group, 21 March 2002 "Summary of Treatment of Small and Embedded Generation in the NEM".

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Clause/Issue	Submitter	Comment/Change Requested	IMO's response
			<p>The IMO noted its recognition that Load Following and Spinning Reserve are two distinct services. However while units below 10MW may affect system security if they trip, System Management had confirmed that these trips are addressed using Load Following service rather than Spinning Reserve, given their small size. Therefore units below 10MW should not be required to fund Spinning Reserve costs.</p> <p>The IMO noted that Load Following costs are funded by both Market Generators and Market Customers on the basis of their metered MWh output during the month for all loads and Non-Scheduled Generators. Scheduled Generators are not required to fund Load Following costs. The IMO notes that units below 10MW on the system currently are generally Non-Scheduled Generators and therefore will be required to fund Load Following.</p>
Exemption of units smaller than 10MW	Perth Energy	With the increasing uptake of distributed generation and other small scale generation technologies, Perth Energy views it as timely to reassess whether the exemption on units smaller than 10MW should be removed to ensure that all generators on the system that may give rise to the need to utilise Spinning Reserve are charged appropriately for the service.	Refer to the above response.
Exemption of units smaller than 10MW	ERM Power	Concerns have been raised around whether this proposal would potentially allow intermittent generators with many small generators to register as an aggregated facility to avoid Spinning Reserve charges. If this is a valid concern then the rule change may require specifications regarding the registration of the aggregated facility. A possible requirement is for each individual facility included in the aggregated facility to have its own station transformer connected to the transmission/distribution system.	<p>Currently an Intermittent Generator is required under clause 2.30.2 to be aggregated as a single Non-Scheduled Generator. In its Rule Change Proposal, Griffin Energy does not propose to amend this requirement. Additionally, due to high meter installation costs there are natural barriers to the disaggregation of smaller units created by the requirement for all individual units to have a meter trace.</p> <p>The IMO noted that it considers that aggregated facilities comprising of a number of units below 10MW with a single connection point should be treated as an aggregated unit when allocating Spinning Reserve costs. This will ensure that the risk to the system is adequately reflected by their requirement to fund Spinning Reserve.</p>

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Clause/Issue	Submitter	Comment/Change Requested	IMO's response
Spinning Reserve cost structure	Perth Energy	Questions whether the provision of Spinning Reserve is a truly variable-only cost. View that a detailed assessment of the cost structure of providing these services would indicate the existence of some up front fixed costs.	The availability payment provided to Market Participants providing Spinning Reserve should cover the majority of up-front fixed costs encountered by a Market Participant. As the availability payment is determined using the modified runway methodology, larger units will pay a larger share of the fixed costs of a Market Participant providing Spinning Reserve. As a result the IMO noted that it did not consider that a detailed assessment of the cost structure of units providing these services is required.
Alternate Methodology	Perth Energy	Consider that, dependent on the result of investigation into the matters raised in its submission, an alternative methodology could be to charge all generation units for Spinning Reserve, with a fixed fee component to cover non-size related costs and \$/MW variable component to cover the variable costs of providing Spinning Reserve.	Based on the above identified points, the IMO noted that it did not agree with the proposed alternative method for the allocation of Spinning Reserve costs as suggested by Perth Energy.

APPENDIX 4: ADDITIONAL AMENDMENTS MADE BY THE IMO FOLLOWING THE FIRST SUBMISSION PERIOD

The IMO made some amendments to the Amending Rules following its assessment of the first submission period responses. These changes are as follows (~~deleted text~~, added text):

The proposed amendment to clause 2.30.7A will clarify that aggregated Facilities will only be treated separately for the purposes of determining the Reserve_Share values in Appendix 2 if they are individually connected to the SWIS. If two or more facilities share a connection to the SWIS then for the purposes of determining Spinning Reserve costs they will be treated as one aggregated facility.

2.30.7A. If the IMO approves the aggregation of Facilities of a Scheduled Generator then each individual facility in that aggregated Facility that injects energy at an individual network connection point to the South West interconnected system must be treated as an individual Facility for the purpose of determining the Reserve_Share(p,t) values under Appendix 2 calculation of Spinning Reserve.

The proposed amendment to clause 3.9.2 will clarify that Spinning Reserve Service relates to frequency drops as a result of the failure of one of more generating works or transmission equipment at a connection point to the SWIS.

3.9.2. Spinning Reserve Service is the service of holding capacity associated with a synchronised Scheduled Generator, Dispatchable Load or Interruptible Load in reserve so that the relevant Facility is able to respond appropriately in any of the following situations:

- (a) to retard frequency drops following the failure of one or more ~~Registered Facilities-generating works or transmission equipment~~; and
- (b) in the case of Spinning Reserve Service provided by Scheduled Generators and Dispatchable Loads, to supply electricity if the alternative is to trigger involuntary load curtailment.
- (c) [Blank]

The proposed amendment to Appendix 2 will clarify that aggregated Facilities will only be treated separately when distributing costs for Spinning Reserve if they are individually connected to the SWIS. If two or more facilities share a connection point to the SWIS then for the purposes of determining Spinning Reserve costs they will be treated as one aggregated facility.

Appendix 2

...

For the purpose of determining the Reserve_Share(p,t) values, each applicable facility f has an applicable capacity associated with it for Trading Interval t.

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- If facility f is an Intermittent Generator with an interval meter then this is double the MWh average interval meter reading for the Trading Month containing Trading Interval t.
- If facility f is a Scheduled Generator with an interval meter then this is double the MWh interval meter reading for Trading Interval t.
- If facility f is a Scheduled Generator that is the sum of more than one aggregated Facilities, each with an interval meter and each injecting energy at an individual network connection point to the South West interconnected system, then each individual Facility is treated as an individual Scheduled Generator under Appendix 2.
- If facility f is an Electricity Generation Corporation Intermittent Generator without an interval meter then this is double the average monthly MWh sent out generation of that facility based on SCADA data over the Trading Month containing Trading Interval t.
- If facility f is an Electricity Generation Corporation Scheduled Generator without an interval meter or an unmetered generation system serving Intermittent Load then this is double the MWh sent out generation of that facility based on SCADA data for Trading Interval t.

APPENDIX 5: IMO'S RESPONSE TO GRIFFIN ENERGY'S RULE CHANGE PROPOSAL

In its Draft Rule Change Report the IMO provided the following response to Griffin Energy's Rule Change Proposal.

Allocation of Costs

In its proposal Griffin Energy contended that the current methodology (the modified runway methodology) for the allocation of costs is discriminatory (Market Objective (c)). In particular, Griffin Energy noted that the current Market Rules imply that aggregating two (or more) facilities that create an aggregated facility which is larger than 200MW will incur more costs than aggregating two (or more) smaller facilities, the sum of which is less than 200MW.

The IMO did not agree that the application of the modified runway model is discriminatory. The rationale for the modified runway methodology is:

- A Market Participant only needs to pay for the Spinning Reserve that is used to cover the quantum of risk created by itself; and
- The higher the probability of a Market Participant posing a risk to the system, the higher the cost share it should be allocated.

The IMO noted that the rationale for the adoption of the modified runway approach for the allocation of costs in the South West interconnected system (SWIS) stems from the causer pays principle, where costs should be allocated to those who cause them. This is consistent with the promoting economic efficiency (Market Objective (a)). The IMO also noted that the modified runway approach has been adopted in the Singapore Wholesale Electricity Market for the allocation of Spinning Reserve costs. Similarly, the cost allocation methodologies for Spinning Reserve costs in both the National Electricity Market and New Zealand Electricity Market are driven by the causer pays principle⁴.

For the purposes of system planning each unit which has an individual connection point will be treated separately. If two or more units have a single connection point to the SWIS then they will be treated as an aggregated unit by System Management when determining Spinning Reserve requirements. The IMO agreed with Griffin Energy that the cost allocation methodology should better reflect the current system planning methodology and not inherently treat an aggregated unit differently, unless an individual facility within the aggregated unit has a single connection point to the SWIS and so creates a greater quantum of risk from a planning perspective.

Operational Efficiency

Griffin Energy noted that Market Participant's may achieve operational efficiency gains through the aggregation of units.

The IMO agreed that there may be some efficiency gains available to Market Participants as they will be able to determine the optimal use of plant from within its aggregated portfolio to meet its Resource Plan. The IMO noted that while this may be the case, it considers that this will not necessarily equate to the optimal use of resources for the Market as a whole as it is feasible that a Market Participant meets a shortfall using less efficient generation than available from the Balancer. The IMO however noted

⁴ Energy Market Company, 5 January 2010, "Allocation of Reserve Costs to Load (5% Share) and Generators Settlement Facilities".

that a Market Participant will still be required to log a Forced Outage in the event that a unit is not operating and as such will be required to make Capacity Cost Refunds.

Effect of proposal on other market segments

The IMO noted that the proposed amendments will not change the total costs paid for Spinning Reserve however there will be changes to the distribution of those costs to Market Generators dependent on which Block they were operating within during a specific Trading Interval. The impact of these changes on the size of costs incurred by each Market Generator will be dependent on the behaviour of all other participants in the market at a point of time, both within the same block and in other blocks. There will be no financial impact on Market Customers associated with the proposed amendments.