



Independent Market Operator

**Final Market Rule Change
Report**

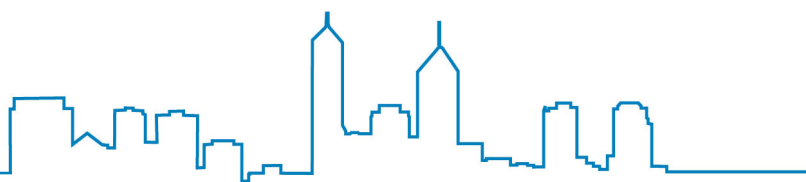
**Title: Capacity Credits for Solar
Facilities**

Ref: RC_2008_31

Date: 22 May 2009

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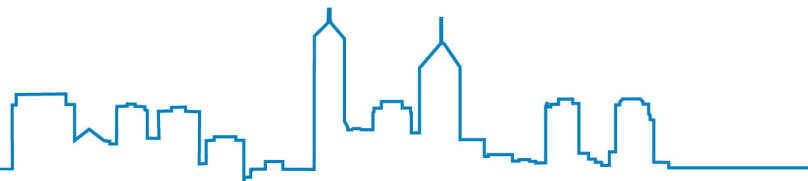


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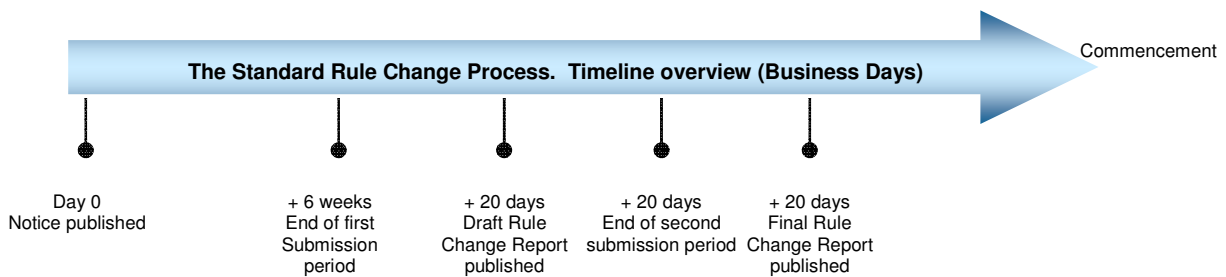


1. INTRODUCTION

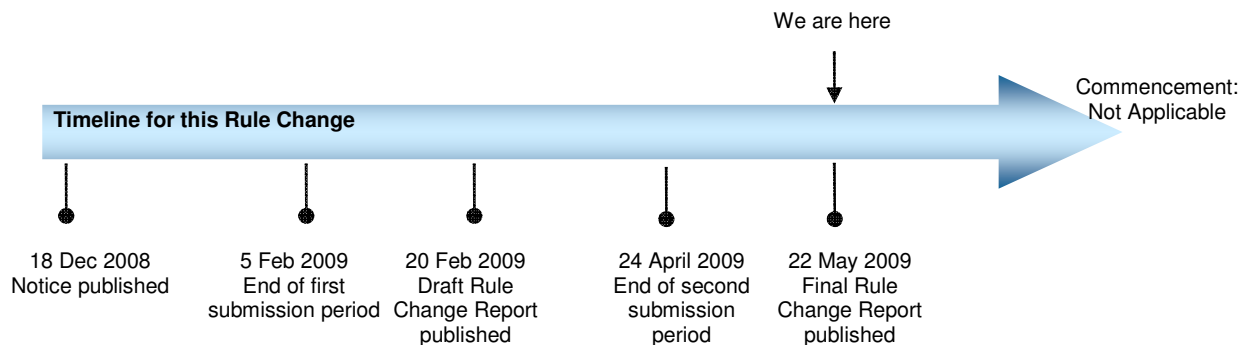
On 15 December 2008 Synergy submitted a Rule Change Proposal regarding changes to clauses 4.11.2, 4.11.3A, and 4.11.3B of the Wholesale Electricity Market Rules (Market Rules).

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 reject the Rule Change Proposal. 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's (MAC);
- the results of the technical study regarding this Rule Change Proposal, as commissioned by the Office of Energy; and
- the submissions received.

This Final Rule Change Report on the Rule Change Proposal has been prepared by the IMO in accordance with clause 2.7.8 of the Market Rules.

2. THE RULE CHANGE PROPOSAL

2.1 Submission Details

Name:	Jenni Conroy
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Organisation:	Synergy
Address:	228 Adelaide Tce Perth
Date submitted:	15 December 2008
Urgency:	Medium
Change Proposal title:	Capacity Credits for Solar Facilities

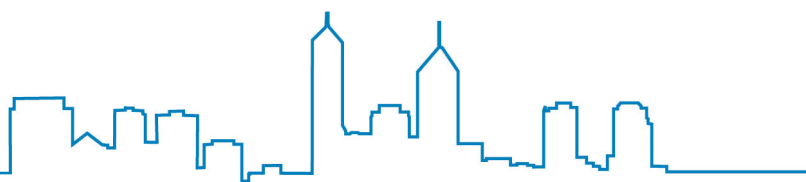
2.2 Details of the Proposal

Synergy submitted that Market Participants may currently nominate to have the Certified Reserve Capacity of an Intermittent Generator assessed under the methodology outlined under clause 4.11.2(b) of the Rules. This requires the IMO to utilise the calculation process outlined in clause 4.11.3A of the Rules to determine the “Relevant Level” for this capacity certification.

According to Synergy’s submission, clause 4.11.3A uses the average output of the Facility to determine the Certified Reserve Capacity of an Intermittent Generator. This clause replaced an earlier provision of the Market Rules (clause 4.11.3) that determined the Relevant Level by considering the capacity available with 90% confidence. The Rules were amended in 2005 to remove clause 4.11.3 following the insertion of clause 4.11.3A.

Synergy argued that the averaging approach under the current certification process for Intermittent Generators acts to reduce the amount of Certified Reserve Capacity that would be afforded to solar power station Facilities below that available during peak demand. It may therefore act as a potential disincentive to the establishment of such Facilities within the South West interconnected system (SWIS).

Synergy considered that the arrangements under the previous clause 4.11.3 would be more appropriate for the application of the certification process to solar power station Facilities that are eligible for certification under the Rules. This alternate certification mechanism would more closely approximate the capacity of the facility that will be available during periods of peak system demand; given that the electricity load within the SWIS is largely temperature dependent.



Synergy proposed that the current methodology be changed to ensure that the current capacity certification process does not discriminate against solar powered facilities.

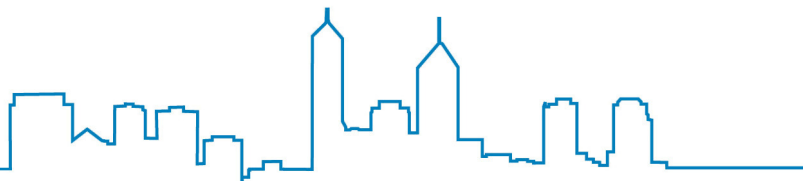
2.3 The Proposal and the Wholesale Market Objectives

Synergy submitted that advancing the Rule Change Proposal would support the Wholesale Market Objectives, most notably objectives (b) - facilitating efficient entry of new competitors, and (c) - avoiding discrimination 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.

2.4 The Amending Rules Proposed by Synergy

The amendments to the Market Rules proposed by Synergy are outlined below (added text, ~~deleted text~~):

- 4.11.2. Where an applicant nominates under clause 4.10.1(i) to have the IMO use the methodology described in clause 4.11.2(b) to apply to a Scheduled Generator or a Non-Scheduled Generator, the IMO:
- (a) may reject the nomination if the IMO reasonably believes that the capacity of the Facility has permanently declined, or is anticipated to permanently decline prior to or during the Reserve Capacity Cycle to which the Certified Reserve Capacity relates. If the IMO rejects such a nomination it must process the application as it would if no nomination to use the method described in clause 4.11.2(b) had been made;
 - (b) if it has not rejected the nomination under paragraph (a), must assign a quantity of Certified Reserve Capacity to the relevant Facility for the Reserve Capacity Cycle equal to the Relevant Level determined by the IMO in accordance with either clause 4.11.3A or clause 4.11.3B (as elected by the applicant) but subject to clauses 4.11.1(b), 4.11.1(c), 4.11.1(f), 4.11.1(g), 4.11.1(h) and 4.11.1(i).
- 4.11.3. [Blank]
- 4.11.3A. Where an applicant elects under clause 4.11.2(b) to have the IMO determine the Relevant Level in respect of a Facility at a point in time under this clause is determined by the IMO will following these steps:
- (a) take all the Trading Intervals that fell within the last three years, up to, and including, the last Hot Season;



- (b) determine the amount of electricity (in MWh) sent out by the Facility in accordance with metered data submissions received by the IMO in accordance with clause 8.4 during these Trading Intervals;
- (c) If the Generator has not entered service, or if it entered service during the period referred to in step (a), estimate the amount of electricity (in MWh) that would have been sent out by the Facility, had it been in service, for all Trading Intervals occurring during the period referred to in (a) which are prior to it entering service;
- (d) set the Relevant Level as double the sum of the quantities determined in (b) and (c) divided by 52,560.

4.11.3B. Where an applicant elects under clause 4.11.2(b) to have the IMO determine the Relevant Level in respect of a Facility at a point in time under this clause the IMO will follow these steps:

- (a) take all the Trading Intervals that fell within the last full Hot Season;
- (b) identify the 250 Trading Intervals from those referred to in step (a) during which the demand for electricity on the SWIS is highest, where demand refers to total demand, net of embedded generation;
- (c) remove any Trading Intervals from those identified in step (b) during which System Management instructed the Facility to reduce its electricity sent out;
- (d) determine the level of electricity sent out by the Facility during each of those remaining Trading Intervals (ignoring Losses), in accordance with metered data submissions received by the IMO for that Facility in accordance with clause 8.4;
- (e) rank the levels determined under step (d) from highest to lowest; and
- (f) set the Relevant Level as the lowest 10% percentile level of the ranking in step (e).

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 18 December 2008 and 5 February 2009.

3.1 Submissions received

The IMO received two submissions on the Rule Change Proposal, from Alinta Sales (Alinta) and Landfill Gas & Power (LGP).

The details of the submissions received during the first submission period and the outcomes from any discussions of the proposal at public forums and workshops are summarised below. The full text of the public submissions is available on the IMO website.

3.1.1 Submission from Alinta

Alinta submitted that while the Rule Change Proposal has intuitive appeal, it noted that the proposed new rule would be available to all intermittent facilities, not just solar facilities.

Further, Alinta noted that it has not been examined whether or not the proposal would, as stated, result in capacity certification for solar Facilities being set at levels that more closely approximate the capacity that would be available from those Facilities during periods of peak system demand.

Consequently, Alinta considered that the proposal should not be approved as currently proposed. Instead Alinta proposed that:

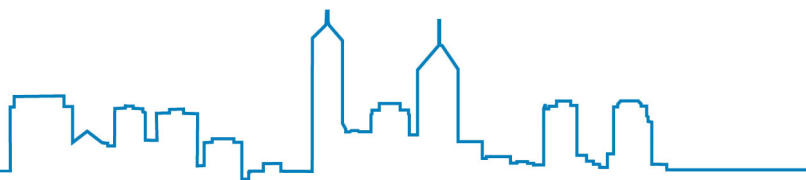
- The rules should be amended to apply only to intermittent solar facilities; and
- The IMO should undertake a technical study to assist it and Market Participants in assessing whether the amendments proposed for the calculation of Certified Reserve Capacity for solar Facilities is consistent with the Market Objectives and should therefore be approved.

Alinta concluded that no evidence was provided to allow an assessment to be made as to whether the proposal would amend the Market Rules in a manner that would better facilitate the Wholesale Market Objectives.

3.1.2 Submission from Landfill Gas and Power

LGP supported the proposed Rule Change Proposal on the grounds that it removes an existing inequity impeding solar generation in a manner that properly and rationally recognises its contribution to system capacity. This is without diminishing other Facilities and technologies.

LGP also supported Synergy's contention that the proposal supports market objectives (b) and (c). In particular, LGP submitted that the proposal removes an inequity whereby solar generation would otherwise be assigned Certified Reserve Capacity and potentially allocated Capacity Credits significantly below its true contribution, without diminishing other Facilities or



technologies. LGP perceived the Rule Change Proposal to be an essential upgrade of the Market Rules to facilitate utilization of Western Australia's abundant solar resource and thereby enhanced participation in the revised federal Mandatory Renewable Energy Target.

3.3 Public Forums and Workshops

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

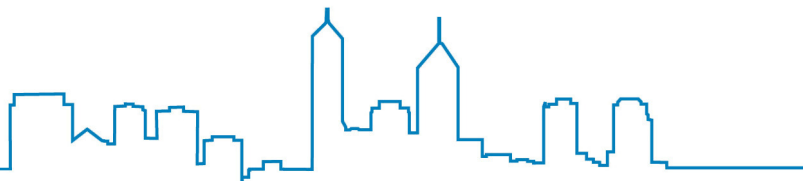
3.4 Additional Amendments

While assessing the submissions received on the Rule Change Proposal the IMO identified additional amendments to the proposed Amending Rules. These are:

- An amendment to sub-clause 4.10.1(i) to place an obligation on the applicant to elect the process outlined in clause 4.11.3A or the new clause 4.11.3B;
- clarifying the text in clause 4.11.2, without changing the meaning of the clause;
- the addition of the reference to new clause 4.11.3B in clause 4.11.1(d); and
- replacing the new word "will" with "must" in both 4.11.3A and 4.11.3B with regards to the IMO's obligations.

The wording of the modified proposed Amending Rules are presented below (~~deleted text~~, added text):

- 4.10.1. The information to be submitted with an application for certification of Reserve Capacity must pertain to the Reserve Capacity Cycle to which the certification relates and must include:
- (a) the identity of the Facility;
 - ...
 - (i) whether, in assigning the Certified Reserve Capacity or Conditional Certified Reserve Capacity to apply to a Scheduled Generator or a Non-Scheduled Generator, the applicant wishes to nominate the use of the methodology described in clause 4.11.2(b), in place of that described in clause 4.11.1(a), and if so whether the applicant elects the process in clause 4.11.3A or clause 4.11.3B ~~in assigning the Certified Reserve Capacity or Conditional Certified Reserve Capacity to apply to a Scheduled Generator or a Non-Scheduled Generator;~~ and
 - (j) whether the Facility will be subject to a Network Control Service contract.



4.11.1 Subject to clause 4.11.7, the IMO must apply to following principles in assigning a quantity of Certified Reserve Capacity to a Facility for the Reserve Capacity Cycle to which the application relates:

(a) ...

...

(d) the IMO must assign Certified Reserve Capacity for Intermittent Generators that are already operating equal to the Relevant Level determined in accordance with clause 4.11.3A or 4.11.3B but subject to (b), (c), (f), (g), (h) and (i).

4.11.2. Where an applicant nominates under clause 4.10.1(i) to have the IMO use the methodology described in clause 4.11.2(b) ~~to apply to a Scheduled Generator or a Non-Scheduled Generator~~, the IMO:

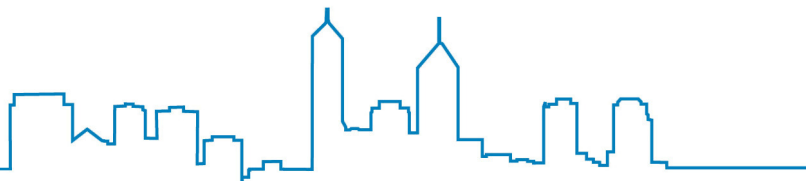
(a) may reject the nomination if the IMO reasonably believes that the capacity of the Facility has permanently declined, or is anticipated to permanently decline, prior to or during the Reserve Capacity Cycle to which the Certified Reserve Capacity relates. If the IMO rejects the nomination it must ~~process the application as it would if no nomination to use the method described in clause 4.11.2(b) had been made~~ use the methodology in clause 4.11.1(a) to process the application;

(c) must, if it has not rejected the nomination under paragraph (a), ~~must~~ assign a quantity of Certified Reserve Capacity to the relevant Facility for the Reserve Capacity Cycle equal to the Relevant Level. ~~determined in accordance with clause 4.11.3A but subject to clauses~~. The IMO will determine the Relevant Level under either clause 4.11.3A or clause 4.11.3B (as elected by the applicant in its nomination) but in either case the determination will be subject to the provisions of clauses 4.11.1(b), 4.11.1(c), 4.11.1(f), 4.11.1(g), 4.11.1(h) and 4.11.1(i).

4.11.3. [Blank]

4.11.3A. Where an applicant elects under clause 4.11.2(b) to have the IMO determine the Relevant Level in respect of a Facility at a point in time under this clause is determined by the IMO must following these steps:

(a) take all the Trading Intervals that fell within the last three years₁ up to₇ and including₇ the last Hot Season;



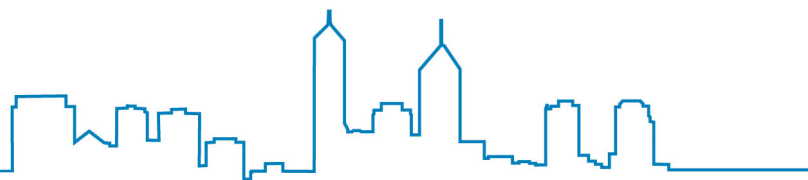
- (b) determine the amount of electricity (in MWh) sent out by the Facility in accordance with metered data submissions received by the IMO in accordance with clause 8.4 during these Trading Intervals;
- (c) If the Generator has not entered service, or if it entered service during the period referred to in step (a), estimate the amount of electricity (in MWh) that would have been sent out by the Facility, had it been in service, for all Trading Intervals occurring during the period referred to in (a) which are prior to it entering service;
- (e) set the Relevant Level as double the sum of the quantities determined in (b) and (c) divided by 52,560.

4.11.3B. Where an applicant elects under clause 4.11.2(b) to have the IMO determine the Relevant Level in respect of a Facility at a point in time under this clause the IMO must follow these steps:

- (a) take all the Trading Intervals that fell within the last full Hot Season;
- (b) identify the 250 Trading Intervals from those referred to in step (a) during which the demand for electricity on the SWIS is highest, where demand refers to total demand, net of embedded generation;
- (c) remove any Trading Intervals from those identified in step (b) during which System Management instructed the Facility to reduce its electricity sent out;
- (d) determine the level of electricity sent out by the Facility during each of those remaining Trading Intervals (ignoring Losses), in accordance with metered data submissions received by the IMO for that Facility in accordance with clause 8.4;
- (e) rank the levels determined under step (d) from highest to lowest; and
- (f) set the Relevant Level as the lowest 10% percentile level of the ranking in step (e).

3.5 The IMO's assessment against the Market Objectives

Subsequent to the first submission period, the IMO considered that the proposed Amending Rules, as modified, would have the following impact on how the Market Rules address the Wholesale Market Objectives:



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

The IMO's assessment against market objectives (b) and (c) was as follows:

(b) *to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;*

The proposed rule change supports this market objective by promoting competition as it will help solar facilities, as well as other intermittent generators, to have capacity certified using the method which more closely reflects its mode of operation, reducing the economic barriers to entry.

(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;*

The proposed rule change supports this market objective by allowing Certified Reserve Capacity and Capacity Credits for renewable energy sources to be set at a more realistic value, in particular solar facilities, avoiding a potential discrimination in the current rules against this greenhouse gas reducing technology.

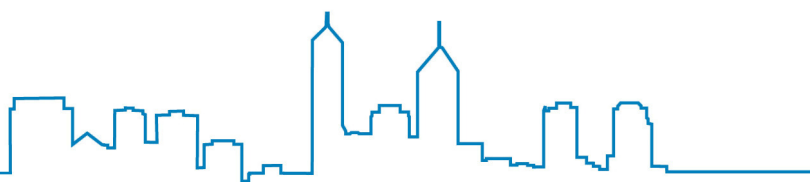
The IMO considered the proposal to be consistent with the remaining Wholesale Market Objectives.

4. THE IMO'S DRAFT DECISION

The IMO's draft decision was to accept the proposed amendments to clauses 4.11.3A and 4.11.3B of the Market Rules as proposed in Synergy's Rule Change Proposal and to implement the amendments to clauses 4.10.1, 4.11.1, and 4.11.2 as outlined in section 3.4 of this paper.

The IMO made its draft decision on the basis that the Amending Rules:

- Would allow the Market Rules to better address the Wholesale Market Objectives (b) and (c);
- Are consistent with the remaining Wholesale Market Objectives; and
- Would promote the introduction of greenhouse gas reducing technologies into the South West interconnected system.



The identified costs associated with implementation of the Rule Change Proposal (approximately AUD \$65,000) were considered to be acceptable as the IMO considered that the change would help to promote greenhouse gas reducing technology into the SWIS.

Additional detail outlining the analysis behind the IMO's reasons is outlined in section 5 of the Draft Rule Change Report:

http://www.imowa.com.au/Attachments/RuleChange/RuleChange_2008_31.html

5 TECHNICAL REVIEW

The timeframe for the second submission period was extended by the IMO in accordance with clause 2.5.12 of the Market Rules. This allowed time for a technical review of the Certified Reserve Capacity calculation methodologies for solar generating Facilities to be undertaken by Senergy Econnect Australia (SEA). SEA had been commissioned by the Office of Energy as part of a wider study being conducted by the Renewable Energy Generation Working Group, a working group established under the MAC. SEA was commissioned by the IMO to conduct a technical review of RC_2008_31.

The extension also allowed interested parties to assess the technical review prior to making submissions during the second round of public consultation. The outcomes from the technical review, along with the IMO's response are provided below. The full text of the technical review is available on the IMO website:

http://www.imowa.com.au/Attachments/RuleChange/2426%20RCRC_ReserveCapacityRuleChange-Sola%20GeneratingFacilities.pdf

5.1 Technical Review

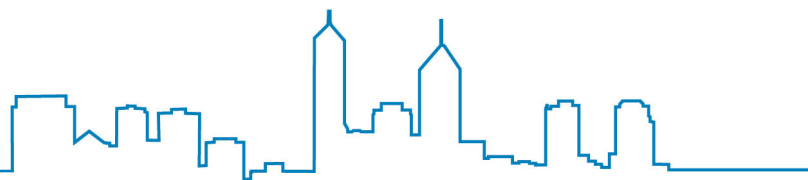
The work undertaken by SEA considered the calculation options for the allocation of the relevant levels of Reserve Capacity for solar generating Facilities operating in the SWIS. One of the main drivers of the review was the changes proposed to clause 4.11.3 of the Market Rules (as part of RC_2008_31).

The preliminary results of the review suggested that, if solar thermal and photovoltaic Facilities were to not operate with high capacity factors that would necessitate the inclusion of some form of energy storage, then the calculation methodology proposed by RC_2008_31 might not deliver the expected outcome, as intended by the Rule Change Proposal.

The following excerpt has been taken from the report prepared by SEA and provides a summary of the technical review's additional findings:

"This study focuses on modelled generation profiles from Photovoltaic and Solar Thermal generators which incorporate thermal storage based on publicly available solar resource data from the capacity years over 2001 to 2008. The results confirm and strengthen the earlier finding that the proposed Rule Change 31, by considering numerous periods in which SGF [Solar Generating Facilities] is unlikely to be generating at significant levels, is unlikely to deliver the intended outcome for SGF.

Although the alternative reserve capacity calculation methodology proposed by Rule Change 31 is intuitively correct, the results clearly point to the limitations of a



restricted data set which only considers a single year of data. Should a Rule Change to the present Rule 4.11.3 focus on SGF, an alternative method should be proposed to that of Rule Change 31.

Some alternative calculation methodologies are shown to be similarly liable to large variations from year to year. It is found that these variations can be mitigated if the data sets utilised for the calculation of reserve capacity are sufficiently large, while avoiding the consideration of night time load intervals.

Generally, the outcomes indicate that averages or means will provide similar results when considering peak load intervals or periods, and interval selections over these time frames produce well distributed data sets. Furthermore, a large data set that does not include night time load intervals will generally produce a consistent result across years.

There is also the opportunity for the development of an effective weighted average calculation methodology for these calculations. While the method implied by the present Reserve Capacity Refund Mechanism is not found to represent well the real contribution from SGF, there is everylikelihood that a redesigned method of the same general type would deliver better results. “

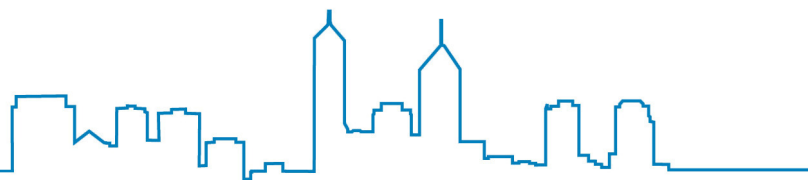
5.2 IMO response to the Technical Review

The IMO has evaluated SEA’s technical review of the Certified Reserve Capacity calculation methodologies for solar generating Facilities and notes its conclusion that RC_2008_31 is unlikely to deliver the outcomes intended by Synergy’s Rule Change Proposal.

Given the required scope of the technical review (whereby SEA assessed the proposed amendments contained in RC_2008_31) the IMO does not consider that an appropriate alternative calculation methodology has been identified. Given there is no clear solution in terms of a methodology for allocating Capacity Credits to solar generating facilities, it is the IMO’s view that it is not appropriate to make further amendments to the Amending Rules. For the purposes of RC_2008_31, the IMO considers that no optimal methodology has been identified and as such can not support the proposed rule change without further significant review being undertaken.

Consequently, the IMO proposes further work should be undertaken through the relevant mechanisms to identify and investigate alternative methodologies to derive an optimal solution to allocating Capacity Credits to solar generating facilities. The IMO notes that the Renewable Energy Generation Working Group is undertaking considerable work in this area and this mechanism should be examined as part of the Working Group’s wider work. Any further review of these issues should assess all the options available for allocating Capacity Credits to solar generating Facilities among others, including the further development of an effective weighted average calculation methodology as suggested in the technical report, and identify an appropriate optimal solution.

Where appropriate the remainder of this report takes into account the conclusions reached by SEA.



6. SECOND SUBMISSION PERIOD

Following the publication of the Draft Rule Change Report on the IMO website, the second submission period was between 23 February 2009 and 24 April 2009.

The IMO received formal submissions from Alinta, LGP, Perth Energy and Synergy during the second submission period. The submissions are summarised below, with the full text available on the IMO website.

6.1 Submission from Alinta

Alinta submitted its views on RC_2008_31 in light of both the SEA technical review and the IMO's Draft Rule Change Report. The details of Alinta's submission are summarised below.

Technical Review

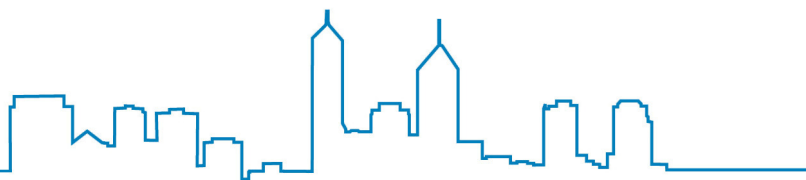
Alinta notes that SEA's initial results suggest that where solar generating Facilities did not incorporate some form of energy storage, it was likely that RC_2008_31 would not result in Certified Reserve Capacity for those Facilities being more closely approximated to the capacity that would be available from those Facilities during periods of peak system demand.

Alinta considers that RC_2008_31 should not be approved as currently proposed due to the outcomes of SEA's analysis which highlighted the significant year-on-year volatility in the data. In particular, Alinta notes the further analysis undertaken by SEA focussing on modelled generation profiles from photovoltaic and solar Facilities that incorporate energy storage, which confirmed and strengthened SEA's initial findings. Alinta also notes SEA's analysis that the volatility of using data only from the 250 Trading Intervals that fell within *the last Hot Season* would result in wide variations in the amount of Certified Reserve Capacity that would be assigned to an Intermittent Generator.

Limiting RC_2008_31 to solar facilities

Alinta submits that at present the manner in which the Market Rules certify Reserve Capacity does not explicitly discriminate against solar generating facilities. Nevertheless, it has been argued that the effect of the current Market Rules is to discriminate against solar generating facilities. On this basis, Alinta submits that it is unclear how a targeted amendment to the Market Rules that seeks only to rectify the existing implicit discrimination against solar generating Facilities could be considered against the intent of market objective (c).

Alinta submits that the Market Rules should ultimately ensure that Facilities can deliver the amount of capacity for which they have been certified when that capacity is required by the market irrespective of generation technology. It is therefore conceivable that this may require that the Market Rules treat some Facilities differently to others. However, Alinta perceives that these differences would (or should) be justified on the basis that they are directed only at ensuring consistent market outcomes/obligations across generation technologies. Alinta submitted that such differences would not be inconsistent with market objective (c).



Alinta requests that the IMO consider these comments and address this matter further in its Final Rule Change Report. In particular, Alinta requests that the IMO clarify how it considers Market Objective (c) is to be interpreted and applied in assessing Rule Change Proposals.

Alinta submits that given the absence of empirical evidence on how RC_2008_31 might affect the certification of capacity from other technologies it would be unsafe to amend the Market Rules to allow any Facility to adopt the calculation process proposed by RC_2008_31.

6.2 Submission from Landfill Gas and Power

LGP supports the Rule Change Proposal on the grounds that it removes an existing inequity impeding solar generation in a manner that properly and rationally recognises its contribution to system capacity without diminishing other Facilities and technologies.

LGP agrees with Alinta's position, highlighted during the first submission period, that the perception of solar generation Facilities otherwise being allocated Capacity Credits significantly below its true contribution is intuitive and not empirically supported. However LGP states that no studies are required to "know" that solar generating Facilities are limited to maximum certification of around 50% of rated capacity under the current approach in the Market Rules as they produce notionally zero output during darkness and operate at full output only during the middle of the day.

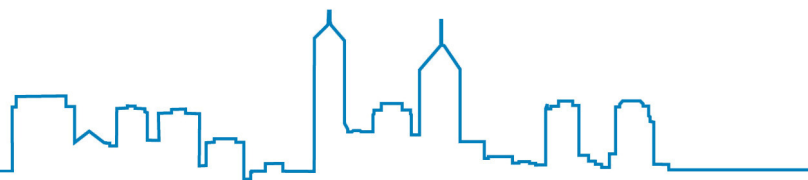
Further, LGP notes that it is well established that the annual system peaks occur during the middle of the day, when solar is potentially available at maximum output. The proposal assesses the extent to which this potential availability correlates with the system peaks by sampling it across the top 250 intervals and then certifying at only the 90% confidence level. LGP perceives that this approach means that solar generating Facilities would be certified according to its indicative historical contribution to system capacity and thereby would not receive significant preferred treatment. In this respect, LGP considers solar to be arguably the most valuable form of renewable/intermittent technology.

LGP notes that it would not suggest that the Rule Change Proposal be applied to existing Intermittent Generators because of the financial impairment that it would cause. LGP suggested that it must be given consideration by the Renewable Energy Generation Working Group for application to all future renewable/intermittent generation.

LGP contend that there is no need to restrict the proposal to only solar generating facilities. LGP consider that the proposed Amending Rules are potentially onerous for Intermittent Generators and if they wish to have it applied, they should be free to so elect. LGP acknowledge that winter peaks occur during twilight and darkness, so solar will not make a significant contribution. However LGP note that these peaks are of lesser significance than the summer peaks. LGP notes that this is a potential subsidy, but is supportive of this.

6.3 Submission from Perth Energy

In its submission Perth Energy note that it considers that the current mechanisms for assigning Capacity Credits do not reflect the true capacity value that solar generating Facilities may bring to the SWIS.



Perth Energy contends that the proposed calculation methodology, contained in RC_2008_31, appears to be an improvement on the status quo. In saying this Perth Energy notes the reservations contained in the SEA report in that looking back over three years, rather than a single year, may be a more suitable approach as it provides a more stable determination of the level of Capacity Credits.

Perth Energy expresses concern that different approaches to assigning Capacity Credits for different technologies are being developed, and consequently suggest that the IMO consider an approach to assigning Capacity Credits which is more reflective of the real-time value of each Facility to system reliability.

6.4 Submission from Synergy

In its submission Synergy note that the purpose in proposing the rule change was to create more relevant methods of calculating Capacity Credit allocation to differing types of intermittent renewable generation technologies. Synergy notes that its proposed method was the first step in directly addressing solar and Alinta's request (during the first submission period) to the IMO for a technical review to be undertaken was the next logical step.

Synergy submits that it is not wedded to the wording of its proposed rule change or the proposed method for calculating Capacity Credits for solar generating Facilities noting that it was simply an attempt to establish a reasonable approach.

6.5 The IMO's Assessment of Second Submission period responses

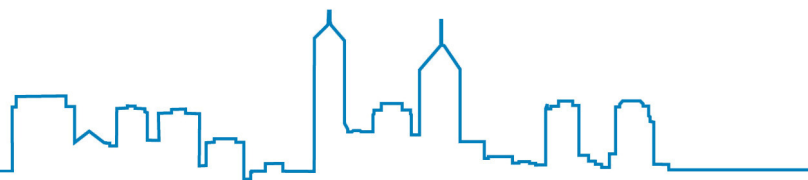
The IMO received mixed responses to the invitation for submissions for the Rule Change Proposal during the second submission period.

In particular, LGP, Perth Energy and Synergy were supportive of the proposal on the grounds that it amends an existing inequality impeding solar generation. However, these submitters all note in varying ways that the mechanism for assigning Capacity Credits as currently proposed may not necessarily be the best available option to the market and that there may be a more reasonable approach available.

This contention is further supported by Alinta's submission that RC_2008_31 should not progress, as currently proposed, in light of the SEA technical review's findings that it is unlikely that the proposed methodology would have the intended impact for solar generating facilities.

The IMO notes Perth Energy's concerns that different approaches to assigning Capacity Credits for different technologies are being developed. The outcomes of the submissions received and the results of the SEA study highlight that there are still significant issues that need to be addressed pertaining to how value can be applied to different capacity types.

LGP submitted that the proposed rule changes should not be applied to existing Intermittent Generators because of the financial impairment that it would cause. The IMO notes LGP's suggestion. However, given that the IMO's decision is to reject the Rule Change Proposal the IMO has not further considered this point as part of its decision. The IMO notes this comment and will refer it to the appropriate review mechanism.



LGP also submitted that there is no reason why the proposed Amending Rules should only apply to solar Intermittent Generators. LGP also noted that the new rule would be onerous to Intermittent Generators and so they should be free to elect to have it applied. The IMO agrees with LGP that these issues should be referred to the Renewable Energy Generation Working Group for further discussion along with the determination and assessment of other alternative methodologies for assigning Capacity Credits to solar Intermittent Generators.

Alinta's submission raised some concerns around how Market Objective (c) is to be interpreted and applied in assessing Rule Change Proposals. In particular Alinta noted that it may be conceivable that the Market Rules treat some Facilities differently than others.

The IMO's role is to determine whether the Market Rules as a whole would still be consistent with the market objectives, on balance, if they were amended as proposed. Where possible the IMO considers that it is optimal to treat all technology options equally within each generation class. However, each Rule Change Proposal the IMO receives needs to be assessed on both a merits and a case by case basis.

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.

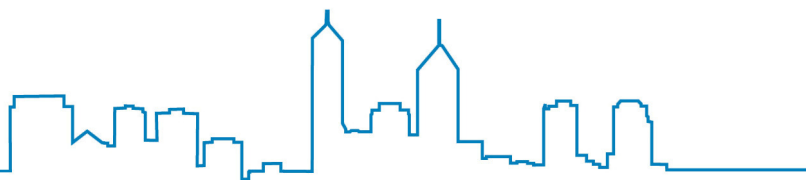
Market Rule 2.4.2 outlines that the IMO "must not make Amending Rules unless it is satisfied that the Market Rules, as proposed to be amended or replaced, are consistent with the Wholesale Market Objectives".

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 Proposal.

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



7.1 Market Objectives

According to clause 2.4.2 of the Market Rules *“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”*.

The IMO’s initial assessment of the proposed Amending Rules against the Wholesale Market Objectives was based on the understanding that the proposed methodology would have the intended outcomes of certifying Capacity Credits to solar generating Facilities using a method which more closely reflects its mode of operation. In particular, the IMO considered in the Draft Rule Change Report that the Amending Rules would better achieve market objectives (b) and (c) by allowing solar generating facilities, and other Intermittent Generators, to have capacity assigned which better reflects its mode of operation. The IMO contended that this change would avoid a potential discrimination in the current rules against greenhouse gas reducing technology.

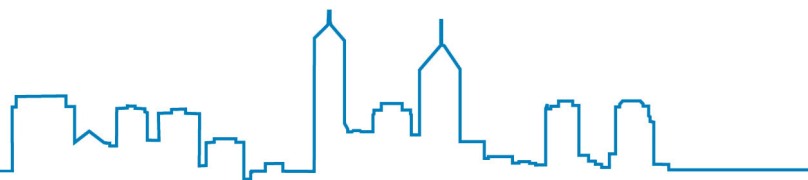
Given the findings of the SEA technical review the IMO no longer considers that the proposed Amending Rules would correct this potential discrimination in the current rules nor would it achieve the intended outcome.

While the methodology proposed by Synergy to allocate Capacity Credits to solar generating Facilities is intuitively correct, there has been no evidence provided to the IMO that it will provide a better outcome for a technology option which is potentially discriminated in the current rules. Therefore, the IMO does not consider that the proposed Amending Rules would represent an improvement to the current rules.

Specifically, the IMO considers that the Market Rules as a whole, if amended, will not be consistent with objective (b) and (c) of 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	No
(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	No
(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

The IMO also considers that the proposed Amending Rules will have the following impact on how the Market Rules address the Wholesale Market Objectives



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

The IMO's assessment against market objectives (b) and (c) was as follows:

- (b) *to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;*

The proposed rule changes do not support this market objective of promoting competition as they will not help solar facilities, as well as other intermittent generators, to have capacity certified using the method which more closely reflects its mode of operation and contribution to reliability through the Reserve Capacity Mechanism. That is, the proposed Amending Rules do not represent an improvement on the current rules.

- (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;*

Given that the proposed Amending Rules are unlikely to appropriately value solar generating Facilities when allocating Certified Reserve Capacity and Capacity Credits for renewable energy sources, the IMO does not consider that the potential discrimination in the current rules against green gas reducing technology would be removed.

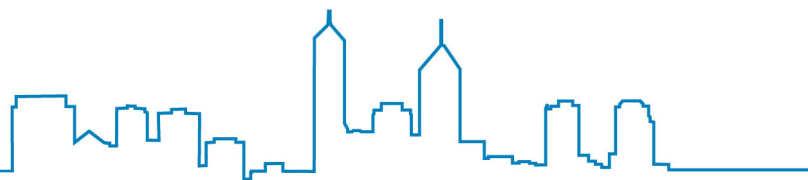
Clause 2.5.4 of the Market Rules requires that “*where the IMO considers that a change to the Market Rules is required to maintain consistency with any applicable law or regulation or the Wholesale Market Objectives, the IMO is responsible for developing an appropriate Rule Change Proposal.*”

The IMO agrees with Synergy and the other parties who made submissions that the current market rules potentially discriminate against intermittent renewable generation technologies. The IMO, with assistance from the Renewable Energy Generation Working Group, intends to develop an appropriate Rule Change Proposal to address the issues raised during the process for RC_2008_31.

7.2 Practicality and cost of implementation

In accordance with clause 2.4.3(b) of the Market Rules, in deciding whether or not to make Amending Rules, the IMO must also have regard to the practicality and cost of implementing the Amending Rules.

The proposed changes will require IT system changes. It has been estimated that the associated changes to Wholesale Electricity Market Systems operated by the IMO will cost approximately AUD \$65,000.



In its Draft Rule Change Report the IMO noted that it considered these costs to be acceptable as it considered the change would help to promote greenhouse gas reducing technology into the SWIS.

However, as new information has come to light, in particular the SEA report, the IMO now considers these to be substantive costs given that it is unlikely that the proposed methodology would have the intended outcomes for solar generating facilities. To implement the change when it is unlikely that the intended benefits would occur will represent an unnecessary cost to the market.

No other costs have been identified in relation to the implementation of the proposed changes.

7.3 Views expressed in submissions

In accordance with clause 2.4.3(c) of the Market Rules, in deciding whether or not to make Amending Rules, the IMO must have regard to the views expressed in submissions on the Rule Change Proposal.

Of the four parties responding to the IMO's call for submissions, LGP, Perth Energy and Synergy supported the proposal. The main reasons for its support were the proposals attempt to amend an existing inequality impeding solar generating facilities. LGP and Perth Energy did however raise concerns as to whether the proposed approach was correctly targeted and represented the optimal option to the market.

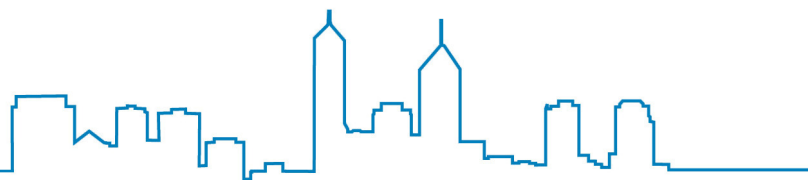
Alinta considered that given the absence of empirical evidence on how RC_2008_31 might affect the certification of capacity from other technologies the Rule Change Proposal should not be progressed. Alinta also raised concerns about the IMO's interpretation of market objective (c) as they contend that differences in treatment of Facilities might be justified in some situations.

After consideration of Alinta's submission, and in light of the similar concerns raised by the other submitters, the IMO has decided to reject the Rule Change Proposal. It is evident that further investigation to identify of all alternative options to address this problem is necessary. Additionally, further consideration of the whether future proposed changes should apply solely to solar generating Facilities or to all intermittent Facilities requires discussions via the relevant mechanisms.

The IMO further outlines its response to the issues raised in submissions in section 6.5.

7.4 Views expressed by the Market Advisory Committee

In accordance with clause 2.4.3(d) of the Market Rules, in deciding whether or not to make Amending Rules, the IMO must have regard to the views expressed by the MAC, where the MAC met to consider the Rule Change Proposal. The MAC did not meet to discuss the proposed rule change as the IMO determined that the contents of the proposal did not constitute a significant enough change from the pre rule change discussion paper, which was presented by Synergy to the MAC at its meeting on 10 December 2008.



As noted in the MAC meeting minutes, Synergy advised that the Rule Change Proposal would lay the groundwork for the MAC appointed Renewable Energy Generation Working Group, chaired by the Office of Energy.

The IMO queried the robustness of the prediction methods involved in calculating renewable generation output, while one MAC member raised the point that solar power is an excellent source of renewable energy in summer but this is not necessarily the case throughout the year.

In conclusion, MAC agreed that Synergy should progress the issue through to proposing a rule change.

7.5 Technical Review

The findings of the SEA technical review and the points raised during submissions have highlighted that the IMO is not in a position to support the proposed change to the Market Rules. In particular, the IMO considers that the proposed changes may not be in line with the existing Reserve Capacity framework and not be discriminatory at the same time. In particular the SEA report shows that there is not enough evidence available to the IMO to support the Rule Change Proposal as currently worded or any one of the other methodologies investigated. While the averaging approach might be an appropriate option, there is no specific evidence to support this contention contained in the SEA study.

While the IMO agrees that the current mechanisms for assigning Capacity Credits do not necessarily reflect the true capacity value for solar generation's Facilities in the SWIS, the IMO considers as that further investigation into determining an optimal methodology is required. Furthermore, the IMO notes that during the rule change process no viable alternative methodology has been identified that does not require further investigative work to be undertaken. The IMO considers that it is in the best interests of the market that this issue be further discussed through the Renewable Energy Generation Working Group to obtain an optimal approach which is consistent with the market objectives.

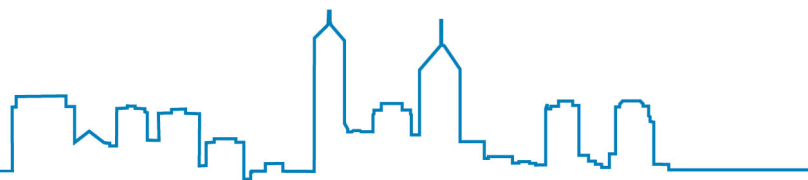
8. THE IMO'S FINAL DECISION

The IMO's final decision is to reject the proposed amendments to clauses 4.11.3A, 4.11.3B, 4.10.1, 4.11.1, 4.11.2, and 4.11.3 of the Market Rules as proposed in Synergy's Rule Change Proposal and subsequently amended following the first submission period.

8.1 Reasons for the decision

In summary, the substantive reason for the IMO's decision to reject the proposed Amending Rules is that the technical review undertaken by SEA does not support the Rule Change Proposal. The review found that the proposed methodology is unlikely to have the consequences for solar generating Facilities intended by Synergy.

The IMO notes that no viable alternative has been identified which meets the desired intent proposed by Synergy. The IMO considers that further investigative work be undertaken to identify all appropriate options and likely impacts prior to proposing rule changes.



There are a number of supporting reasons for the IMO's decision, these are:

- The IMO is not satisfied that the proposed Amending Rules would better the market objectives as it is uncertain whether they would achieve the intended outcomes;
- Of the four parties responding to the IMO's call for submissions, three supported the Rule Change Proposal. Concerns were raised by three of the submitters as to whether the proposed approach was correctly targeted and represented the optimal option to the market;
- There is no evident benefit to the entire Market of amending the rules as proposed; and
- There are substantive systems costs associated with amending the rules which given the uncertain benefits may not be recouped.

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

9. AMENDING RULES

The IMO has rejected the proposed Amending Rules.

10. GENERAL INFORMATION ABOUT RULE CHANGE PROPOSALS

Clause 2.5.1 of the Wholesale Electricity Market Rules (Market Rules) provides that any person (including the Independent Market Operator) may make a Rule Change Proposal by completing a Rule Change Proposal Form and submitting this to the Independent Market Operator (IMO).

In order for the proposal to be progressed, the change proposal must explain how it will enable the Market Rules to better contribute to the achievement of the Wholesale Market Objectives. The market objectives are:

- (a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system
- (b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors
- (c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions
- (d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system
- (e) to encourage the taking of measures to manage the amount of electricity used and when it is used

A Rule Change Proposal can be processed using a Standard Rule Change Process or a Fast Track Rule Change Process. The standard process involves a combined 10 weeks public submission period. Under the shorter fast track process the IMO consults with Rule Participants who either advise the IMO that they wish to be consulted or the IMO considers have an interest in the change.

