Wholesale Electricity Market
Rule Change Proposal Submission Form

RC_2010_25
Calculation of the Capacity Value of Intermittent Generation - Methodology 1 (IMO)

Submitted by

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Submission

1. Please provide your views on the proposal, including any objections or suggested revisions.

Infigen does not support this proposed rule change.

The reasons that this rule change are not supported are detailed below:

1. The REGWG was unable to achieve a consensus. The proposed change is not a logical conclusion of the REGWG's nearly 2 ½ years of effort. The proposal is the IMO's attempt at a "compromise solution", but does not have a sound basis and is not one of the several methodologies examined in detail and debated during the working group
2. The basis for the methodology is contrary to independent expert consultant recommendations from the REGWG.
3. The proposed methodology appears to have been progressed to appease System Management and Western Power, based on their stated views that capacity values for wind farms should be no more than 20%, and more properly 10% or less. This view remained unchanged despite the examination of available data by independent expert consultants, and its conclusion that the capacity value for intermittent generation as calculated by the current methodology is about right.

4. The proposed methodology focuses on 12 trading intervals each year for determination of the Fleet Capacity Value. By selecting such a small number of intervals each year, the methodology does not take a statistically sound approach. While 12 intervals may be the average relevant number of high risk days over each year, where demand will approach maximum system capacity, these intervals are not predictable beyond the summer peak months and certain times of day. The methodology assumes that if an Intermittent Facility was not producing during one such interval in previous years, it will not be there in the future (it would be interesting to reduce capacity credit allocation for a scheduled generator to the degree it is unavailable during a certain historical trading intervals, yet statistically these events do occur, and will generally have a more significant impact on system security than intermittent generation). It is more correct to say that the highest risk intervals occur during a certain set of dates each year (the hot summer months) and at certain hours of these days (afternoon). The output of the fleet, and individual Facilities capacity can then be looked at statistically over these at risk periods. This is why the independent expert consultants to the REGWG suggested using a certain number of trading intervals (250-750) which will have a better statistical correlation to the full range of times that high risk intervals can occur. It is Infigen's opinion that 750 trading intervals is a reasonable amount.

5. The proposed methodology is neither simple, nor transparent:

   a. The current 4-step method, is replaced by 21 steps that includes a model for calculating Fleet Capacity Value that is essentially a "black box" for individual Market Participants.

   b. The Fleet Capacity Value calculations are complicated and beyond the reach of individual market participants to calculate. IMO has not been able to distribute a model for the fleet calculations prior to this submission period, so participants are unable to properly model the full effects of the methodology.

   c. Infigen is not necessarily opposed to the concept of fleet capacity as a part of a methodology, however needs to be convinced that this can be easily and accurately modelled for individual facilities by their owners. This is necessary for financing of facilities.

6. The proposed methodology utilises a new concept Load for Scheduled Generation, introduced by the expert consultants to the REGWG (MMA). The concept is used as a proxy for the highest demand intervals in each year, and is supposed to give a more accurate picture of events where the system is at higher risk (when there is the greatest amount of scheduled generation). Infigen is not convinced that this is the best methodology, as it may focus on intervals where intermittent generation is at lower output, than other higher overall demand intervals where intermittent generation output is higher. The concept is also more complicated than simply using higher demand intervals.

7. The proposed change is a narrow targeting of Intermittent Generation (primarily wind), rather than a broader assessment of how market can best meet its security requirements and, given the sharp rises in electricity prices to consumers, what the economically appropriate level of reliability is. Mechanisms such as introducing a class of Capacity Generation that is available only during the at risk periods (summer months), allowing leased generators to be installed at connection points with spare capacity need to be explored (this would be similar to the different classes of DSM).

8. The proposed Rule Change has a significant negative impact on the revenue of existing intermittent generators, that have negotiated offtake arrangements and been financed have based on certain revenue assumptions.

9. The proposed Rule Change has a significant negative impact on the potential revenue, and more significantly potential for offtake arrangements for intermittent generation projects under development. Parties such as Infigen have a considerable investment in project development in WA also based on certain regulatory and revenue assumptions. Future investment in WA is constantly evaluated against other jurisdictions in Australia and internationally. **This proposed Rule Change is one of several being considered that send a significant negative investment signal to renewable energy developers in WA.**

2. Please provide an assessment whether the change will better facilitate the achievement of the Market Objectives.

Infigen considers the changes proposed will have the following impact on the Wholesale Market Objectives:

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

The proposed Rule Change cannot be considered economically efficient, as it is not part of any holistic assessment of the costs of system reliability, or the best means of delivering the appropriate level of reliability, or what the most economically appropriate level of system reliability actually is. At the least, it should be considered as part of a complete review of Capacity Credits.

(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 discriminates against renewable intermittent generation, in several ways:

1. Although the proposal purports to provide better system reliability, there has been no whole of Market review of the Capacity Credit Mechanism, or on the major causes of disruption of supply to the SWIS. The process started with a presumption "*wind is unreliable and receives too many capacity credits and will compromise system security*", and despite independent expert reports to the contrary, concluded with the same view.
2. Every scenario that system management has put forward in support of the unreliability of intermittent generation involves a scenario where a significant amount of scheduled generation is unavailable (10% POE and 8% margin unavailable), then lays the blame for any system unreliability solely on the potential unavailability of wind. [1]
3. The proposed methodology involves looking at specific historical peak period trading intervals as a means of determining whether wind is deserving of capacity credits, but utilises no comparable mechanism for evaluating scheduled generators. Market Rule 4.11 (h) states:

> *the IMO may decide not to assign Certified Reserve Capacity to a Facility if:*
> *i. the Facility has operated for at least 36 months and has had a Forced Outage rate of greater than 15% or a combined Planned Outage rate, Forced Outage rate and Equipment Test rate of greater than 30% over the preceding 36 months; or*
> *ii. the Facility has operated for less than 36 months, or is yet to commence operation, and the IMO has cause to believe that over a period of 36 months the Facility is likely to have a Forced Outage rate of greater than 15% or a combined Planned Outage rate, Forced Outage rate and Equipment Test rate of greater than 30%,*

Several points are worth considering:

a) The assessment of scheduled generators is not compulsory, and even if performance is below the stated standards, the IMO is not obligated to reduce the capacity credits for the Facility
b) The relevant period for assessing scheduled generators is 36 months, over the entire capacity year, and has no bias towards the supposed all-important summer peak period.
c) The 36 month, whole of capacity year "assessment" criteria for scheduled generators matches the current methodology for determining capacity credits for non scheduled (intermittent) generators
d) Despite any major outage requiring primarily a failure of scheduled generation, this has not been looked at.
e) The argument that the capacity refund fines imposed on scheduled generation that is not available to meet its capacity obligations cover this eventuality do not improve system reliability during the event.

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

The Rule change will increase the cost of electricity to the SWIS. There will be the requirement for the system to install more generation to cover the same capacity requirement, based on an unsubstantiated argument that system security is at threat (and against the recommendations of independent expert consultants).

[1] System Management Submission to REGWG

3. Please indicate if the proposed change will have any implications for your organisation (for example changes to your IT or business systems) and any costs involved in implementing these changes.

The proposed change will have a major impacts on the on our business.

There will be an immediate negative effect on the capacity credits allocated to our existing wind farm.

There will be a significant negative effect on the potential revenue of our wind farms under development, which will necessarily lead to an evaluation of WA as an attractive jurisdiction for future investment capital.

4. Please indicate the time required for your organisation to implement the change, should it be accepted as proposed.

Not applicable.