
Draft Rule Change Report RC_2010_25 and RC_2010_37: Calculation of the Capacity Value of Intermittent Generation

Submitted by

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Submission

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

LGP supports the “Modified Methodology 1” approved by the IMO Board and described in the Draft Rule Change Report, subject to the following reservations in respect of the U Factor and use of the Load for Scheduled Generation.

In its submission to the first round of public consultation on Rule Changes 25 and 37, LGP opposed both Rule Change Proposals, with the principal concern that significant Regulatory Risk was being introduced without the recommendation of an independent consultant.

LGP welcomes the IMO’s appointment of an Independent Expert to seek to improve the accuracy and simplicity of the original two proposals. This has resulted in an apparently middle-ground outcome that is close to System Management’s acceptable position of a 20% capacity allocation. Furthermore, the Capacity value in dollar terms (being capacity quantity multiplied by capacity unit value) is reasonably contiguous with historical values.

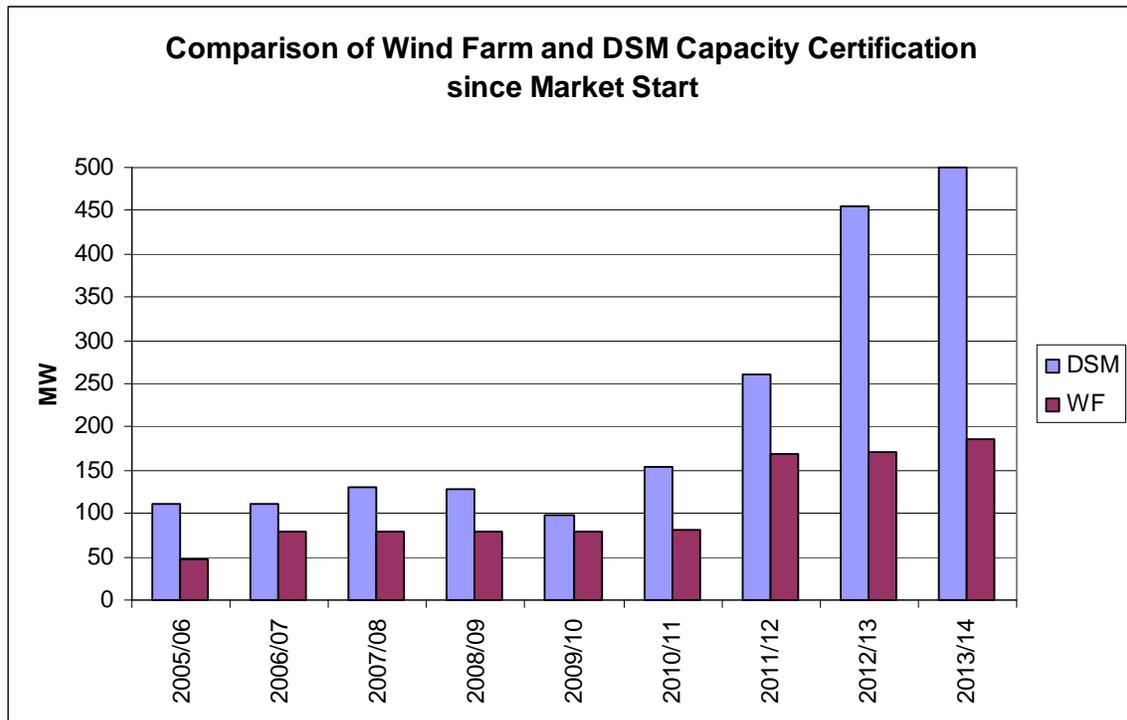
We particular welcome the innovations of basing the certification on the “Z Method” applied to the top 12 Daily Trading Intervals occurring over the previous 5 years, and treating each facility on a stand-alone basis. This is especially meritorious as it is aligned with theory and international practice. We also welcome the phase-in of the calibration

constants over 3 years commensurate with the review period, albeit after an initial discontinuity due to the change of method.

That said, we are not persuaded of the appropriateness of the U Factor and use of the Load for Scheduled Generation, per the following comments.

Scale of the “Intermittent Generation Problem”

The following figure compares LGP’s perception of the penetration of Wind Farms and DSM since market start.



This figure demonstrates that the Wind Farm problem is around only half the size of the DSM problem, with consideration of the latter being only about to commence.

Of the 186MW of certified capacity on line by 2013, nearly 80% is understood to have been underwritten, directly or indirectly, by State-owned utilities. LGP perceives that no significant privately underwritten Wind Farm has been developed as a result of the new market, with Alinta’s Wind Farm having previously operated under the Top Up And Spill arrangement that preceded the Wholesale Electricity Market.

On this basis, we perceive that there is no basis for proceeding in other than an orderly, considered manner based on theoretical foundations and international practice. Indeed,

we perceive that the certification method is destined to become a seminal contribution to the valuation of intermittent capacity and care should be taken in preserving its integrity.

The U Factor.

We note that this is justified on the grounds that while there is little evidence of the performance of large-scale Intermittent Generators during peak conditions, “the little evidence that exists indicates that Intermittent Generator output may be lower during extreme peak periods.” We perceive this position to be an interpretation of a graph in which for the period 2007 to 2011 the IGF output (MW) during the Peak Trading Interval on each of the 12 Peak Days per year is shown as a function of the Air Temperature at 15:00 on that day. [It is unclear whether the peaks refer to load or Load for Scheduled Generation.] Approximately 25% of the data occur at Temperature > 38C, and around only 10% at Temperature > 40C. Of particular interest, the 5 data points above 41C indicate an increasing trend, rather than decreasing, albeit from a low base. The graph gives no indication of the year or years in which the >40C data points occur, or of the size of the IGF Fleet at that time.

We further note that the dimensions of the U Factor are also determined so as to retain the 95% PoE fleet assessment originally presented in the Rule Change 25.

In effect, the U Factor appears to be only a subjective fudge factor.

Load for Schedule Generation

We note that the LSG values capacity according to the balance of supply and demand, valuing capacity more highly according to its scarcity. In this sense, the issue seems intimately related to the valuation of Capacity Refunds for Scheduled Generation, which has been separately considered and deferred to another forum. We agree that developers should be given investment signals and that inverse-correlation with the existing Intermittent Generation Fleet is a desirable quality. However, we are also concerned that a “pure” LSG signal is not possible because of the interaction of the dispatch of Demand Side Management (DSM). There is currently 260MW of DSM on line which is available for only 24 hours per year. This is necessarily held in reserve as much as possible and deployed primarily during system peaks. The experience of the 2010-11 summer indicates that dispatch of DSM can move the ‘peaks’ by a few hours. The quantity of DSM will double over the next 2 years. If our understanding is correct, then the 12 LSG Peak Intervals will effectively be a random variable that delivers no signal to developers.

Furthermore, with the best of intent, the supporting analysis of the new method is based on some 100MW of certified Intermittent Generation. However, a further 90MW has recently been commissioned, and this will inevitably impact on the LSG intervals. Assuming that the corresponding wind data is now obtainable, it would seem to be

reasonably straightforward to assess the integrity of the new method by extending the analysis to include the new facility.

If you require further information, please contact Dr Steve Gould on 0412 508 291