

**Wholesale Electricity Market
Rule Change Proposal Submission Form**

Draft Rule Change Report: RC_2010_25 & RC_2010_37 Calculation of the Capacity Value of Intermittent Generation – Methodology 1 (IMO) and Methodology 2 (Griffin Energy)

Submitted by

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Submission

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

Synergy notes that the IMO Board has decided to reject RC_2010_37 whilst substantially modifying RC_2010_25 according to the Sapere’s recommendations embodied in their report entitled “Capacity value of intermittent generation: Public report”. Synergy will therefore not make further substantive comment on the two methodologies originally proposed for RC_2010_25 and RC_2010_37, but instead will make comments on the Sapere recommendations and raise concern of process.

Comments regarding Sapere’s recommended transitional arrangements

Synergy is concerned that a change to the capacity crediting of existing Intermittent Generation Facilities (IGF) would send to investors (and not just intermittent generation investors) a signal that the Wholesale Electricity Market, at its core, will implement changes that expose Market Participants to significant regulatory risk. This is a strongly held view and one that, if not handled well, will result in significant investor uncertainty and cost implications for future capacity investments. Our concern is not simply related to viability considerations for existing facilities but that a change, such as the one being proposed in this draft rule change report, will cast a wider shadow over the market in the minds of investors that their assumptions pre-investment could be overturned by a rule change at a later date – particularly, where rule changes are made without full and proper scrutiny by the industry forum set up for that purpose. This broader point is Synergy’s primary concern and the proposed transitional arrangements suggested in the draft report do little to remove this concern.

It is noted in the IMO’s draft rule change report that the IMO Board has already decided that the correct balance between efficiency and regulatory risk is to be a transitional arrangement over three years, though under a comparable situation (related to IGFs) the Australian Energy Market Operator

(AEMO) quarantined (grandfathered) existing facilities¹ and only applied revised arrangements to new facilities, arriving at a different balance than that proposed by the IMO Board. Synergy therefore suggests that the IMO Board reconsider its determination to eschew grandfathering and opt for a transitional arrangement, for at least diligence purposes, by seeking input from AEMO as to why, after taking into account the interests of stakeholders, they arrived at their decision to grandfather the existing facilities from the requirements of the amended rules.

The z-method

Synergy has not previously encountered the “z-method”, as discussed by Sapere, and so is unable to confirm or refute the proposition that it is internationally recognised or the extent to which it is used in similar jurisdictions. Although this is an issue, the greater concern for Synergy is that it does not fully comprehend or understand the capacity valuation implications arising from the market adopting this methodology or how much valuations will change year to year i.e. its underlying volatility or how valuations of new facilities will be impacted by existing facilities (and visa versa).

It is very important to note that information presented by Sapere did not allow for Collgar, which will double existing wind farm capacity when commissioned, and made no estimate regarding solar capacity crediting (an added weakness). Failure to include Collgar in the analysis creates considerable uncertainty regarding the accuracy of the figures presented in the Sapere report. The lack of any solar data is regrettable but at least the 10 MW Verve Energy facility could have been included and separately reported.

Therefore, given the uncertainty of output, partly driven by the absence of Collgar and solar crediting, but also by the variability of the outcome year on year, Synergy would be reluctant to agree that there is sufficient merit in the proposed method to replace the existing capacity factor approach.

Sapere’s variant approach

Sapere did not recommend the z-method per se but rather an untested variant on account of what it claims is an absence of representative 1-in-10 demand data and associated IGF generation data. In this regard, Synergy is not convinced that the SWIS of late has not experienced a 1-in-10 summer demand and considers for instance the most recent summer², which delivered high humidity, to be clearly one that consistently amplified the levels of customer demand, and Synergy submits that even if the temperature had been higher, and higher for more days, it would not have resulted in substantial extra MW of demand. Taking these factors into consideration and reflecting on Synergy’s experience with forecasting systems, such as those used by the IMO to produce the Reserve Capacity Target, and the temperature/IGF output analysis relied upon by Sapere, Synergy’s view is that they tend to over-estimate demand as temperature increases, lacking a saturation factor which recognises that demand is finite as ultimately there is only so much load that can be brought to bear on the system. This weakness is particularly the case if regression methods are used.

It is also worth noting that demand is not simply temperature driven but also dependent upon the level of humidity. It is often forgotten that demand is also largely determined not by the maximum temperature but the minimum temperature and the residual heat in housing stock: a high overnight

¹ <http://www.aemc.gov.au/Electricity/Rule-changes/Completed/Central-Dispatch-and-Integration-of-Wind-and-Other-Intermittent-Generation.html>

² Information from the Bureau of Meteorology confirms that the 2011 summer was very hot. Most key attributes showed record or near record values such as Perth’s mean daily maximum temperature being the equal hottest summer on record with 1977/78 and 2009/10; heatwave conditions (three or more days of 35 degrees or more) were experienced multiple times across the Perth area; extreme conditions were experienced in the second half of February when daily maximum temperatures exceeded 35 degrees from 21 to 28 February inclusive. In addition, Perth experienced a total of 28 days over the 2011 summer when the temperature exceeded 35 degrees – the third longest period on record and the maximum temperature exceeded 30 degrees for a total of 60 days, breaking the previous record of 56 days. It’s also worth noting that overnight temperatures were consistently above average especially in the second half of February where most of Perth observed 15 consecutive nights of minimum temperatures exceeding 20 degrees.

minimum in summer will always result in a high demand the following day. The reverse is the case in winter.

These points are made to challenge the notion that maximum temperature alone drives demand and that establishing a simple linkage between peak temperature and demand is inaccurate and not a sufficient basis of itself for creating a second correction factor for IGF production.

Synergy understands that to account for the presumed lack of 1-in-10 summer load and IGF data Sapere has created the “U” value. Strangely, the Sapere paper sets the U value based upon the RC_2010_25 method opening it up to the criticism that its determination is arbitrary. The determination of the U value is critical given it is a much larger correction factor than the “K” value alone.

The rationale for the inclusion of the U value relies upon a degree of correlation between IGF output and increased or high temperatures. Sapere’s report only provides two charts to justify this point, one being Figure 3 which visually does not appear to suggest any particular relationship between IGF output and temperature and Figure 4 which is inconclusive. Importantly, the text of the report under Figure 4 states:

“These results themselves are based upon a small number of TIs and should not be considered as strong evidence of IGF output during extreme demand/temperature scenarios.”

It is therefore difficult, if the evidence is not considered “strong”, to understand why the report concludes the need for a U value adjustment or how it can propose a particular value for U. In Synergy’s view, it is also premature, without at least an analysis of the impact of Collgar’s data, to reach such a conclusion.

Synergy, at this time, is not convinced by Sapere’s argument in respect of the magnitudes of the adjustment factors and suggests to the IMO Board that if it were to consider implementing the amended z-method that it should: either seek a more rigorous assessment of the relationship between IGF output and temperature, possibly by engaging a suitably qualified consultant with local experience in this field, or by removing U value at this juncture.

Load for Scheduled Generation is new to the market

Synergy notes that a number of Market Participants and potential investors have expressed concern about the importation of the Load for Scheduled Generation (LSG) concept into the Reserve Capacity Mechanism. This concern arises because the market, even the relevant working group, did not adequately discuss LSG and so had not formed a robust opinion. Even Griffin, in proposing RC_2010_37, as confirmed at the recent workshop, were not recommending or agreeing to LSG.

Synergy understands that the essential objective of the LSG concept is to favour, with higher capacity valuations, IGF that align with maximum LSG periods. Synergy is concerned that such maximum LSG periods will be difficult or impossible to predict in the medium to long term (in contrast with maximum system load, which is much more predictable), and so the resulting signals to IGF developers will be confused. The concept may therefore act to discourage the development of IGF that would make their maximum contribution to capacity at the time of maximum system load. This is counter-intuitive and would represent a significant change to the RCM as, in regards to IGF, it would no longer reward alignment with peak system load conditions, which is a fundamental tenet of the RCM. Further, the concept appears to be dynamic with maximum LSG periods likely to change over time as additional IGF capacity is brought to bear on the market. This means, in the absence of linking valuations to the LSG prevailing at commissioning (i.e. grandfathering), that investors will be uncertain of future valuations as they will, in part, reflect the impact of other IGF investments. To cover this risk, investors will include a premium which will increase the long term cost IGF capacity to the market.

It is Synergy’s concern that the market is yet to fully comprehend the implications for IGF capacity valuations being based on the LSG concept and the potential for individual IGF valuations to be

affected by new IGF investment or if grandfathering is to apply then how it would work in practice. Synergy therefore recommends that the IMO consider conducting a workshop to explain the benefits and risks of the market adopting the LSG concept as an input to IGF capacity valuations.

Time not right for RC_2010_25/37; RCM review may impact valuations

Synergy also suggests that it is not timely to consider changes to capacity crediting IGF given the certainty that the RCM will be modified and that the consequences of any modifications are not yet understood. It is also noted that the IMO Board's consultant engaged to review the RCM paid serious consideration to ensuring all the capacity elements were integrated.

Synergy therefore recommends that the IMO Board resist the temptation to approve a rule change and implement a new methodology simply because this discussion has been protracted, but instead reject both RC_2010_25 and RC_2010_37 and bring this discussion into the scope of the new RCM Working Group, expected to be established under the auspices of the IMO in the new year.

Major changes to RC_2010_25 creates governance precedence

The standard rule change process provides for two rounds of consultation; one in respect of the rule change proposal and one in respect of the draft rule change report. This two stage process is an important part of the governance framework supporting the rule change process: it gives Market Participants an opportunity to first comment on the draft proposal and then on the IMO's response to those comments as included in the draft rule change report.

In this case however, Synergy contends that modifying rule change proposal RC_2010_25 by adopting the Sapere recommendations represents a major change to the initial proposal such that it should be considered to be new rule change proposal in which case Market Participants would be afforded two rounds of consultation to provide feedback on decisions made by the IMO.

As it stands, significant modifications have been made to RC_2010_25 and Market Participants will only have one opportunity to respond to those changes and will be denied a second round opportunity to provide feedback on the IMO's assessment of those responses which would not have been the case if the Sapere recommendations had been included in the initial rule change proposal. In Synergy's view, introducing a major change in the draft rule change report with Market Participants restricted to one round of consultations lessens the governance surrounding the rule change process. These concerns could be addressed by the IMO Board rejecting RC_2010_25 and if it wished resubmitting it as a new proposal into the rule change process allowing Market Participants the two formal rounds of consultation needed to review and provide views on a rule change impacting investment values of existing facilities and the investment plans for future facilities.

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

a) In Synergy's view, it is uncertain (not proven) whether the proposed rule change will either materially improve market economic efficiency or reliability and hence it is unclear whether the proposed rule change will promote the economically efficient, safe and reliable production and supply of electricity. For example, in circumstances of an excess of credited capacity, the reduction of intermittent credits inherent in the proposed rule change will increase the already too high reserve capacity price and encourage further unnecessary investment, resulting in a reduction in market efficiency. Similarly, to the extent that the uncapped nature of the RCM allows credited capacity to exceed the reserve requirement, as is currently the case, system reliability is not impacted by the level of IGF capacity credits.

d) Synergy is concerned that the Sapere proposal if adopted, without full and proper consultation and with the proposed transitional arrangement rather than a grandfathering approach, will characterise this market in the eyes of investors as exhibiting higher regulatory risk than alternative markets, such as the NEM and will, through the inclusion of a compensatory risk premium, increase the cost of

generation investment, not just for IGF but more generally for all future capacity forms resulting in an increase in long term costs.

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.

Synergy would not require any changes to IT or business systems, but would incur a cost as a result of a reduction in capacity crediting to intermittent generation facilities if this proposed rule change is adopted.

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

Synergy is uncertain the time required in making adjustments or whether it can make adjustments given it will involve contractual negotiations.
