Wholesale Electricity Market Rule Change Proposal Submission

RC_2019_03
Method used for the assignment of Certified Reserve Capacity to Intermittent Generators

Submitted by

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Submissions on Rule Change Proposals can be sent by:

Email to: support@rcpwa.com.au

Post to: Rule Change Panel
Attn: Executive Officer
C/o Economic Regulation Authority
PO Box 8469
PERTH BC WA 6849

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

Synergy welcomes the opportunity to provide feedback in response to the Call for Second Round Submissions on the 'Method used for the assignment of Certified Reserve Capacity (**CRC**) to Intermittent Generators' (RC_2019_03) (**New Proposal**).

The Rule Change Panel's (**RCP**'s) Draft Decision is to accept the Rule Change Proposal in a modified form, proposing material amendments to the Economic Regulation Authority's (**ERA**'s) original proposal presented in the Call for Submissions on RC_2019_03[1] (**ERA's Original Proposal**). Further, the intention is to commence the Amending Rules at 8:00 AM on 6 August 2021 in time for the 2021 Reserve Capacity Cycle (**RCC**). As indicated during the 10 May 2021 Market Advisory Committee (**MAC**) Workshop on the New Proposal, this tight timeframe provides limited opportunity to apply any material amendments, which, if required, would need to be incorporated during later RCCs.

[1] https://www.erawa.com.au/cproot/21666/2/RC_2019_03----Rule-Change-Notice-and-Proposal.pdf

In light of these timeframes, Synergy has explored the following options whilst forming this submission:

1. continue with the existing Relevant Level Methodology (**RLM**) until potential deficiencies in the preferred proposal are satisfactorily resolved;
2. implement the New Proposal for the 2021 RCC; or
3. implement the ERA's Original Proposal for the 2021 RCC.

Irrespective of the option chosen, Synergy's strong view is that the adopted mechanism should be refined in the subsequent years when the tight timeframe is not a concern.

OPTION 1): Continue with the existing RLM

Synergy maintains its view that changes to the existing RLM are necessary to correct shortcomings in the current methodology, to account for the increasing uptake in intermittent generation and provide a more accurate method to accredit intermittent generators based on their contribution to system adequacy in the South West Interconnected System (**SWIS**). Therefore, Synergy **does not support the retention of the current RLM**. Notably, a delayed implementation would not be prudent given the potential implications of the Network Access Quantity (**NAQ**) regime.

OPTION 2): Implement the New Proposal

The New Proposal, as recommended by the RCP, incorporates material amendments to the ERA's Original Proposal.

Synergy's overarching view is that although it agrees with some of the principles underlying these changes, these divergences are likely to give rise to critical issues that may adversely impact the WEM Objectives if not adequately addressed in a timely manner.

Synergy submits the following issues to the RCP for further consideration:

a) System stress intervals

   a. Synergy supports the RCP's principle that "performance during the Trading Intervals with the highest system stress is the most important factor for the Facilities' contribution to system reliability" and should drive participants' relevant levels.

   b. However, as

      i. extremely high demand periods have occurred very rarely in the SWIS; and

      ii. a period of high system stress does not occur in each of the 12-month periods in the Reference Period,

      this has meant that most of the 168 Trading Intervals in the ERA's Original Proposal recommended for the allocation of the Fleet Relevant Level to the individual Candidate Facilities has been deemed irrelevant.

   c. Instead, the outcome of the New Proposal is that participants' relevant levels are now being determined by as few as twelve Trading Intervals. Further examination of these Trading Intervals presented by Endgame Economics at the 10 May 2021 MAC Workshop reveals a strong correlation between wind farm outputs, which suggests that in effect, there are essentially three

observations responsible for setting the average capacity factor for individual Facilities for the 2021 RCC.

d. Synergy contends that reliance on such a limited sample size is likely to result in volatile outcomes as high system stress Trading Intervals are liable to drastically change in any given year, leading to entirely different outcomes for all wind farms.

e. This volatility may lead to perverse outcomes that, unless sufficiently addressed before implementation, will likely impede the facilitation of the WEM Objectives.

f. To mitigate this issue, Synergy **recommends** that:

   i. RCP adopt a practical solution to expand the quantity of Trading Intervals used for the allocation of Effective Load Carrying Capability (**ELCC**) to individual Candidate Facilities before the commencement of the Amending Rules. For instance, Synergy suggests the RCP to consider using:

      1. Trading Intervals with similar weather patterns (e.g. temperature and wind), thereby capturing days that may have been a system stress event if they had occurred at the right time (e.g. not on a weekend or school holidays); or

      2. the maximum of:

         a. the top 60 Trading Intervals comprising of a combination of peak system demand and peak load for scheduled generation (**LSG**) from the seven-year history; and

         b. Trading Intervals from the seven-year history where the demand is significant, for instance, a 15% probability of exceedance (**POE**).

      Synergy notes that 60 Trading Intervals aligns with the magnitude of Trading Intervals considered under the existing RLM, however, may potentially produce less volatile results given the seven-year, opposed to five-year, history; and

   ii. Synergy acknowledges the time pressures involved with implementing the new RLM before the 2021 RCC, but notes that once approved, there is no obligation to review the implemented RLM until the next review, which is currently scheduled to occur in 2024. Therefore, Synergy recommends that if the New Proposal was adopted for the 2021 RCC as currently drafted, a new clause should be introduced to mandate a review of the selection of ELCC Trading Intervals and allocation to individual Facilities to reduce volatility for implementation before the 2022 RCC.

b) <u>Delta Method</u>

a. The Delta Method, a mechanism that allocates the fleet ELCC to the individual Facilities based on their marginal ELCC, has been introduced in the New Proposal as a replacement to the ERA's original individual Facility allocation method.

b. Synergy has not identified any fundamental issues with respects to the Delta Method and considers the results presented for the 2021 RCC in the New Proposal, to be a fair representation of performance by Intermittent Generators during high system stress Trading Intervals.

c. Any outcome that is driven by effectively three separate Trading Intervals is sub-optimal, however, Synergy considers this volatility to be a result of applying the ELCC based on limited sample size as opposed to the Delta Method being not fit-for-purpose. Therefore, expanding the set of Trading Intervals used in the ELCC may assist in addressing this issue.

c) Historical demand scaling

a. The RCP's draft decision is to reject the scaling of the historical demand to reflect the 1-in-10 year peak demand forecast and recommends that "the possibility of adjusting the historical demand for the growth of the underlying demand should be assessed in the next review of the RLM when more time is available for the required assessment".

b. Synergy agrees with the RCP's assessment that "historical system demand should ideally be adjusted for the growth of underlying demand" but disagrees that this should be left for assessment in the next review of the RLM given this is currently intended to occur in 2024, at which point, underlying demand is likely to significantly shift due to increased Distributed Energy Resources (**DER**) penetration.

c. Synergy **suggests** that a clause be introduced in the Amending Rules to allow the Australian Energy Market Operator (**AEMO**) to scale historical system demand at its discretion.

OPTION 3): Implement the ERA's Original Proposal

In comparison to the New Proposal, the ERA's Original Proposal is likely to result in less volatile, and arguably more robust, outcomes. However, as explained above, Synergy sees validity in the RCP's proposal to utilise Trading Intervals with the highest system stress (i.e. highest system demand) to drive the ELCC for individual Candidate Facilities.

Further, the New Proposal includes a series of further recommendations including but not limited to:

a) adjusting the historical demand for the uptake in DER capacity only for small scale photo-voltaics (**PV**); and

b) accounting for locational diversity of intermittent Facilities.

As Synergy is supportive of these changes, Synergy is unable to recommend the implementation of the ERA's Original Proposal as presently drafted and submits its preference to implement the New Proposal so long as the issue of volatility is addressed (as discussed above).

Other Recommendations

a) Synergy supports the 10MW nameplate capacity threshold proposed for the grouping of small Facilities for the allocation of the Fleet ELCC as this is consistent with the 10MW threshold used currently, and continues to be used in the new Registration and Participation Framework, for classifying Facilities into Facility Classes. However, to

maintain consistency, Synergy recommends that a strict 10MW threshold is applied and does not consider it appropriate to allow AEMO discretion to include other small Facilities of different sizes despite potential rounding issues. Synergy further suggests that if this becomes a material issue in the future, this can be revisited during future reviews of the RLM.

b) Synergy is also supportive of appropriate adjustments to the current timelines for the publication of the CRC and Capacity Credit assignments to allow for the Proposed RLM process to occur. However, Synergy notes that the total number of assigned Capacity Credits are required in the determination of the Reserve Capacity Price. As such, any delays to the publication should be kept to a minimum where possible.

c) Synergy disagrees with enabling the publication of the historical output for all Candidate Facilities, including relevant estimates from AEMO and the estimated output from independent expert reports for Trading Intervals before a Facility's full operational date:

    a. the output data from expert reports is likely to be sensitive information, and expensively acquired by the Candidate Facility that could be considered Intellectual Property;

    b. sharing of this information may therefore place Facilities at a competitive disadvantage as it enables potential entrants to obtain free information on where the Facility will be installed and potential outputs;

    c. if the development is only in its proposal stage and has yet to commence development, nothing is stopping potential entrants from utilising this public information to their advantage and building in the same location; and

    d. similarly, if the deployment is related to a solar farm, for instance, and only takes approximately 6 months to deploy, information publicised could be available well in advance of the commencement of work on-site.

d) Synergy suggests the RCP review the application of the New Proposal in determining the CRC for New Entrant Facilities. From the Draft Rule Change Report, Synergy's understanding is that in Year 1 of the RCC, the CRC of the New Entrant Facilities is determined based on the additional value that it creates in terms of ELCC. However, in Year 2, the Facility is assessed along with existing Facilities and the CRC it acquires may be inadvertently penalised by existing Facilities and the additional value created by the New Entrant Facility may be shared with existing Facilities. Synergy suggests that the CRC for New Entrant Facilities should continue to be based on the additional value created by that Facility, and considers that sustained allocation of CRCs over the RCC is more likely to promote future investment in Intermittent Generation.

Summary:

Synergy agrees that the "current RLM is inappropriate for measuring the contribution of Intermittent Generators to system reliability in the SWIS and should be replaced" and is supportive of implementing the New Proposal if the RCP is able to integrate changes to the Amending Rules to mitigate volatility in outcomes before the 2021 RCC.

However, if amendments cannot be achieved before the 2021 RCC, Synergy still recommends adoption of the New Proposal but suggests the methodology used to allocate the Fleet ELCC to individual Candidate Facilities be replaced with the 12 peak Trading Intervals comprising of

peak system demand and peak LSG for each year of the seven-year historical data. Usage of a mix of peak demand and peak LSG is critical as usage of only peak LSG, in line with the existing RLM, ignores the contribution of intermittent resources in meeting system peak demand and the potential for a misalignment of peak demand and peak LSG Trading Intervals. Synergy further suggests the individual allocation methodology should be reviewed at the next formal RLM review, at which point more time would be available to conduct a comprehensive review.

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

As currently drafted, the Delta Method used in the New Proposal is being driven by the average performance of Intermittent Generators over a very limited number of independent Trading Intervals. This is likely to produce volatile outcomes that will not better facilitate the achievement of the WEM Objectives:

a) **economic efficiency**: benefits in more accurately accrediting Intermittent Generators based on their contribution to system adequacy during high system Trading Intervals are likely to be outweighed by the potential extreme variations in future CRC allocations, which is unlikely to provide a reliable estimate of the average output of Facilities during system stress periods in the future;

b) **encourage competition:** increased uncertainty arising from unstable outcomes is likely to distort investment signals, deterring investment in Intermittent Generators; and

c) **minimise the long-term cost of electricity:** reduction in Intermittent Generation investment may place upward pressure on long-term costs of electricity.

Synergy considers it essential for the RCP to incorporate practical amendments to the New Proposal's Amending Rules to expand the set of Trading Intervals used to apply ELCC to individual Candidate Facilities to mitigate the above issues.

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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 does not anticipate any material implications to business systems or costs.

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

Should the Proposal be accepted as currently drafted, Synergy will be able to effect changes immediately.