

## 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](mailto:support@rcpwa.com.au)

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

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

#### **Summary**

Infrastructure Capital Group does not support the Rule Change Proposal as it is proposed to be implemented in the Rule Change Panel's Draft Rule Change Report.

The certification of capacity for intermittent generation is one of the most important components of the Wholesale Electricity Market (WEM). Intermittent generators comprise 17% of installed capacity and produce a similar proportion of energy. This means it is imperative the method used to estimate capacity is efficient, equitable and gives appropriate investment signals to existing and new Market Participants. It therefore follows that any change to the Relevant Level Methodology (RLM) be subject to exhaustive analysis and sufficient rigour to ensure the outcomes are efficient, are consistent with the Wholesale Market Objectives, and most importantly, are aligned with the objectives and intent of the Government's ongoing Energy Transformation Strategy (ETS).

While we support the Economic Regulation Authority's (ERA) original Rule Change Proposal and the intent of improving the RLM, we have identified several issues with the Rule Change Panel's replacement 'Delta Method' of calculating the relevant level. We strongly urge that the

Panel, the ERA, Market Participants and the Coordinator of Energy to give further and more detailed consideration of the issues associated with the replacement RLM before any changes to the RLM can be approved.

### **Concerns with the replacement RLM**

Our concerns are summarised below:

- Given the Government's ongoing ETS (led by the Coordinator of Energy), we submit it is vital that any change to the method of certifying capacity be considered in light of the objectives and intent of the energy sector reforms. We are concerned that the Rule Change Panel's replacement RLM may undermine the key principles of the ETS and put at risk critical reform outcomes.
- Our analysis of the Rule Change Panel's substantively different proposal suggests that the Delta Method results in outcomes that have the potential to impact or conflict with the design objectives for WA's future energy market. Potential adverse outcomes include:
  - eroding existing participants' property rights;
  - undermining the intent of the forthcoming Network Access Quantity (NAQ) process;
  - creating a wealth transfer from co-located to regionally diverse intermittent generators;
  - diminishing investment security by devaluing investment in existing intermittent generators and introducing significant volatility and uncertainty into the future certification processes;
  - creating unintentional capacity-based investment signals that result in any new intermittent generators producing energy only in system peak intervals rather than generally meeting demand;
  - creating unintentional capacity-based investment signals that result in any new intermittent generators being located in sub-optimal locations from a network and system security perspective; and
  - creating a bias towards investment in Schedule Generators in the future by introducing significant volatility and uncertainty into the RLM.

These concerns are all directly contrary to the intent of the ETS. The above points are discussed later in this submission.<sup>1</sup>

- We submit that the Rule Change Panel must be explicit in demonstrating how it has had regard to the ETS, and must provide evidence to satisfy itself, the Coordinator of Energy, the ERA and Market Participants that the outcomes and investment signals from the RCP's replacement RLM are aligned with the objectives and intent of the ETS.
- Further, we are concerned that the Rule Change Panel has not provided a clear assessment as to whether the initial Rule Change Proposal put forward by the ERA is consistent with the Wholesale Market Objectives. The ERA's proposed changes to the RLM have been under development since 2018 and tested with Market Participants,

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<sup>1</sup> See section titled: 'Concerns with the Rule Change Panel's replacement RLM'.

and were broadly supported. However, the Rule Change Panel has seen fit to replace the ERA's method with its own method, which has not been through the same rigorous process.

- As acknowledged by the Rule Change Panel itself, the RLM being put forward by the Panel is *substantively different*<sup>2</sup> from the proposal that was initially put forward by the ERA. We submit this goes beyond accepting the ERA's proposal in a modified form, and therefore goes beyond what is permitted under the WEM Rules. The Rule Change Panel has in effect replaced the ERA's robustly analysed, well-defined and well-supported method with its own 'Delta Method', which results in materially different outcomes and investment signals.
- While the Rule Change Panel has assessed how its own replacement RLM is consistent with the Wholesale Market Objectives, it has not provided a similar assessment of the ERA's initial proposal. Clause 2.4.2 of the WEM Rules places an obligation on the Panel to assess whether the WEM Rules *as proposed to be amended* (i.e. the ERA's initial proposal) is consistent with the Wholesale Market Objectives, however an assessment only appears to have been made to the Rule Change Panel's own amending rules.
- To enable the ERA and Market Participants to determine whether the Rule Change Panel's substantively different RLM better satisfies the Wholesale Market Objectives, it is important that the ERA's initial Rule Change Proposal is also explicitly and comprehensively assessed against those same objectives. Only then can a reasonable comparison between the two methods be made. This important procedural step seems to have been overlooked by the Rule Change Panel.
- In general, we are concerned that the ERA's method has been wholly replaced in the absence of a finding that it is inconsistent with the Wholesale Market Objectives. We therefore request that a more fulsome and transparent assessment of the ERA's initial Rule Change Proposal be conducted for transparency and comparative purposes.

## Recommendations

Given the magnitude of the Rule Change Panel's changes to the ERA's original proposal, and the potential gravity of its impact, we strongly recommend the following course of action:

- The Rule Change Panel conducts further analysis of its replacement RLM to ensure that **all parties** are reasonably satisfied that method's outcomes and investment signals are aligned with the objectives and intent of the ETS.
- The Coordinator of Energy (and Coordinator's department) be directly engaged in the assessment of the ERA's initial Rule Change Proposal and Rule Change Panel's replacement RLM.
- Consistent with clauses 2.4.2 and 2.7.7(e) of the WEM Rules, the Rule Change Panel publishes an assessment of the ERA's initial Rule Change Proposal against the Wholesale Market Objectives in a format that allows an objective consideration of the relative merits of the ERA's method and the Rule Change Panel's replacement method.
- The Rule Change Panel considers recent analysis presented by Alinta at the Rule

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<sup>2</sup> Draft Rule Change Report: Method used for the assignment of Certified Reserve Capacity to Intermittent Generators (RC\_2019\_03), Rule Change Panel, page 69, available at: [https://www.erawa.com.au/cproot/21873/2/RC\\_2019\\_03-Draft-Rule-Change-Report.pdf](https://www.erawa.com.au/cproot/21873/2/RC_2019_03-Draft-Rule-Change-Report.pdf).

Change Panel workshop on 10 May, which identified limitations in the number and quality of data points used in the Rule Change Panel's replacement RLM compared with the ERA's method, and explains why it has chosen to adopt what appears to be a less statistically robust methodology.

- The Rule Change Panel prepares and publishes models underpinning both methods in a format that can be tested and analysed by all Market Participants (i.e. not in a coding language that requires specialist expertise), and used to enable sufficient visibility of likely outcomes of the model as they apply to real-world circumstances.
- Analysis of the Rule Change Panel's replacement RLM against the ETS objectives be presented to and fully considered by the Market Advisory Committee (MAC) at its 8 June 2021 meeting, and the Rule Change Panel demonstrates how MAC feedback has been taken into account in its decision on the Rule Change Proposal.
- The Rule Change Panel's analysis referred to above and responses to feedback be published and issued to stakeholders as part of an additional round of consultation before any final determination is made.
- Further, we recommend any final determination on changes to the RLM be held over until such time that the Coordinator of Energy is responsible for rule administration (post 1 July 2021) and therefore obligated to fully consider matters associated with certifying and incentivising intermittent generation in the context of the new market design. This will ensure the new RLM is consistent with the objectives and intent of the ETS.

We submit that deferring the final decision on the Rule Change Proposal by approximately three weeks (until after 1 July 2021) to allow the Coordinator of Energy time to have regard to matters will not materially delay the process. There remains sufficient time for a revised RLM to be implemented prior to the closure of the application window for Certified Reserve Capacity under the 2021 Reserve Capacity Cycle on 10 February 2022.

We understand that, from 1 July 2021, the Rule Change Panel secretariat will be transferred to the Coordinator of Energy's department. This means staff involved with the Rule Change Proposal to date will remain across the process and are well placed to advise the Coordinator accordingly. We therefore do not expect there would be a material delay in the timeframe for a final decision on the Rule Change Proposal if the decision is held over for a few weeks until the Coordinator becomes the ultimate decision maker.

We also suggest that pushing the final determination out to early July allows the additional time necessary for sufficient analysis and consultation on the initial Rule Change Proposal and the Rule Change Panel's Delta Method, and for presenting this analysis for consideration by the MAC, which has not yet had the opportunity to review or comment on the Delta Method.

To reiterate, we accept that changes to the RLM are necessary to address the shortcomings in the existing method (as highlighted by the ERA), and we support the original RLM change that was put forward by the ERA. However, we submit there remains significant uncertainty regarding the Rule Change Panel's replacement RLM and it is imperative that further evidence be produced to ensure the Delta Method will result in outcomes that are in the best interests of the market.

It would therefore be prudent to defer the final determination by three weeks rather than proceed with a decision that would need significant transitional arrangements to be put in place or may have to be unwound when the new market commences, if not before.

The remainder of this section expands upon our concerns with the replacement RLM.

## **Background**

Infrastructure Capital Group manages a large portfolio of infrastructure assets across Australia, including the full ownership of the Mumbida Wind Farm, and part-ownership of the Neerabup and Kwinana Power Stations in the WEM.

The WEM is a capacity plus energy market. The Reserve Capacity Mechanism (RCM) is designed, in part, to allow investors to recover the fixed capital cost of a facility, while the energy and ancillary services markets (as relevant) allow the recovery of operating costs. Capital investment in a facility is often hundreds-of-millions of dollars, with a long payback period. It is therefore critical that the RCM continues to provide an effective and predictable means to recover these costs.

Through the Government's ETS, led by the Coordinator of Energy, we have seen the start of significant changes in the WEM. We support the ongoing evolution of the market to ensure the efficient, reliable and affordable supply of energy to customers. This is only possible with sufficient investment in new, fit-for-purpose infrastructure, and participation in the market.

Intermittent generators make up 17 per cent of installed capacity in the WEM and produce a similar proportion of energy. The ETS is focussed on establishing "a cleaner, brighter and more resilient energy supply"<sup>3</sup>. The success of WA's energy transformation is founded on incentivising the right mix of generation, in the right location, and with the right blend of renewable capacity.

Given the RCM is the primary vehicle that allows investors to recover capital costs in the WEM, the importance of the certification method for intermittent generation cannot be overstated. In particular, the RLM, which directly influences the capacity payments an intermittent generator can expect to receive, is fundamental to setting signals for investment.

If the RLM is inconsistent with the objectives and intent of the Government's ETS, there is a substantial risk it may send the wrong signals to current and potential investors, thereby undermining the transformational work done to date.

It therefore follows that any change to the RLM should only be undertaken following full and careful consideration of the actions and objectives of the ETS. Care must be taken to make absolutely certain that the outcomes and investment signals under the revised RLM are consistent with the ETS, and that the revised methodology promotes the Wholesale Market Objectives in the reformed market.

We submit that the only way to guarantee the RLM is fully aligned with the ETS is to engage the Coordinator of Energy (and Coordinator's department) in the review process and ensure the Coordinator has the opportunity to give detailed consideration to the RLM and associated modelling prior to any Rule Change being finalised.

Given the new WEM governance arrangements places responsibility for determining Rule Changes on the Coordinator of Energy from 1 July 2021, a prudent course of action would be to defer finalisation of RC\_2019\_03 until after 1 July. This will afford the Coordinator sufficient time to fully consider the proposed reforms (including further analysis and feedback), while also ensuring the Coordinator and the architects of the ETS have reasonable opportunity to

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<sup>3</sup> Energy Transformation Strategy – A brighter energy future, Minister for Energy, August 2019, page 2, available at: <https://www.wa.gov.au/sites/default/files/2019-08/Energy-Transformation-Strategy.pdf>.

provide input into the RLM and test whether the resulting price signals are consistent with the intent of WA's energy transformation.

### **ERA's RLM review recommendations and Rule Change Proposal**

In 2015, the function of the three-yearly review of the RLM was transferred from the former Independent Market Operator to the ERA. The ERA was effectively appointed the technical expert in relation to the value of intermittent generation, a role it has retained in the most recent changes in governance arrangements<sup>4</sup>.

On 4 June 2018, the ERA commenced its first review of the RLM. The process was comprehensive, collaborative and considered, and addressed the requirements of the review under clause 4.11.3C, 4.11.3D and 4.11.3E of the WEM Rules:

*For each three year period, beginning with the period commencing on 1 January 2015, the Economic Regulation Authority must, by 1 April of the first year of that period, conduct a review of the Relevant Level Methodology. In conducting the review, the Economic Regulation Authority must:*

- a) examine the effectiveness of the Relevant Level Methodology in meeting the Wholesale Market Objectives; and*
- b) determine the values of the parameters K and U in step 17 of the Relevant Level Methodology to be applied for each of the three Reserve Capacity Cycles commencing in the period,*

*and the Economic Regulation Authority may examine any other matters that the Economic Regulation Authority considers to be relevant.*

*In conducting a review under clause 4.11.3C, the Economic Regulation Authority must publish a draft report and invite submissions from Rule Participants and any other stakeholders the Economic Regulation Authority considers should be consulted.*

*At the conclusion of a review under clause 4.11.3C, the Economic Regulation Authority must publish a final report containing:*

- a) details of the Economic Regulation Authority's review of the Relevant Level Methodology;*
- b) a summary of the submissions received during the consultation period;*
- c) the Economic Regulation Authority's response to any issues raised in those submissions;*
- d) the values of the parameters K and U determined under clause 4.11.3C; and*
- e) any recommended amendments to the Relevant Level Methodology which the Economic Regulation Authority intends to progress as a Rule Change Proposal.*

The ERA took over a year to complete its comprehensive review. The ERA determined the values of parameters K and U as required, but also recommended significant changes to the RLM to address shortcomings it had identified during its analysis.

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<sup>4</sup> Energy Sector Governance: Proposed Changes to the Regulatory Framework - Consultation Paper, Minister for Energy, 10 November 2020, page 4, available at: <https://www.wa.gov.au/sites/default/files/2020-11/Consultation%20Paper%20-%20Proposed%20Changes%20to%20the%20Energy%20Sector%20Governance.pdf>.

Infrastructure Capital Group participated in the ERA's RLM review and supported the recommendations the ERA made in its final report<sup>5</sup>. Following stakeholder feedback on its report findings, the ERA built its recommendations into the initial Rule Change Proposal<sup>6</sup> (RC\_2019\_03). The ERA's Rule Change Proposal was supported by Infrastructure Capital Group and several other Market Participants as it was felt that the proposed changes:

1. address the shortcomings of the current RLM in a manner consistent with the size of the market;
2. consider the amount of data available for use and balances the trade-off between accuracy and complexity of the method; and
3. did so without significantly undermining investors' ability to recover fixed capital costs.

We continue to support the ERA's proposed method as it is documented in the initial Rule Change Proposal.

### **Concerns with the Rule Change Panel's replacement RLM**

Despite the broad support for the ERA's changes to the RLM, the Rule Change Panel has replaced the ERA's revised RLM with its own substantively different method. We have material concerns with the Rule Change Panel's replacement RLM.

This section sets out the matters we strongly recommend the Rule Change Panel, ERA, Market Participants and the Coordinator of Energy must have regard to prior to the final determination:

- The Rule Change Panel's replacement RLM does not appear to provide a reasonable expectation of the average output of the intermittent facilities in periods of system stress. The inability of the existing RLM to provide a reasonably accurate estimate of the availability of intermittent generators during periods of system stress was a shortcoming identified by the ERA and was addressed in the initial Rule Change Proposal. However, we submit the Rule Change Panel's replacement method is less effective than the ERA's method.

As stated by the Energy Transformation Taskforce<sup>7</sup>:

*A key feature of the RCM is that it rewards a capacity resource for its availability and contribution to meeting the Planning Criterion (the reliability standard in the WEM). A facility's availability and contribution to reliability is linked to its performance and its capacity has a value under the RCM for so long as the facility is capable of delivering its certified capacity.*

*On this basis, the Taskforce considers that a facility's NAQ should be retained for as long as the underlying asset is capable of providing capacity and contributing to the reliability of the power system. This is consistent with the fundamental design of the RCM to support investment in reliable supply and the underlying principle of rewarding capacity where it adds value to the system.*

The Rule Change Panel's replacement RLM does not appear to reflect the actual availability and contribution of capacity resources to meeting the Planning Criterion,

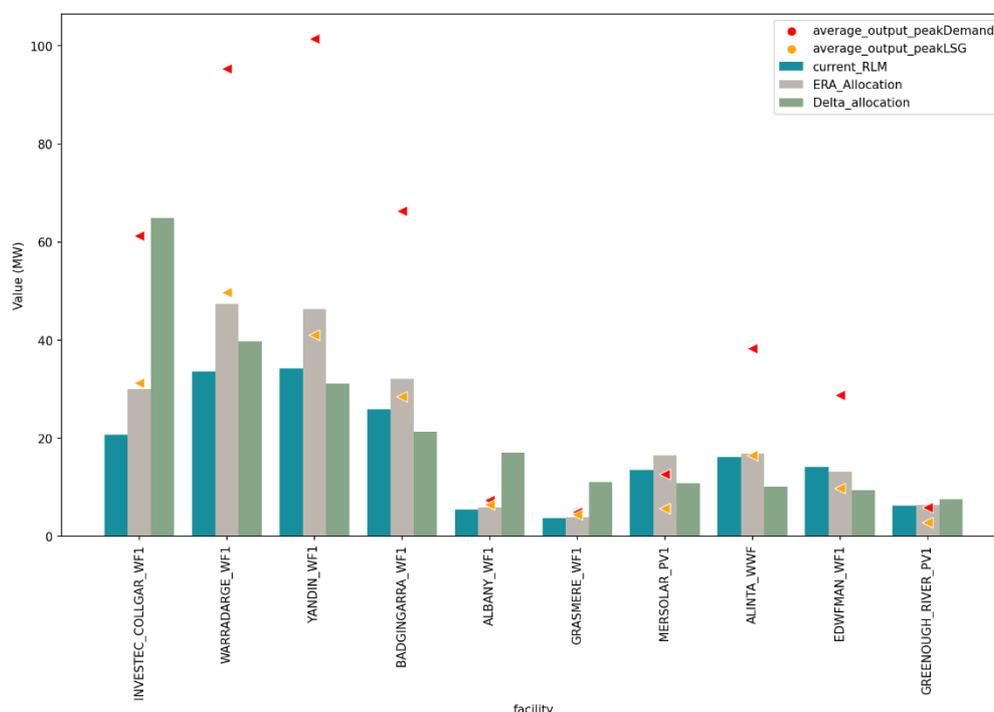
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<sup>5</sup> Relevant level method review 2018 Capacity valuation for intermittent generators - Final report, ERA, March 2019, available at: <https://www.erawa.com.au/cproot/20328/2/Relevant%20level%20method%20review%202018%20-%20Final%20report.pdf>.

<sup>6</sup> Method used for the assignment of certified reserve capacity to intermittent generators, ERA, December 2020, available at: [https://www.erawa.com.au/cproot/21666/2/RC\\_2019\\_03---Rule-Change-Notice-and-Proposal.pdf](https://www.erawa.com.au/cproot/21666/2/RC_2019_03---Rule-Change-Notice-and-Proposal.pdf).

<sup>7</sup> Assignment of Capacity Credits in a constrained network – design proposal working paper, Energy Transformation Taskforce, October 2019, page 7, available at: <https://www.wa.gov.au/sites/default/files/2019-10/Allocation%20of%20Capacity%20Credits%20in%20a%20constrained%20network%20-%20Design%20Proposal.pdf>.

which was identified by the Taskforce as fundamental to the effectiveness and efficiency of the RCM. As shown in the ERA’s additional analysis<sup>8</sup>, there are often significantly different outcomes between the average output in periods of system stress, and the outcomes under the Rule Change Panel’s replacement RLM. The ERA’s analysis<sup>9</sup> below shows this.



The Panel’s replacement RLM places a low value on the **average** output of the facility, despite this being fundamental to the design of the RLM to account for intermittency. The Taskforce highlighted the importance of an averaging approach, stating “[t]he averaging of the facility’s output when calculating its capacity value provides a degree of protection from year on year variation in the renewable resource.”<sup>10</sup> This is critical to ensure consistency as far as possible between the treatment of intermittent facilities and the treatment of forced outages for Scheduled Generators.

Consistency of outcomes, and protection against short-term volatility are clear deficiencies in the Rule Change Panel’s replacement RLM. If adopted, the Rule Change Panel’s proposal will prevent the RLM from providing effective investment signals for intermittent generators, no matter the shortage of capacity. This will create a bias in favour of the entry of new Scheduled Generation over intermittent generation, as the capacity value and therefore return on investment of Scheduled Generation is more-or-less guaranteed. It is therefore unlikely that low-cost, low-emissions renewables will be able to be financed, thereby undermining the ETS objectives.

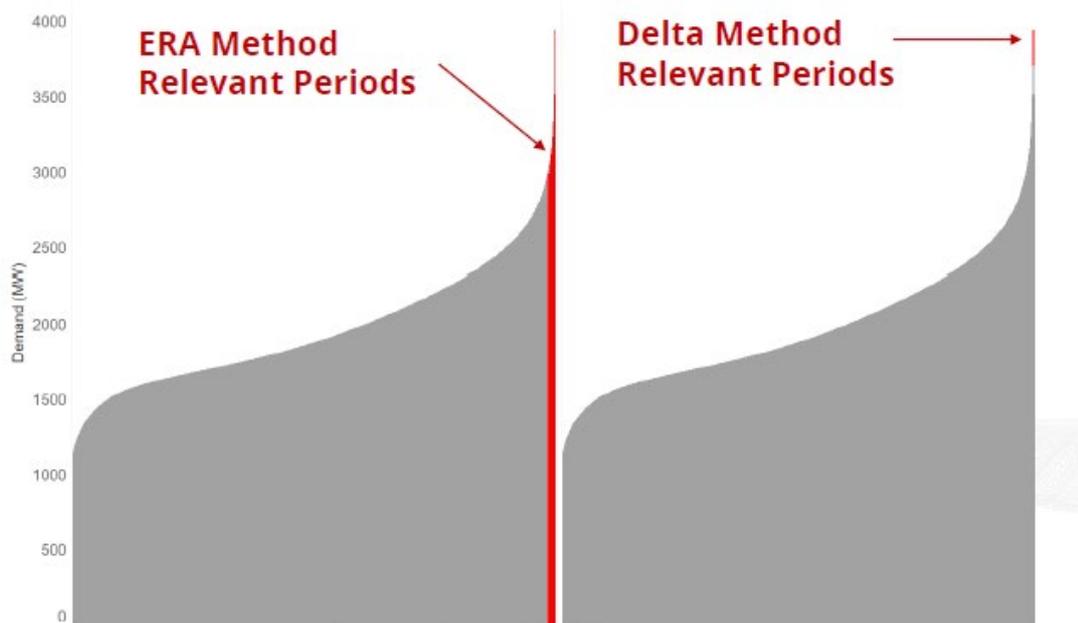
<sup>8</sup> Initial feedback on the RCP’s draft decision on the proposed method for the capacity valuation of intermittent generators, ERA Secretariat, May 2021, page 4, available at: [https://www.erawa.com.au/cproot/21917/2/RC\\_2019\\_03----10-May-2021-MAC-Workshop----ERA-Presentation.pdf](https://www.erawa.com.au/cproot/21917/2/RC_2019_03----10-May-2021-MAC-Workshop----ERA-Presentation.pdf).

<sup>9</sup> This analysis was provided by the ERA and circulated by the Rule Change Panel Secretariat ahead of the workshop held on 10 May (see page 4) but was not included in the workshop slides subsequently published.

<sup>10</sup> Assigning Capacity Credits in a Constrained Network, Energy Transformation Taskforce, March 2020, page 26, available at: <https://www.wa.gov.au/sites/default/files/2020-03/Information%20Paper%20-%20Assigning%20Capacity%20Credits%20in%20a%20Constrained%20Network.pdf>.

- The Rule Change Panel’s proposed replacement method calculates the contribution of intermittent generators to periods of system stress using an extremely small sample of Trading Intervals. We appreciate the Rule Change Panel is seeking to introduce a theoretically accurate determination of ‘periods of system stress’ but note it is largely arbitrary, and the accuracy of the definition applied by the Rule Change Panel has had significant negative impacts on the RLM.

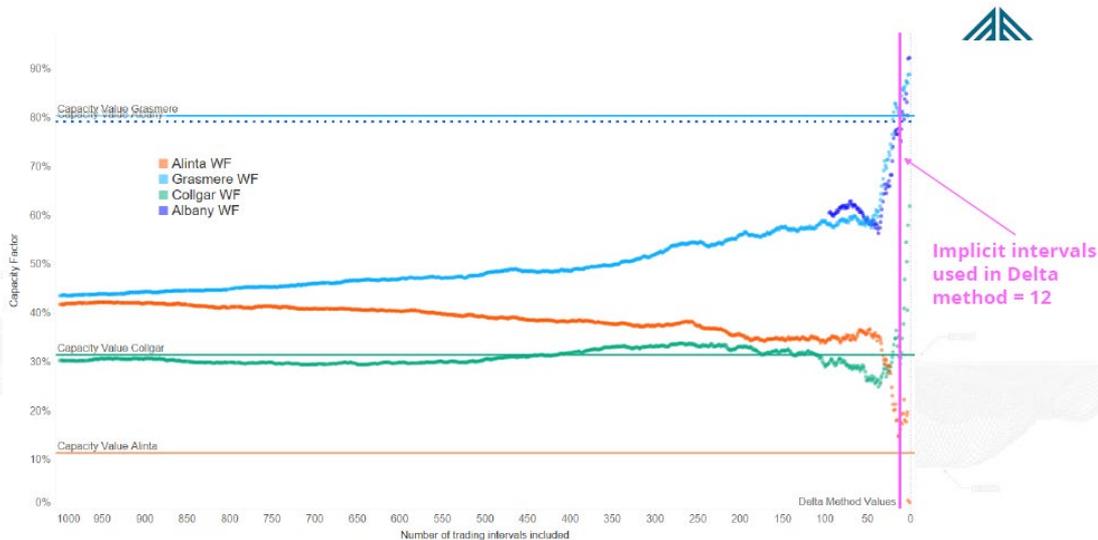
As shown in Alinta’s analysis below, the Rule Change Panel’s replacement RLM results in a significantly smaller number of Trading Intervals than the ERA’s proposed method.



The Rule Change Panel considers this definition of periods of system stress is preferable as it more accurately represents the periods the RCM intends to incentivise. However, the use of such a small sample size is likely to drive volatility in RLM outcomes as many of the periods used in the calculation are auto-correlated. The auto-correlation means several of the data points used in the calculation are related to the same observation and therefore do not represent independent data points. This further reduces the effective sample size and causes the potential for significant volatility between years, with the ability for one single event to significantly affect the RLM for a facility. Inherent volatility in the relevant level for a facility between years increases the investment risk for intermittent generation, particularly when compared with Scheduled Generation.

The impact of a change in the number of intervals used in the RLM is provided in Alinta’s analysis<sup>11</sup> as follows.

<sup>11</sup> Analysis of changes to the Relevant Level Method Presentation for the RCP Workshop, Endgame Economics, May 2021, page 17, available at: [https://www.erawa.com.au/cproot/21919/2/RC\\_2019\\_03----10-May-2021-Workshop----Alinta-Presentation.pdf](https://www.erawa.com.au/cproot/21919/2/RC_2019_03----10-May-2021-Workshop----Alinta-Presentation.pdf).



The definition of periods of system stress on which the RLM calculation is based, will drive the type of new intermittent generation that is incentivised to enter the WEM. The focus of the RLM on only the peakiest of peak days will encourage investment in intermittent generation only where it addresses the highest peak (for example 4-hour batteries). This is at the expense of intermittent generators such as wind and solar that can provide effective alternatives for base load generation year-round, but for which capacity revenue under the Rule Change Panel’s replacement RLM would not be sufficient to recover the generator’s fixed capital costs<sup>12</sup>.

Without a RLM that provides a reasonable opportunity to recover the fixed capital cost of intermittent generators, there will be a significant bias towards investment in Scheduled Generators, as the fixed capital costs of non-intermittent facilities can be more readily recovered. An unattractive RLM could also make the case for behind-the-meter generation even more favourable.

Again, this is inconsistent with the ETS, which requires effective alternatives such as wind and solar to replace the retiring coal base load. It could also undermine future government policies such as the reduction of carbon emissions in the South West interconnected system (SWIS).

- The Rule Change Panel’s replacement RLM results in wildly varying capacity values compared with both those resulting from the current RLM, and what we would expect based on historical output during periods of system stress. This represents an unwarranted and inequitable wealth transfer between facilities, particularly when considering the Rule Change Panel’s replacement method produces results inconsistent with historical average values for some facilities.

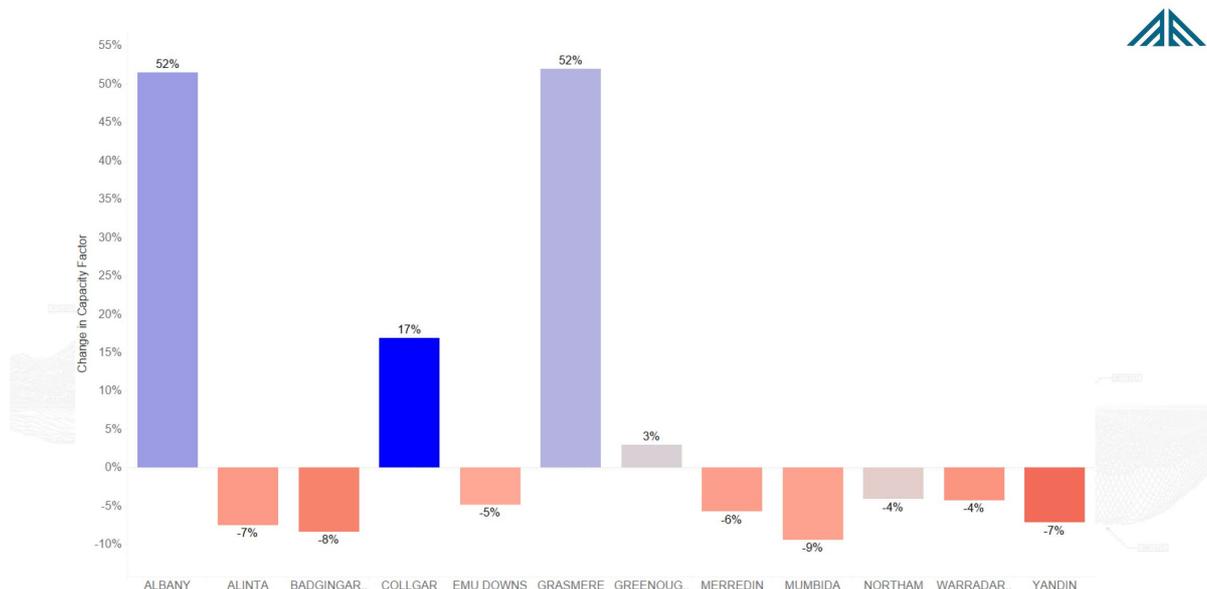
Alinta’s additional analysis<sup>13</sup> shows swings in capacity value of more than 50 per cent per facility. These swings appear to be due to a preference under the Rule Change Panel’s replacement method for geographically isolated technology-based facilities.

<sup>12</sup> It is important to note that the ability for capital to costs to be recovered through other revenue streams is increasingly limited with energy prices declining over time both in the Short Term Energy Market and Balancing Market and under power purchase agreements.

<sup>13</sup> Analysis of changes to the Relevant Level Method Presentation for the RCP Workshop, Endgame Economics, May 2021, page 6, available at: [https://www.erawa.com.au/cproot/21919/2/RC\\_2019\\_03----10-May-2021-Workshop---Alinta-Presentation.pdf](https://www.erawa.com.au/cproot/21919/2/RC_2019_03----10-May-2021-Workshop---Alinta-Presentation.pdf).

Where a facility is not geographically located near another of its type, it will receive a higher capacity value, and vice-versa.

## Allocations to individual facilities – Change by capacity factor



The Rule Change Panel highlights this locational investment signal as a feature of its replacement method. While we accept that locational price signals can be a good thing in a new-start market, our issue is that this method is being imposed in an existing market and without consideration for how locational signals are already factored into the WEM.

We accept that one outcome of the Rule Change Panel's replacement RLM is that it could provide some incentive for **new** intermittent generation to locate in a particular geographical location. However, making this change in a market that already contains well-established intermittent generating facilities with considerable remaining asset lives effectively penalises the incumbent investors. These facilities cannot be moved. The investment and expected returns that underpinned that initial investment is fully committed and was based on a reasonable expectation of the value of capacity for that facility.

- Further, there is an issue with transparency of the information necessary to inform capacity investment decisions. Our current view of the Rule Change Panel's replacement RLM is that it is considerably more complex and opaque than the current method or the ERA's proposal.

The Rule Change Panel's replacement RLM requires complex mathematical and market modelling and is unlikely to be easily replicable by investors in the WEM. The trade-off between transparency and simplicity on the one hand, and accuracy and cost on the other, was highlighted by the ERA in its RLM review, where it considered the costs and benefits of its proposed method:

*Compared to the current relevant level method, the incremental computational burden and administration costs of the proposed method are small. The proposed method uses basic statistical and probability-based concepts and provides a more reliable forecast than the current method. The proposed method is independent of*

*the generation mix and can continue to calculate capacity values for intermittent generators as the WEM evolves.*

This requirement for simplicity does not appear to have been considered by the Rule Change Panel. We see this as a fundamental flaw in the replacement method.

We highlight that investors require transparency and relative certainty when calculating investment risk and expected returns. If the relevant level for a facility is difficult to calculate, investors are likely to rely on the next-best source of publicly available information to inform the investment. In particular, it is likely that an investor would use capacity factors and Capacity Credit Allocation outcomes for existing facilities to decide where to locate a new facility. This would result in new entrant facilities being located where capacity revenue is proven rather than most optimal and therefore economical. Put simply, investors would look at which facilities currently have the highest capacity values and opt to locate any new facilities immediately in front of them. This would (further) crowd out existing facilities, which is inconsistent with the Rule Change Panel's intent, and more importantly inconsistent with the ETS objectives to increase system security and network reliability through geographical and technological diversity of facilities.

- Imposing the Rule Change Panel's replacement RLM to include locational valuation principles in the RLM materially changes the value of capacity for intermittent generators and compromises the ability for investors in existing intermittent generators with co-located facilities to reasonably recover their fixed capital costs through the RLM and RCM and results in a wealth transfer of around \$33 million over the next 10 years<sup>14</sup> from such co-located facilities to regionally diverse intermittent generators.

In its design of the NAQ framework, the Taskforce stated<sup>15</sup>:

*In arriving at a decision to provide a measure of protection for intermittent facilities from performance issues outside of the facility's control, the Taskforce has sought to achieve a balance between the following two key design principles of the NAQ framework:*

1. *The need to efficiently ration available network capacity to maximise the access of parties and therefore the economic benefit of the network; and*
2. *The need to respect the value of existing assets on the system and to allow the assets to retain economic value under the RCM as long as facility performance is maintained.*

*Once allocated, the level of Capacity Credit Rights held by a generation facility will remain constant provided the facility maintains its Certified Reserve Capacity and continues to make capacity available at that level. This means that, provided it performs, a Capacity Credits Rights holder is protected against the otherwise unhedgeable risk of losing access to Capacity Credits merely*

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<sup>14</sup> Based on the ERA's results provided in Table 3 of the Draft Rule Change Report, around 29MW of Capacity Credits will be reassigned from co-located facilities to regionally diverse facilities under the Rule Change Panel's replacement method. When multiplied by the transitional floor price under the ETS changes to the RCM this would equate to \$3.33 million in capacity revenue per annum. Under the Rule Change Panel's replacement method, five facilities lose more than 20 per cent of existing Capacity Credits when compared to the current RLM and the Capacity Credits of six facilities more than double.

<sup>15</sup> Allocation of Capacity Credits in a constrained network - Design Proposal Working Paper, Energy Transformation Taskforce, October 2019, page 5, available at: <https://www.wa.gov.au/sites/default/files/2019-10/Allocation%20of%20Capacity%20Credits%20in%20a%20constrained%20network%20-%20Design%20Proposal.pdf>.

*because a new entrant facility has located in the same constrained region of the network.*

We note this statement was made in the context of the forward-looking reform agenda. However, we consider these principles are equally important when considering the revaluation of existing property rights at any point in time after an investment has been made so as to avoid sovereign risk. Contrary to the ETS objectives, the Rule Change Panel highlights as a benefit of its replacement method that it: “provides for more consistent treatment of new Facilities and existing Facilities”<sup>16</sup>.

We question whether there is a need for a further locational investment signal in the RCM in addition to those already in the market (e.g. marginal loss factors) and others planned to be introduced under the ETS – most notably, security constrained economic dispatch. If there is the need for another locational investment signal, great care should be given to the assignment of Capacity Credits more holistically to ensure intermittent generators are treated consistently with Scheduled Generators. If required, locational valuation of generation should be applied to all facilities in the SWIS so as not to discriminate between technologies.

### **Misalignment with the ETS**

Our overarching concern is that the Rule Change Panel’s replacement methodology may not be aligned with the objectives and intent of the ETS.

The ETS is founded on the following principles:

- facilitating the entry of new intermittent generation in the WEM, which amongst other things is the driver of increased energy affordability, and lower emissions, and more importantly will need to underpin the retirement of old coal facilities;
- promoting geographical diversity of generation in the SWIS to provide system security and reliability of supply behind network constraints that will increase with the introduction of a formal constrained network access regime for all facilities;
- preserving existing property rights for investors in the existing generation fleet in the SWIS, consistent with the treatment of Scheduled Generators, in the context of the introduction of a formal constrained network access regime for all facilities; and
- encouraging investment in existing and new facilities to facilitate the additional capital investments required for provision of new essential system services under the new market arrangements.

As a State Government-led reform agenda, the Rule Change Panel should have regard to the ETS as it would a formal ‘statement of policy principles’ under clause 2.5.3 of the WEM Rules. This requirement in the WEM Rules ensures Rule Change Proposals are considered in the context of broader policy direction and future market design.

For the reasons described above<sup>17</sup>, we believe the Rule Change Panel’s replacement method is likely to undermine some if not all the ETS principles.

Moreover, we are concerned the Rule Change Panel has not demonstrated (to date) that it has fully considered the impact of its replacement RLM on these principles and whether it is

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<sup>16</sup> Draft Rule Change Report: Method used for the assignment of Certified Reserve Capacity to Intermittent Generators (RC\_2019\_03), Rule Change Panel, page 5, available at: [https://www.erawa.com.au/cproot/21873/2/RC\\_2019\\_03-Draft-Rule-Change-Report.pdf](https://www.erawa.com.au/cproot/21873/2/RC_2019_03-Draft-Rule-Change-Report.pdf).

<sup>17</sup> in the section titled: Concerns with the Rule Change Panel’s replacement RLM.

indeed aligned with the ETS. While we accept that the Rule Change Panel has had regard to the relationship between the Rule Change Proposal and the ETS, it appears that this is more at the operational level than at the level of alignment of key principles and market outcomes.

### **Procedural concerns**

The Rule Change Panel's replacement method is significantly different to the ERA's, and results in materially different outcomes. We submit that the Draft Rule Change Report amounts to the substitution of the Rule Change Panel's own proposal in place of the initial Rule Change Proposal submitted by the ERA. The Draft Rule Change Report itself acknowledges this:<sup>18</sup>

*The Rule Change Panel notes that, because the RLM proposed in the Draft Rule Change Report is substantively different from the RLM proposed in the Rule Change Proposal, the additional changes to Appendix 9 are not provided in mark-up and Appendix 9 is replaced in its entirety.*

In the Rule Change Panel's draft decision, significant changes have been made to the Rule Change Proposal such that the design, process and outcomes under the draft decision are inconsistent with those under the initial proposal. This raises a number of procedural issues. In particular:

- we submit that the Rule Change Panel's decision to replace the ERA's proposed changes with its own 'substantively different' method does not constitute 'accepting the Rule Change Proposal in a modified form';
- the draft decision is, in our view, akin to the Rule Change Panel implementing its own Rule Change Proposal, which under clause 2.5.4 of the WEM Rules is only permissible either to correct a manifest error in the WEM Rules or to make minor or procedural changes. We submit that the Rule Change Panel's revision of the RLM is neither the correction of a manifest error in the WEM Rules, nor a minor or procedural issue.
- we submit that the Rule Change Panel's replacement RLM should be presented to the MAC as any other new Rule Change Proposal would be (and again note that the MAC has not yet had the opportunity to review or comment on the RLM proposed by the Rule Change Panel).

As a result we believe it imperative that, at a minimum, the Rule Change Panel's replacement RLM be fully considered at the 8 June meeting of the MAC, and that the Coordinator of Energy be engaged to participate at that meeting.

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

Infrastructure Capital Group agrees with the ERA that the RLM if amended as proposed by the ERA in its initial Rule Change Proposal would better meet the Wholesale Market Objectives. Specifically, we consider the ERA's initial proposal would better meet Wholesale Market Objectives (a) and (d). This is because the proposed changes would provide a more reliable forecast of the capacity contribution of intermittent generators in the SWIS and avoid over- or under-forecasting the contribution of intermittent generation under the RLM and therefore procurement of capacity.

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<sup>18</sup> Ibid, page 69.

We consider the ERA's initial proposal is consistent with the remaining Wholesale Market Objectives (b) and (c).

However, as highlighted in section 1 of this submission, we believe it is important that the Rule Change Panel presents its view of whether the ERA's initial proposal is consistent with the Wholesale Market Objectives, as required by clauses 2.4.2 and 2.7.7(e) of the WEM Rules. We note this important procedural step appears to have been omitted from this Rule Change process and submit that having the Panel present its reasoning for why the ERA's initial proposal does not align with the Wholesale Market Objectives is crucial if Market Participants and other affected stakeholders can understand and support the ultimate RLM changes.

We have also considered the Rule Change Proposal as proposed to be amended in the Draft Rule Change Report (the Panel's replacement RLM) and have found several inconsistencies with the Wholesale Market Objectives as follows:

### **Wholesale Market Objective (a) and (d)**

The Rule Change Panel's replacement RLM, if adopted, would result in continued over- and under-forecasting of the value of intermittent generation in the WEM. This is shown through the volatility caused by the small sample of independent input data points and non-sensical resulting capacity factors when compared with average historical output.

The volatility in RLM outcomes associated with the Rule Change Panel's draft decision is inconsistent with Wholesale Market Objectives (a) and (d) as it:

- diminishes investment security as existing intermittent generation assets are devalued and the costs associated with the increased risk borne by these investors are ultimately passed through to end-users in one form or another; and
- discourages investment in new intermittent generators (biasing more secure investment in Scheduled Generators or low-availability, peak driven facilities) thereby preventing the entry of the right mix of generation required to operate the system securely, provide a reliable source of energy in the SWIS and provide the lowest-cost energy mix.

We also highlight the Rule Change Panel's draft decision will create a wealth-transfer of around \$33 million over the next 10 years from existing co-located intermittent generators to regionally diverse existing intermittent generators. This is not economically efficient and will increase the long-term cost of electricity in the WEM and therefore is also inconsistent with Wholesale Market Objectives (a) and (d).

### **Wholesale Market Objective (b)**

As mentioned in our assessment of market objective (a), we consider the Rule Change Panel's RLM if adopted will discourage new investment in intermittent generation (in particular, grid-connected solar and wind facilities), as:

- there is a significant sovereign risk investing in intermittent generation if the value of those facilities is to be eroded through continual regulatory change;
- there is more security in alternative scheduled generation options; and
- funding is unlikely to be available without a reasonable ability to recover fixed capital costs over the life of the asset (particularly as energy prices also decrease).

The Rule Change Panel's replacement RLM is therefore inconsistent with Wholesale Market Objective (b), which requires encouragement of competition among generators and retailers in the SWIS, including by facilitating efficient entry of new competitors.

### **Wholesale Market Objective (c)**

The introduction of locational valuing of intermittent generators is being progressed without a similar framework for other types of generation. The Rule Change Panel has highlighted a key benefit of its draft decision is that a locational investment signal will be provided to ensure intermittent generators are developed in the right areas of the SWIS.

This investment signal being applied to existing facilities is tantamount to a penalty as there is no action that can be taken after the fact – a facility cannot reasonably relocate to another part of the network. The reduction in capacity value is an erosion of investors' property rights.

We note that this is inconsistent with the intention of the ETS, which seeks to protect property rights in the medium-term using transitional price arrangements. While the Rule Change Panel states that the draft decision has considered the ETS, we consider the protection of capacity values over this term to be equally important to achieving the ETS objectives, and expect to see further justification of why the Rule Change Panel believes its replacement RLM is appropriate in light of the ongoing reforms.

We consider the treatment of intermittent and Scheduled Generation through the transition to constrained network access and security constrained economic dispatch to be paramount to the success of the ETS.

The introduction of locational valuation only for intermittent generation is inconsistent with Wholesale Market Objective (c) as it discriminates against intermittent energy options and largely existing renewables that reduce overall greenhouse gas emissions.

### **Wholesale Market Objective (e)**

The Rule Change Panel's draft decision is not related to the achievement of Wholesale Market Objective (e) and therefore is not inconsistent with it.

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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.**

### **Implications for ICG**

If adopted, the Rule Change Panels replacement RLM will significantly impact Infrastructure Capital Group's ability to recover the capital costs invested in Mumbida Wind Farm. It will also impact Infrastructure Capital Group and other investors' appetite and ability to invest in other forms of intermitted generation in the WEM in the future. We believe this directly contradicts the intent of the ETS.

Mumbida Wind Farm is owned by Australian Renewables Income Fund (ARIF). ARIF is a wholesale, unlisted unit trust established to invest in renewable energy assets and is managed by Infrastructure Capital Group. Investors in ARIF seek stable long-term returns.

Mumbida Wind Farm was constructed in 2011 and 2012. The investment was based on an estimate of the expected capacity revenue over the life of the asset, and the financial arrangements determined were set on the basis ARIF would have reasonable opportunity to

recovers its investment and earn a return on the asset.

While we accept all investments carry risk, and the value of capacity revenue will vary over the life of an asset, we consider that the Rule Change Panel's replacement RLM will substantially and rapidly reduce capacity revenue for Mumbida Wind Farm. This is likely to impact the existing financing arrangements of the asset. Over time this will become increasingly problematic as energy prices continue to decrease and the cost of operating in the WEM increases.

The value erosion of over 60 per cent created by the Rule Change Panel's replacement RLM is an untenable risk that could not have been reasonably foreseen when making the investment in Mumbida Wind Farm, and indeed would likely have prevented construction of the facility had the replacement RLM been in place in 2011.

Further, the heightened sovereign risk created by the Rule Change Panel's replacement RLM negatively impacts Infrastructure Capital Group's views on future investment in intermittent facilities located in the WEM. We expect many other potential investors will form the same opinion.

### **Implementation costs**

While we would need to consider our internal financing and contractual arrangements, we do not anticipate Infrastructure Capital Group would incur significant costs or operational changes directly associated with implementing the Rule Change Proposal.

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

N/A

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