RCP Rule Change Panel

Final Rule Change Report: Estimates for GIA facilities (RC_2020_03)

Fast Track Rule Change Process

23 June 2020

Contents

1. Rule Change Proposal, Process and Timeline ... 3
2. The Rule Change Panel's Decision ... 3
2.1 Reasons for the Decision ... 3
2.2 Commencement ... 3
3. Proposed Amendments ... 4
3.1 The Rule Change Proposal ... 4
3.2 The Rule Change Panel's Initial Assessment of the Proposal ... 5
4. Consultation ... 6
4.1 MAC Consultation ... 6
4.2 Consultation during the Consultation Period ... 9
4.2.1 Consultation with AEMO ... 9
4.2.2 Update on Action Item from 5 May 2020 MAC Meeting ... 9
4.2.3 Consultation with Synergy ... 10
4.2.4 Addendum to the Rule Change Notice ... 10
4.3 Submissions Received during the Consultation Period ... 11
4.4 The Rule Change Panel's Response to Submissions Received during the Consultation Period ... 13
4.5 Public Forums and Workshops ... 13
5. The Rule Change Panel's Final Assessment ... 13
5.1 Assessment Criteria ... 13
5.2 Assessment of the Proposed Changes ... 14
5.2.1 Provision of Estimates for Network Outage Intervals ... 14
5.2.2 Provision of Estimates for System Normal Intervals ... 14
5.2.3 Accounting for Constraints in Reserve Capacity Certification ... 16
5.3 Additional Changes to the Proposed Amending Rules ... 18
5.4 Wholesale Market Objectives ... 18
5.5 Protected Provisions, Reviewable Decisions and Civil Penalties ... 19
5.6 Practicality and Cost of Implementation ... 19
5.6.1 Cost ... 19
5.6.2 Practicality ... 19
5.6.3 Amendments to Associated Market Procedures ... 20
6. Amending Rules ... 20
Appendix A. Responses to Submissions Received in the Consultation Period ... 24
Appendix B. Further Amendments to the Proposed Amending Rules ... 27

1. Rule Change Proposal, Process and Timeline

On 13 May 2020, Alinta Energy (**Alinta**) submitted a Rule Change Proposal titled “Estimates for GIA facilities” (RC_2020_03).

The Rule Change Proposal seeks to amend the Relevant Level Methodology in Appendix 9 of the Market Rules to include a requirement for AEMO to estimate a Facility’s output for Trading Intervals where an Operating Instruction to reduce output has been issued in accordance with a Network Control Service Contract (**NCS intervals**).

The Rule Change Proposal is being processed using the Fast Track Rule Change Process, described in section 2.6 of the Market Rules. The key dates for progressing this Rule Change Proposal are:

This Final Rule Change Report is drafted on the basis that the reader has read all the related documents, including the Rule Change Proposal and the submissions received during the consultation period. All documents related to this Rule Change Proposal can be found on the Rule Change Panel’s website at [Rule Change: RC_2020_03 - Economic Regulation Authority Western Australia].

2. The Rule Change Panel’s Decision

The Rule Change Panel’s decision is to accept the Rule Change Proposal in a modified form, as set out in section 6 of this report. The modifications by the Rule Change Panel represent only minor changes to the proposed Amending Rules.

2.1 Reasons for the Decision

The Rule Change Panel has made its decision on the basis that the Amending Rules:

- will correct a manifest error in the Market Rules that can lead to under-allocation of Capacity Credits to Intermittent Generators;
- can be implemented without any significant delays or separate implementation costs;
- will better achieve Wholesale Market Objectives (a), (b), (c) and (d) and are consistent with Wholesale Market Objective (e); and
- are supported by most of the submissions received in the consultation period.

2.2 Commencement

The amendments to the Market Rules resulting from this Rule Change Proposal will commence at **8:00 AM on 24 June 2020**.

3. Proposed Amendments

3.1 The Rule Change Proposal

An Intermittent Generator is assigned Certified Reserve Capacity based on:

- its Relevant Level, which is determined using the Relevant Level Methodology in Appendix 9 of the Market Rules; and
- its Constrained Access Entitlement (**CAE**), which is determined using the CAE process in Appendix 11 of the Market Rules, if it is connected under the Generator Interim Access (**GIA**) solution (**GIA generator**).[1]

A Relevant Level is a forecast of an Intermittent Generator's capacity contribution during future periods of peak demand, based on that Facility's output during previous periods[2] of peak load for scheduled generation (**LSG**). As a result, the lower an Intermittent Generator's output during peak LSG periods, the lower its Relevant Level.

Where a network outage reduces a non-GIA Intermittent Generator's output, the flow-on impacts to its Relevant Level, and therefore to its Capacity Credits, can be averted in one of two ways:

- AEMO issuing a Dispatch Instruction to the Intermittent Generator to reduce generation: when a Dispatch Instruction is issued, AEMO estimates what the Intermittent Generator would have generated had the Dispatch Instruction not been issued;[3] or
- approval of a Consequential Outage: a Consequential Outage is an outage caused by an outage of another Rule Participant's equipment.[4] If approved, AEMO must estimate what the Intermittent Generator would have sent out had the Consequential Outage not occurred, and use that estimate in the Facility's Relevant Level calculation.

However, when a GIA generator's output is limited under the GIA solution:

- it does not receive a Dispatch Instruction (instead it receives an Operating Instruction); and
- clause 3.21.2A renders it ineligible for a Consequential Outage.[5]

As a result, GIA generators do not receive estimates for Trading Intervals where they are constrained using the GIA tool (including where this is due to a network outage).

In this Rule Change Proposal, Alinta suggested that not receiving estimates for these Trading Intervals will significantly decrease a GIA generator's Relevant Level calculation inputs and therefore its Certified Reserve Capacity in future Reserve Capacity Cycles. Alinta considered that this outcome was not the intent of clause 3.21.2A and that a GIA generator's Certified Reserve Capacity should not be negatively impacted by a Western Power Planned Outage.

Although the Rule Change Proposal refers to a manifest error in clause 3.21.2A, Alinta does

---

1 Generally, the Certified Reserve Capacity assigned to a GIA generator is the lesser of its Relevant Level and its CAE. See section 5.2.3 of this report for further discussion of the CAE process.

2 Up to five years, where information is available.

3 See clause 7.7.5B.

4 See clause 3.21.2.

5 Clause 3.21.2A states that "An outage does not occur in respect of a Constrained Access Facility for the purposes of these Market Rules where the Constrained Access Facility is dispatched in accordance with a Network Control Service Contract and these Market Rules".

not propose to change that clause, but instead proposes to create a requirement for AEMO to estimate a GIA generator's output for all NCS intervals. Following the submission of the Rule Change Proposal, the Rule Change Panel, in accordance with clause 2.5.5,[6] sought clarification from Alinta on what specific manifest error in the Market Rules Alinta sought to address through the Rule Change Proposal.

Alinta provided the requested clarification on 14 May 2020. Alinta considered that the Minister's Amending Rules to implement the GIA solution[7] did not intend to prevent GIA generators from receiving an estimate in the scenario where a network outage limits their output; and that this outcome was a manifest error in the Market Rules. Alinta considered the manifest error extended to all NCS intervals where the Operating Instruction(s) were issued because of a network outage (**network outage intervals**).

Alinta also confirmed that it did not consider that the Public Utilities Office (**PUO**) intended to require AEMO to estimate a GIA generator's output in Trading Intervals where its output was restricted by the GIA tool under 'system normal'[8] conditions (**system normal intervals**). Accordingly, Alinta did not request the Rule Change Panel to consider whether GIA generators failing to receive estimates for system normal intervals was a manifest error.

However, Alinta considered that the provision of estimates for GIA generators for system normal intervals was an acceptable by-product of its proposed solution because:

- it would not distort the load carrying capability of GIA generators, given that the Relevant Level Methodology is designed to represent the unconstrained capacity of an Intermittent Generator, while the CAE process accounts for the impact of thermal constraints;
- incorporating the effect of network constraints in the Relevant Level Methodology would lead to 'double-counting' of those constraints, as discussed in the final report for the Economic Regulation Authority's (**ERA's**) 2018 review of the Relevant Level Methodology;[9] and
- it avoids potential operational complexity for AEMO in determining which NCS intervals to determine estimates for.

Full details of the Rule Change Proposal are available on the Rule Change Panel's website.

3.2 The Rule Change Panel's Initial Assessment of the Proposal

The Rule Change Panel decided to progress the Rule Change Proposal on the basis of its preliminary assessment that the proposal raised a valid issue and may be consistent with the Wholesale Market Objectives.

The Rule Change Panel decided to progress the Rule Change Proposal using the Fast Track Rule Change Process, described in section 2.6 of the Market Rules, on the grounds that the proposed changes correct a manifest error, thereby satisfying the criterion in clause 2.5.9(b)

6 Clause 2.5.5. states that "Where necessary, the Rule Change Panel may contact the person submitting a Rule Change Proposal and request clarification of any aspect of the Rule Change Proposal. Any clarification received is to be deemed to be part of the Rule Change Proposal".

7 See the *Wholesale Electricity Market Amending Rules 2017*, which commenced on 24 June 2017.

8 Alinta defined system normal to be when all critical network elements are in service.

9 See pages 66-67 of *Relevant Level method review 2018: Capacity valuation for intermittent generators: Final report*, available on the ERA's website.

of the Market Rules.[10] The Rule Change Panel agrees that the failure to provide estimates for GIA generators for network outage intervals is a manifest error in the Market Rules. The Rule Change Panel notes that Energy Policy WA (**EPWA**) provided verbal advice to RCP Support, at the 5 May 2020 meeting of the Market Advisory Committee (**MAC**) and in subsequent discussions, that the PUO did not intend for GIA generators to not receive estimates when their output was restricted because of a network outage.

4. Consultation

Although the Rule Change Panel has summarised the submissions received in the consultation period and the views expressed by the MAC, the Rule Change Panel has reviewed this information in its entirety and taken into account each matter raised by stakeholders and the MAC in making its decision on this Rule Change Proposal.

4.1 MAC Consultation

Mr Oscar Carlberg provided an overview of Alinta's proposed amendments to the MAC at its 5 May 2020 meeting. Below is a summary of the discussion:[11]

- Mr Dean Sharafi noted that Alinta's solution would estimate a GIA generator's output for all Trading Intervals in which the Facility's output was constrained by the GIA tool, not just the ones related to a network outage. Mr Sharafi considered that this would cause the GIA generators to be treated no differently to other Non-Scheduled Generators, which would put the GIA generators in an advantageous position, because they paid less for their network connections and effectively have a sub-standard network connection.

  Mr Sharafi advised that if AEMO ignored the sub-standard connections and assigned a Relevant Level to a GIA generator in the same way as to other Non-Scheduled Generators, then Power System Security would be at risk, because the Relevant Level of each GIA generator would not reflect a reasonable expectation of their output on peak days.

  Mr Sharafi advised that AEMO proposed an alternative method, which would be slightly more administratively burdensome for AEMO but from a system perspective would provide a better outcome. Under AEMO's proposed method, a Market Generator could advise AEMO of Trading Intervals where it considered its GIA generator's output was reduced by a network outage, and AEMO could assess the Trading Intervals and provide an estimate where AEMO considered it appropriate.

- Mr Martin Maticka added that the proposed changes may affect the independent experts' reports used in the Reserve Capacity certification process.

- Mr Tom Frood considered that Alinta's proposal was very sensible.

---

10 Clause 2.5.9 states that the Rule Change Panel may subject a Rule Change Proposal to the Fast Track Rule Change Process if, in its opinion, the Rule Change Proposal:

(a) is of a minor or procedural nature; or

(b) is required to correct a manifest error; or

(c) is urgently required and is essential for the safe, effective and reliable operation of the market or the SWIS.

11 Further details, including the Pre-Rule Change Proposal, Alinta's presentation slides and full meeting minutes, are available on the Rule Change Panel's website at https://www.erawa.com.au/rule-change-panel/market-advisory-committee/market-advisory-committee-meetings.

- Mrs Jacinda Papps disagreed with Mr Sharafi's comments, noting that Western Power accounted for the effect of network constraints on GIA generators when determining the CAE for a GIA generator. Mrs Papps noted that the assignment of Capacity Credits was a two-step process and Alinta's intent was just to ensure that correct inputs were provided to the Relevant Level Methodology. A GIA generator's Capacity Credits would still be limited to reflect network constraints through the CAE methodology.

  In response to a question from Mr Sharafi, Mrs Papps confirmed that the CAE process was already included in the Market Rules and provided an overview of its operation. Mrs Papps explained that if the CAE calculation for a GIA generator was lower than its Relevant Level, the GIA generator's Capacity Credits would be restricted to the CAE value.

  Mr Maticka confirmed that Mrs Papps' comments were correct, and clarified that AEMO was suggesting a process that might be less labour intensive for AEMO as it would only be assessing Trading Intervals that were affected by a network outage.

- Ms Jenny Laidlaw noted that RCP Support had sought advice from the Energy Transformation Implementation Unit (**ETIU**) about its policy position on estimates for Intermittent Generators under the new market arrangements. ETIU had advised that while the Taskforce was yet to make any decisions on this issue, ETIU's current thinking was that the use of estimates would continue, and that the proposed Network Access Quantity (**NAQ**) process would require 'unconstrained' inputs. This implied that estimates should be used for Trading Intervals where the output of the generator was constrained by the network.

  Ms Laidlaw agreed that the proposed amendments would also provide estimates for GIA generators when they were constrained down under system normal conditions, but suggested that this might be required in the future to measure the unconstrained capacity of Intermittent Generators.

- Mr Daniel Kurz noted that, as a Market Generator, he supported the notion that there should not be an unfair allocation against any generator for something that is outside of its control.

- Mr Geoff Gaston agreed that a GIA generator's Capacity Credits should not be reduced because it was constrained due to a network outage. However, Mr Gaston questioned whether other GIA instructed constraints should be able to affect the Facility's Capacity Credits.

  Ms Laidlaw clarified that certain constraints were applied in the GIA tool to account for planned network outages. A blanket fixed constraint was usually applied to the Facility's output for the duration of the network outage because sophisticated constraint equations to handle network outage situations were not available.

- The Chair suggested that AEMO and Alinta discuss their proposed solutions to see which one was likely to work the best, while noting that Alinta could submit its Rule Change Proposal whenever it chose. Mrs Papps advised that Alinta would contact AEMO after the MAC meeting and would probably submit the Rule Change Proposal as soon as possible because of the associated timing constraints.

- Ms Jo-Anne Chan asked how the Rule Change Proposal, if approved, would affect the 2020 Reserve Capacity Cycle. Mrs Papps replied that Alinta hoped the changes could be used for the upcoming accreditation process to prevent the adverse impacts on Badgingarra's Capacity Credits predicted by Mr Carlberg.

In response to a question from Ms Chan, Mrs Papps considered that if the Rule Change Proposal was progressed using the Fast Track Rule Change Process there was a reasonable chance of commencing the changes in time for the 2020 Reserve Capacity Cycle, because the certification period had been delayed by about two months.

Mr Maticka advised that AEMO was scheduled to notify applicants of the Certified Reserve Capacity for their Facilities for the 2020 Reserve Capacity Cycle by 19 August 2020. Mr Maticka noted that AEMO would need the Amending Rules to be implemented some time before that date to allow the changes to be taken into account. AEMO could provide more information on the required timeframe in its submission on the Rule Change Proposal.

- Ms Zahra Jabiri noted that Western Power understood and appreciated the concern raised by Alinta, and asked Alinta and AEMO to include Western Power in their discussions of potential options before finalising the Rule Change Proposal. Mrs Papps and Mr Sharafi agreed to Ms Jabiri's request.
- The Chair sought the views of MAC members on whether RC_2020_03 addressed a manifest error in the Market Rules and so was eligible to be progressed using the Fast Track Rule Change Process. No attendee suggested that the proposal did not address a manifest error in the Market Rules.

  Mr Andrew Everett observed that while one could argue about whether the proposal addressed a manifest error, the problem was really just one that was impacting financially on certain Market Participants. Mr Everett suggested that a degree of consistency should be applied, noting that Synergy's recent Rule Change Proposal: Amending the Minimum STEM Price definition and determination (RC_2019_05) addressed an issue with a significant financial impact on Synergy, but had not been deemed to be something that needed to be done in a hurry.

  In response to a question from the Chair, Mr Everett clarified that he had no firm view on whether RC_2020_03 met the fast track criteria, but did not consider that something was a manifest error just because it had an adverse impact on certain Market Participants.

  Ms Laidlaw asked whether EPWA or ETIU could provide any guidance on whether the current arrangements for GIA generator estimates constituted a manifest error. Mr Matthew Martin considered that the PUO, when developing the Minister's Amending Rules to implement the GIA solution, was focussed on the situation during normal working operations rather than the issues identified in RC_2020_03. Mr Martin agreed that the withholding of estimates was an unintended consequence rather than an intended outcome.
- The Chair sought the views of the MAC on an urgency rating for RC_2020_03, noting that Alinta proposed a High urgency rating.

  Mr Kurz supported the concept that it was an unintended consequence that GIA generators should be treated differently for network outages that are not a result of security constraints, and recommended a High urgency rating.

  Mr Gaston, Ms Ng, Ms Jabiri and Mr Peter Huxtable also supported a High urgency rating. Mr Gaston considered that the proposal should be progressed using the Fast Track Rule Change Process.

4.2 Consultation during the Consultation Period

The consultation period for this Rule Change Proposal was held between 25 May 2020 and 9 June 2020.

During the consultation period:

- RCP Support consulted with AEMO on several matters relating to the Rule Change Proposal (section 4.2.1);
- RCP Support requested and received an update from AEMO and Alinta on the meeting to discuss AEMO's alternative approach that was proposed at the 5 May 2020 MAC meeting (section 4.2.2);
- RCP Support met with Synergy in response to a request from Synergy to be consulted on the Rule Change Proposal (section 4.2.3); and
- the Rule Change Panel issued an addendum to the Rule Change Notice (section 4.2.4).

4.2.1 Consultation with AEMO

During the consultation period, RCP Support sought advice from AEMO regarding its estimated costs to implement the proposed Amending Rules. In an email sent to RCP Support on 2 June 2020, AEMO confirmed that:

- implementation of the proposed Amending Rules would use existing tools with minor changes;
- there would be some minor process changes; and
- based on the above, these changes would be done as part of business-as-usual and so there would be no separate implementation costs.

RCP Support also sought clarification from AEMO on the comments made by Mr Sharafi and Mr Maticka about the Rule Change Proposal at the 5 May 2020 MAC meeting. Mr Maticka clarified that his comments about independent experts' reports related only to GIA generators that were being upgraded, where the parent Facility was in operation but the upgrade was not. AEMO would need to verify the independent expert's estimates, and may need to develop a process for this as currently it relied on metered data.

Further details about AEMO's concerns regarding the provision of estimates for system normal intervals (the subject of Mr Sharafi's comments) are provided in section 5.2.3 of this report.

4.2.2 Update on Action Item from 5 May 2020 MAC Meeting

RCP Support sought an update from Alinta and AEMO on their action item from the 5 May 2020 MAC meeting.

Alinta advised that representatives from AEMO, Alinta, Western Power and Bright Energy Investments (**Bright Energy**) met on 11 May 2020 to discuss AEMO's alternative to the solution that Alinta proposed in its Pre-Rule Change Proposal. Alinta and AEMO provided the following meeting notes:

- There was discussion of whether estimates should be required for all NCS intervals or only for network outage intervals:
    - AEMO indicated that the proposal to cover all intervals may impact the Relevant Level Methodology process; and

- Alinta clarified its view that requiring estimates for all NCS intervals would not unfairly advantage GIA generators considering the CAE determination already exists to account for constraints and the Relevant Level Methodology is designed to estimate unconstrained capacity.

- AEMO indicated that there would not be any operational issues with requiring estimates for all NCS intervals.

4.2.3 Consultation with Synergy

On 29 May 2020, Synergy advised RCP Support that it wished to discuss the Rule Change Proposal. Synergy suggested that to make an informed decision, it would be critical to first understand:

(a) the financial costs to the market if the Rule Change Proposal was implemented;

(b) an approximation of the increase in Certified Reserve Capacity under the Relevant Level Methodology; and

(c) an approximation of the increase in Certified Reserve Capacity under the new Relevant Level Methodology as proposed under the new market.

RCP Support met with Synergy on 3 June 2020 to discuss the points raised in Synergy's request.

In respect of (a), RCP Support shared the advice provided by AEMO on 2 June 2020 regarding implementation costs. RCP Support also noted that at that stage it appeared to be cheaper to provide estimates for both system normal intervals and network outage intervals (rather than just for network outage intervals), because the costs associated with determining whether a Trading Interval was a network outage interval outweigh the costs of producing an estimate for a Trading Interval.

In respect of (b) and (c), RCP Support noted that it could not provide an accurate estimate of how the Rule Change Proposal would increase the Certified Reserve Capacity levels due to the large number of unknowns involved. RCP Support asked why Synergy needed this information to assess the proposal against the Wholesale Market Objectives. Synergy replied that its main concern related to whether the benefits of the proposal warranted the implementation costs.

There was some discussion about how the estimate processes were likely to work over the next few Reserve Capacity Cycles, both for GIA generators and non-GIA Intermittent Generators.

Synergy noted that it was still considering its view on the question of whether GIA generators should be entitled to receive estimates for certification.

4.2.4 Addendum to the Rule Change Notice

On 4 June 2020, the Rule Change Panel published an addendum to the Rule Change Notice. The purpose of the addendum was to provide an update to interested stakeholders regarding:

- the advice provided by AEMO on 2 June 2020 about its costs to implement the proposed Amending Rules; and
- additional minor changes to the proposed Amending Rules that the Rule Change Panel was considering.

Further details of the additional changes to the proposed Amending Rules are available in section 5.3 of this report.

4.3 Submissions Received during the Consultation Period

The Rule Change Panel received submissions from AEMO, Alinta, Bright Energy and Synergy. All submitters agreed that the failure to provide estimates for network outage intervals was a manifest error in the Market Rules.

The Rule Change Notice for this Rule Change Proposal noted that requiring estimates for all NCS intervals may be the most efficient way to address the manifest error, and that it may be perverse to exclude system normal intervals from the scope of the Rule Change Proposal if their inclusion is more efficient and has no material adverse impacts. The Rule Change Panel encouraged stakeholders to consider the relative costs and benefits of providing estimates for all NCS intervals or providing estimates only for network outage intervals when preparing their submissions on the Rule Change Proposal.

Alinta, Bright Energy and Synergy all agreed that requiring estimates for all NCS intervals would be the most efficient way to address the manifest error.

Alinta considered that the alternative – requiring estimates only for network outage intervals – would potentially create additional complexity without providing additional benefits. AEMO would be required to implement criteria that distinguish constraints caused by network outages from other constraints. To correct the manifest error, AEMO would not only apply these criteria to all future intervals where constraints occur but also to a backlog of intervals where Consequential Outages were not issued due to the manifest error. Alinta suggested this would be complex and cumbersome given the frequency of network outages and the various extents to which constraints can be attributed to network outages.

Alinta considered that the additional complexity required to incorporate the effect of system normal constraints in the Relevant Level Methodology would not deliver benefits, because the CAE process already provided a more rigorous method of accounting for constraints. Whereas the Relevant Level Methodology could only account for constraints that have occurred in the past five years during peak LSG periods, the CAE determination accounted for potential constraints across approximately 100,000 dispatch scenarios that may occur to meet forecast peak demand.[12] Consequently, Alinta considered that it would be redundant to require AEMO to identify constraints that were not caused by network outages and incorporate them into the Relevant Level Methodology. Instead, the Relevant Level Methodology should exclude all constraints to avoid double counting, as concluded by the ERA in its 2018 review of the Relevant Level Methodology.

Synergy noted that unlike existing GIA generators that have an operating history that includes curtailment, new GIA generators are reliant on independent experts' reports, which assume no constraints, to determine estimates. Unless this issue is rectified, Synergy considered that existing GIA generators will continue to be disadvantaged and receive fewer Capacity Credits in comparison with new GIA generators.

Synergy considered that the agreed solution will only be required for the 2020 and 2021 Reserve Capacity Cycles, after which the methodology for receiving estimates under the Relevant Level Methodology is likely to be revised by ETIU. Limiting the provision of estimates to network outage intervals only would unnecessarily create operational complexity for AEMO and correspondingly increase implementation costs. In light of the limited duration

12 Western Power AEMO Generator Interim Access Information Session 9 June 2017.

for which the solution will be required, Synergy considered that preference should be afforded to the solution that minimises costs, which is to provide estimates for all NCS intervals.

Synergy also considered that it would be more appropriate to allow estimates for all NCS intervals, including system normal intervals, because these estimates are still subject to the CAE process whereby the Network Operator examines these inputs to account for further constraints.

While AEMO supported the provision of estimates for network outage intervals, it did not support the provision of estimates for system normal intervals. AEMO indicated that it had concerns that there could be implications for the CAE process if Appendix 9 was amended as proposed.

AEMO suggested that the proposed amendments could be limited to only provide estimates for network outage intervals. However, AEMO also noted that if the Rule Change Proposal was restricted to address the manifest error only, there was a risk that more effort would be required in future. This was because AEMO's current mechanism to identify network outage intervals depends on the current GIA implementation approach. If that approach changed, then the mechanism may no longer work, and an alternative solution would be needed. AEMO advised that there had not been enough time for AEMO to consider what this solution may require.

AEMO noted that it had previously suggested a lower cost alternative at the 5 May 2020 MAC meeting, which was for the Market Participant to advise AEMO of Trading Intervals where the Facility's output was impacted by a Network outage. AEMO could then assess the Trading Intervals and provide a corresponding estimate. The process would be similar to the current Consequential Outage process, in that the Market Participant would need to identify the relevant Trading Intervals, which AEMO would then need to validate.

The assessment by submitting parties as to whether the Rule Change Proposal would better achieve the Wholesale Market Objectives is summarised in Table 4.1.

Table 4.1: Submitters' Comments on the Wholesale Market Objectives

Submitter	Wholesale Market Objective Assessment
AEMO	AEMO considered that correcting the manifest error will better facilitate Wholesale Market Objective (a). However, as the Rule Change Proposal goes beyond the manifest error AEMO had not had sufficient time to assess the impacts of the broader changes.
Alinta	Alinta did not provide an assessment in its submission, but suggested in the Rule Change Proposal that the proposed change would allow the Market Rules to better address Wholesale Market Objectives (a) and (b).
Bright Energy	No explicit assessment provided; however Bright Energy considered that the changes would deter behaviour that would otherwise distort the market and better reflect the intent of the Reserve Capacity Mechanism.
Synergy	Synergy considered that remediation of the manifest error would support the enhancement of Wholesale Market Objective (a).

Copies of all submissions received during the consultation period are available on the Rule Change Panel's website.

4.4 The Rule Change Panel's Response to Submissions Received during the Consultation Period

The Rule Change Panel's response to each of the specific issues raised in the consultation period is presented in Appendix A of this report. A more general discussion of the analysis undertaken by the Rule Change Panel on this Rule Change Proposal, which addresses the main issues raised in submissions and the Rule Change Panel's response to these issues, is available in section 5.2 of this report.

4.5 Public Forums and Workshops

The Rule Change Panel did not hold a public forum or workshop for this Rule Change Proposal.

5. The Rule Change Panel's Final Assessment

5.1 Assessment Criteria

In preparing its Final Rule Change Report, the Rule Change Panel must assess the Rule Change Proposal in light of clauses 2.4.2 and 2.4.3 of the Market Rules.

Clause 2.4.2 of the Market Rules states that the Rule Change Panel "*must not make Amending Rules unless it is satisfied that the Market Rules, as proposed to be amended or replaced, are consistent with the Wholesale Market Objectives*". Additionally, clause 2.4.3 of the Market Rules states that, when deciding whether to make Amending Rules, the Rule Change Panel must have regard to:

- any applicable statement of policy principles the Minister has issued to the Rule Change Panel under clause 2.5.2 of the Market Rules;
- the practicality and cost of implementing the proposal;
- the views expressed in submissions and by the MAC; and
- any technical studies that the Rule Change Panel considers necessary to assist in assessing the Rule Change Proposal.

In making its final decision, the Rule Change Panel has had regard to each of the matters identified in clauses 2.4.2 and 2.4.3 of the Market Rules as follows:

- the Rule Change Panel's assessment of the Rule Change Proposal against the Wholesale Market Objectives is available in section 5.4 of this report;
- the Rule Change Panel notes that there has not been any applicable statement of policy principles from the Minister in respect of this Rule Change Proposal;
- the Rule Change Panel's assessment of the practicality and cost of implementing the Rule Change Proposal is available in section 5.6 of this report;
- a summary of the views expressed in submissions and by the MAC is available in section 4 of this report. The Rule Change Panel's response to these views is available in section 5.2 and Appendix A of this report; and

- the Rule Change Panel does not believe a technical study in respect of this Rule Change Proposal is required and therefore has not commissioned one.

The Rule Change Panel's assessment is presented in the following sections.

5.2 Assessment of the Proposed Changes

5.2.1 Provision of Estimates for Network Outage Intervals

The Rule Change Panel agrees with Alinta that the failure to provide estimates to GIA generators for network outage intervals is a manifest error in the Market Rules. At the time the Minister made the Amending Rules to implement the GIA solution,[13] Western Power only intended to operate the GIA tool under system normal conditions. The expectation was that the GIA tool would be shut down during network outages, and System Management would issue Dispatch Instructions to constrain the GIA generators' output and maintain Power System Security. Provided that the Dispatch Instructions were issued Out of Merit, the GIA generators would have been eligible for estimates[14] for the relevant Trading Intervals.

Not providing estimates for GIA generators for network outage intervals is clearly in conflict with the Wholesale Market Objectives, for the reasons set out in section 5.4 of this report. The Rule Change Panel notes that the problem could be avoided by restricting the use of the GIA tool to system normal periods. However, it would be inefficient to prevent the use of the GIA tool where it can reduce the impact of network outages on GIA generators by applying more sophisticated constraints than System Management is able to determine manually.[15]

The Rule Change Panel therefore agrees that the Market Rules should be amended to ensure that GIA generators receive estimates for network outage intervals.

5.2.2 Provision of Estimates for System Normal Intervals

Alinta did not suggest that the failure to provide estimates for system normal intervals was a manifest error, and no other party has suggested that the Minister intended AEMO to provide estimates for system normal intervals. The Rule Change Panel notes that the proposed Amending Rules could be modified to limit the provision of estimates to network outage intervals only, for example by amending proposed step 3(d) in Appendix 9 to only consider Operating Instructions that were issued, in part or fully, because of a network outage. This would limit the effect of the Rule Change Proposal to the manifest error identified by Alinta.

However, the Rule Change Panel considers that providing estimates for all NCS intervals will better achieve the Wholesale Market Objectives than providing estimates only for network outage intervals, for the following reasons.

Providing estimates for all NCS intervals is the lowest cost option to address the manifest error

During discussions with RCP Support on this Rule Change Proposal, AEMO described the mechanism it would use to determine whether an NCS interval was a network outage interval. AEMO proposed to use the frequency with which the relevant Operating Instructions were issued as its primary indicator, because Operating Instructions associated with network outages were usually issued less frequently and for longer periods than 'normal' Operating

[13] The *Wholesale Electricity Market Amending Rules 2017* were published in the Government Gazette on 23 June 2017.

[14] GIA generators would also have been eligible for constrained off compensation at the time.

[15] See the discussion of dynamic network outage constraint equations in the GIA tool in section 5.2.2 of this report for further details.

Instructions.[16] AEMO would also refer to the Outage information provided by Western Power and consult with Western Power if it needed additional information.

AEMO also advised that the administrative effort required to produce an estimate for a Trading Interval is fairly low. AEMO agreed that more administrative effort may be required to determine whether a GIA generator was constrained in a Trading Interval because of a network outage than to produce an estimate, if some level of investigation was needed. AEMO did not disagree that it may be cheaper to provide estimates for all NCS intervals, and this conclusion appears consistent with the cost advice provided in AEMO's submission.

More critically, AEMO noted in its submission on the Rule Change Proposal that:

> *"If the proposal were restricted to address the manifest error only, and limit estimates to GIA intervals related to a Network outage, then there is a risk that more effort will be required in the future. That is, the mechanism through which AEMO proposes to currently identify relevant Trading Intervals depends on the current GIA implementation approach. If that approach changes, the mechanism may no longer work, and an alternative solution will be needed. There has not been enough time to consider what this solution may require."*

AEMO has since advised RCP Support that Western Power is already trialling the use of more dynamic network outage constraint equations in the GIA tool, with long-term implementation planned to occur before the last quarter of 2020. This change may prevent AEMO from being able to identify network outage intervals from Operating Instructions alone, which will likely further increase the effort and cost of identifying network outage intervals.

AEMO has suggested an alternative approach on several occasions, most recently in its submission, which would require a Market Participant to identify and notify AEMO of its network outage intervals in a process similar to that currently used for Consequential Outages.

The Rule Change Panel is not convinced that the alternative approach would materially reduce overall assessment costs, because each Market Participant would need to assess all of its NCS intervals (or risk missing out on estimates to which it was entitled), while AEMO would also need to assess the NCS intervals that each Market Participant submitted to it.[17]

Further, if AEMO would find it complex and costly to determine whether an NCS interval was a network outage interval, a Market Participant would be likely to face a similar challenge. The Rule Change Panel is uncertain that a Market Participant would always have enough information to tell whether an NCS interval was a network outage interval. For example, while Western Power is obliged to notify a Market Participant about upcoming Planned Outages that may affect its Facilities, the information provided can be insufficient to determine the exact impact on a GIA generator. In these cases, a Market Participant may choose to submit requests to AEMO for many, if not all, of its NCS intervals, leaving AEMO still obliged to assess a large proportion of NCS intervals.

---

16 Western Power did not initially develop GIA constraint equations for outage scenarios, and has typically applied a fixed constraint (50% output, 25% output or nil output) to affected GIA generators for the duration of a Planned Outage.

17 Currently a high percentage of NCS intervals appear to be network outage intervals (e.g. Alinta has estimated that the percentage for Badgingarra is about 90% in 2019 and about 60% to date for 2020). While this is not necessarily representative of future periods or other GIA generators, it is consistent with the original advice provided by Western Power and AEMO that GIA generators are expected to be impacted by system normal constraints very infrequently.

However, regardless of which approach was adopted, AEMO has indicated that the cost of determining which NCS intervals are network outage intervals would exceed the cost of determining estimates for the system normal intervals. For this reason, the Rule Change Panel concludes that determining estimates for all NCS intervals is the lowest cost option to address the manifest error.

Providing estimates for system normal intervals will remove a potential source of error in the Capacity Credit assignment process

A 'system normal' constraint that affects a GIA generator in one Capacity Year will not necessarily affect the generator the same way in future Capacity Years. This is because, for example:

- constraints on the GIA generator may be alleviated through the retirement of another generator or load growth in the local area;
- the 'system normal' network configuration may change, for example due to a network upgrade that builds out a constraint; and
- AEMO may identify that constraint equations previously applied in the GIA tool (or in the future security constrained economic dispatch engine) are overly conservative, and replace them with more sophisticated constraints that reduce the impact on generators.

If estimates are not provided for system normal intervals, then the operation of a system normal constraint in a peak LSG Trading Interval could materially reduce a GIA generator's Relevant Level, reducing its Certified Reserve Capacity regardless of whether the constraint will continue to apply in the Capacity Year to which the certification applies. The effects of a constraint could persist for up to five Reserve Capacity Cycles, because the Relevant Level calculations use five years of generation history. Providing estimates for system normal intervals removes the risk of underestimating the capacity value of a GIA generator in a Capacity Year because of a system normal constraint that will not apply in that Capacity Year.

5.2.3 Accounting for Constraints in Reserve Capacity Certification

Appendix 11 of the Market Rules requires Western Power to determine the CAE of a GIA generator as the MW level of network access expected to be available to the Facility for at least 95% of the generation dispatch scenarios that Western Power determines could occur to meet a one-in-ten-year peak demand event in the relevant Capacity Year. The generation dispatch scenarios, assuming they are fit for purpose, should reflect the system normal constraints that are expected to apply in the relevant Capacity Year, and prevent a GIA generator from receiving more Certified Reserve Capacity than it is likely to be able to provide under those conditions.

In its submission, AEMO noted that:

> *"AEMO understands that the reason behind the proposal to include all GIA Trading Intervals* [in the Rule Change Proposal] *is that the CAE process already accounts for these constraints. However, AEMO has concerns that there could be implications for the CAE process if Appendix 9 is amended as proposed. AEMO has discussed these concerns with the Rule Change Panel Support team. At a high level, the concern is that the Relevant Level calculations are an input to the CAE process. By amending Appendix 9, the CAE process may be impacted. However, AEMO has not been able to validate the potential impact within the compacted fast track timeframes."*

When AEMO and RCP Support discussed this matter at a meeting on 5 June 2020, AEMO advised that it has concerns, but did not provide any specifics about what potential problems might exist, or any evidence to demonstrate the problem. AEMO subsequently advised RCP Support[18] that it was unable to provide a more detailed explanation of its concerns and/or any evidence substantiating its concerns, beyond the details provided at the 5 June 2020 meeting. The Rule Change Panel therefore remains uncertain of the specific nature of AEMO's concerns about the provision of estimates for system normal intervals.

In response to AEMO's comment that it had not had time to validate the potential impact of the Rule Change Proposal on the CAE process, RCP Support asked what AEMO considered it would need to do to validate the potential impacts and how long it would need to undertake the work. AEMO advised that it would require some time to consider this further, but at a minimum would need to consider this in conjunction with Western Power and potentially modelling scenarios may then be required. From AEMO's response, it appears unlikely that such an investigation could be completed, and any recommended remedial action taken, in time for the 2020 Reserve Capacity Cycle.

The Rule Change Panel notes that the 2020 Reserve Capacity Cycle is expected to be the last to use the CAE process, because Capacity Credits are to be assigned under the new NAQ framework from the 2021 Reserve Capacity Cycle onwards.

While the Minister is yet to make any final decisions, ETIU has indicated to RCP Support that under the proposed NAQ framework, a Facility will be assigned a NAQ based on an assessment of how much of its Certified Reserve Capacity can be accommodated by the network at the time of a one-in-ten-year peak demand event. This will be determined through a network capacity modelling tool (**NAQ model**).

ETIU considered that it would make sense for Certified Reserve Capacity values to be based on the unconstrained output of the Facility, as the new process will use the NAQ model to account for the impact of constraints.

Provided that they operate as intended, both the current CAE process and the proposed NAQ process should be sufficient to ensure that Facilities are not assigned more Certified Reserve Capacity than they would be able to deliver given expected system normal conditions. While the Rule Change Panel acknowledges AEMO's concerns, it notes that even if the current CAE process is not fulfilling its intended purpose, withholding estimates for system normal intervals would be an inadequate and inappropriate method of addressing the deficiency. This is because using actual meter readings for system normal intervals:

- would only affect the relatively short period in which a GIA generator had been in full operation (e.g. one year out of the five-year period used for the Relevant Level Methodology), which may not reduce the Certified Reserve Capacity of the Facility by enough to reflect its true capacity value if the CAE process is deficient;
- would discriminate against existing GIA generators in favour of:
  - new GIA generators, whose five-year generation 'history' is based wholly on estimates provided on an unconstrained basis by an independent expert; and
  - new scheduled Facilities, whose Certified Reserve Capacity would not be determined using the Relevant Level Methodology and so would not be affected by the Facility's output during system normal intervals; and

[18] In an email sent to RCP Support on 12 June 2020.

- could underestimate the capacity value of a GIA generator if it was affected by a system normal constraint that was expected to be reduced or removed by the relevant Capacity Year (as discussed in section 5.2.2 of this report).

The Rule Change Panel strongly recommends that AEMO raise with ETIU any concerns it has about the effectiveness of the CAE process in meeting the Wholesale Market Objectives so that the development of the replacement NAQ framework can take these concerns into account and prevent any deficiencies that may exist in the CAE process from continuing under the NAQ framework.[19]

5.3 Additional Changes to the Proposed Amending Rules

The Rule Change Panel has made some additional minor changes to the proposed Amending Rules. A summary of these changes is provided below, and the additional amendments are shown in detail in Appendix B of this report.

The Rule Change Panel has:

- modified proposed step 3(d) of Appendix 9 to more clearly specify that the relevant Operating Instructions are issued in accordance with a Network Control Service Contract;
- modified the wording of proposed step 6A of Appendix 9 to make it more consistent with step 6;
- modified steps 7, 11, 13 and 14 of Appendix 9 to account for the additional estimates produced in proposed step 6A; and
- modified step 10 of Appendix 9 to use the standard time format for the Market Rules.

The Rule Change Panel notes that details of the additional changes were provided to stakeholders in the addendum to the Rule Change Notice published on 4 June 2020. Stakeholders raised no concerns about the additional changes in their submissions on this Rule Change Proposal.

5.4 Wholesale Market Objectives

The Wholesale Market Objectives are:

(a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;

(b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;

(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;

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

(e) to encourage the taking of measures to manage the amount of electricity used and when it is used.

19 The Rule Change Panel notes that clause 4.1.34 requires AEMO to conduct a Constrained Access Certification Review, which includes reviewing the methodology in Appendix 11 and the concepts of Constrained Access Facility and Constrained Access Entitlement. AEMO has delayed this review (originally scheduled for completion by 1 January 2019) until 1 January 2021.

The Rule Change Panel considers that the Market Rules as a whole, if amended as indicated in section 6 of this report, will correct a manifest error in the Market Rules and better achieve Wholesale Market Objectives (a), (b), (c) and (d).

The failure to provide estimates for NCS intervals creates a material risk that AEMO will under-allocate Capacity Credits to GIA generators that are affected by network outages or non-persistent system normal constraints. As a result, the Reserve Capacity Price would not reflect supply and be higher than it should be, incentivising excess investment in Reserve Capacity.

The proposed amendments will promote the economically efficient supply of Reserve Capacity in the South West interconnected system (Wholesale Market Objective (a)) by removing a source of error in the Relevant Level Methodology that would underestimate the capacity value of GIA generators. The provision of more accurate price signals in the Reserve Capacity Mechanism should also, in the long term, work to minimise the long-term cost of electricity (Wholesale Market Objective (d)).

The Rule Change Panel agrees with Alinta that the risk of random and material reductions to a GIA generator's Capacity Credits due to network outages may act as a barrier to entry for new Intermittent Generators. The proposed amendments will promote Wholesale Market Objective (b) by removing the source of this risk.

The Rule Change Panel also considers that failing to provide estimates for NCS intervals would discriminate against existing GIA generators in favour of new Intermittent Generators and (under the proposed NAQ framework) new scheduled Facilities, whose Certified Reserve Capacity would not be affected by prior constraints. The proposed amendments will promote Wholesale Market Objective (c) by removing the cause of this discrimination.

The Rule Change Panel considers that the proposed amendments will not affect and so are consistent with Wholesale Market Objective (e).

5.5 Protected Provisions, Reviewable Decisions and Civil Penalties

The Amending Rules do not affect any Protected Provisions, Reviewable Decisions or civil penalty provisions.

5.6 Practicality and Cost of Implementation

5.6.1 Cost

In its submission, AEMO advised that it can implement the proposed amendments as part of its business-as-usual activities with relatively low effort and minor changes to existing tools. The changes can be implemented without incurring any separate implementation costs.

The Rule Change Panel has not identified any other implementation or ongoing costs.

5.6.2 Practicality

In its submission, AEMO advised that the proposed amendments will require minor changes to AEMO's business processes, which can be implemented almost immediately.

The Rule Change Panel has not identified any issues with the practicality of implementing the proposed changes.

5.6.3 Amendments to Associated Market Procedures

In its submission, AEMO advised that some complementary changes may be required to the Power System Operation Procedure: Dispatch, but did not consider these changes should delay the implementation of the Rule Change Proposal.

6. Amending Rules

The Rule Change Panel has decided to implement the following Amending Rules (~~deleted text~~, added text):

7.7.5A. System Management must develop a Power System Operation Procedure specifying:

(a) information that a Market Participant must provide to System Management, for each of the Market Participant's Non-Scheduled Generators, and for each Trading Interval, for the purposes of:

i. the estimate referred to in clause 7.7.5A(b);

ii. the revised estimate referred to in clause 7.7.5A(c);~~ or~~

iii. step 6 of Appendix 9~~.~~; or

iv. step 6A of Appendix 9;

(b) for the purposes of clause 7.7.5B and the Relevant Level Methodology – one or more methods that may be used to estimate the maximum quantity of sent out energy (in MWh) that a Non-Scheduled Generator would have generated in a Trading Interval had a Dispatch Instruction not been issued for that Facility and for that Trading Interval;

(c) for the purposes of the Relevant Level Methodology only – the process for revising an estimate that was made strictly in accordance with one of the methods that, under clause 7.7.5A(b), must be specified in the Power System Operation Procedure; and

(d) for the purposes of clause 7.13.1C(e) – one or more methods that may be used to estimate the decrease in the output (in MWh) of each of Synergy's Non-Scheduled Generators as a result of an instruction from System Management to deviate from the Dispatch Plan or change their commitment or output in accordance with clause 7.6A.3(a).

…

Appendix 9: Relevant Level Determination

…

Step 3: For each Candidate Facility, identify any Trading Intervals in the period identified in step 1(b) where:

(a) the Facility, other than a Facility in the Balancing Portfolio, was directed to restrict its output under a Dispatch Instruction as provided in a schedule under clause 7.13.1(c); or

(b) the Facility, if in the Balancing Portfolio, was instructed by System Management to deviate from its Dispatch Plan or change its commitment or output as provided in a schedule under clause 7.13.1C(d); or

(c) was affected by a Consequential Outage as notified by System Management to AEMO under clause 7.13.1A~~.~~; or

(d) the Facility was directed to restrict its output under an Operating Instruction issued in accordance with a Network Control Service Contract, as provided in a schedule under clause 7.13.1(cC).

…

Step 6A: For each Candidate Facility and Trading Interval identified in step 3(d) use:

(a) the schedule of Operating Instructions determined by System Management under clause 7.13.1(cC);

(b) the quantity determined for the Facility and Trading Interval in step 2; and

(c) the information recorded by System Management under clause 7.13.1C(a),

to estimate the quantity of energy (in MWh) that would have been sent out by the Facility had it not been subject to an Operating Instruction during the Trading Interval.

Step 7: Determine for each Trading Interval in each 12 month period identified in step 1(b) the Existing Facility Load for Scheduled Generation (in MWh) as:

(Total_Generation + DSP_Reduction + Interruptible_Reduction + Involuntary_Reduction) – CF_Generation

where

Total_Generation is the total sent out generation of all Facilities, as determined from Meter Data Submissions;

DSP_Reduction is the total quantity of Deemed DSM Dispatch for all Demand Side Programmes for that Trading Interval;

Interruptible_Reduction is the total quantity by which all Interruptible Loads reduced their consumption in accordance with the terms of an Ancillary Service Contract, as recorded by System Management under clause 7.13.1C(c);

Involuntary_Reduction is the total quantity of energy not served due to involuntary load shedding (manual and automatic), as recorded by System Management under clause 7.13.1C(b); and

CF_Generation is the total sent out generation of all Candidate Facilities, as determined in step 2 or estimated in steps 4, 5 ~~or 6~~, 6 or 6A as applicable.

…

Step 10: For each New Candidate Facility determine, for each Trading Interval in the period identified in step 1(a) that falls before ~~8:00AM~~ 8:00 AM on the Full Operation Date for the Facility, an estimate of the quantity of energy (in MWh) that would have been sent out by the Facility in the Trading Interval, if it had been in operation with the configuration proposed under clause 4.10.1(dA) in the relevant application for certification of Reserve Capacity. The estimates must reflect the estimates in the expert report provided for the Facility under clause 4.10.3, unless AEMO reasonably considers the estimates in the expert report to be inaccurate.

Step11: For each New Candidate Facility determine, for each Trading Interval in the period identified in step 1(a), the New Facility Load for Scheduled Generation (in MWh) as:

(a) if the Trading Interval falls before 8:00 AM on the Full Operation Date for the Facility:

EFLSG + Actual_CF_Generation – Estimated_CF_Generation

where

EFLSG is the Existing Facility Load for Scheduled Generation for the Trading Interval, determined in step 7 or identified in step 9(a) as applicable;

Actual_CF_Generation is the sent out generation of the New Candidate Facility for the Trading Interval, as identified in step 9(b), determined in step 2 or estimated in steps 4, 5 ~~or 6~~, 6 or 6A as applicable; and

Estimated_CF_Generation is the quantity determined for the New Candidate Facility and the Trading Interval in step 10;

or

(b) the Existing Facility Load for Scheduled Generation for the Trading Interval, otherwise.

…

Step 13: For each Existing Candidate Facility, determine the 60 quantities comprising:

(a) the MWh quantities determined in step 2 or estimated in steps 4, 5 ~~or 6~~, 6 or 6A as applicable for each of the Trading Intervals determined in step 8, multiplied by 2 to convert to units of MW; and

(b) the MWh quantities determined in step 9(b) for each of the Trading Intervals identified in step 9(c), multiplied by 2 to convert to units of MW.

Step 14: For each New Candidate Facility, determine the 60 quantities comprising:

(a) the MWh quantities identified in step 9(b), determined in step 2 or estimated in steps 4, 5 ~~or 6~~, 6 or 6A as applicable for each of the Trading

Intervals identified in step 12 that fall after 8:00 AM on the Full Operation Date for the Facility, multiplied by 2 to convert to units of MW; and

(b) the MWh quantities determined in step 10 for each of the Trading Intervals identified in step 12 that fall before 8:00 AM on the Full Operation Date of the Facility, multiplied by 2 to convert to units of MW.

…

Appendix A. Responses to Submissions Received in the Consultation Period

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
1	AEMO	The proposed amendments go beyond considering just the impact of Network outages on GIA Facilities, albeit the Rule Change Proposal does not explain why.	Alinta advised RCP Support that its rationale for proposing that estimates be provided for all NCS intervals was that it was a simple, low-cost option that could be implemented in time for certification for the 2020 Reserve Capacity Cycle. Please also refer to section 5.2.2 of this report.
2	AEMO	AEMO understands that the reason behind the proposal to include all GIA Trading Intervals is that the CAE process already accounts for these constraints. However, AEMO has concerns that there could be implications for the CAE process if Appendix 9 is amended as proposed. AEMO has discussed these concerns with the Rule Change Panel Support team.	Please refer to section 5.2.3 of this report.
3	AEMO	At a high level, the concern is that the Relevant Level calculations are an input to the CAE process. By amending Appendix 9, the CAE process may be impacted. However, AEMO has not been able to validate the potential impact within the compacted fast track timeframes.	Please refer to section 5.2.3 of this report.
4	AEMO	AEMO is also not aware of the scale of the impact that the proposal is seeking to address. AEMO considers that this information would assist AEMO's own assessment, should the Rule Change Panel have that analysis and be able to share it.	The Rule Change Panel does not have access to such analysis, and does not consider that a detailed analysis of the scale of the impact is warranted given the very low implementation cost for the Rule Change Proposal and the

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
			Rule Change Panel's assessment of the Rule Change Proposal against the Wholesale Market Objectives. The Rule Change Panel also notes that it would be very difficult for any party (except possibly AEMO) to precisely estimate the scale of the impact of not providing estimates for the 2020 Reserve Capacity Cycle and subsequent Reserve Capacity Cycles. This is because the impact depends on several factors, including: • when the existing GIA generators experienced network outage intervals and system normal intervals; • the level to which GIA generators' output was reduced and therefore the effects of not providing estimates on the 12 peak LSG Trading Intervals and the Relevant Levels of each Intermittent Generator; • the Reserve Capacity Requirement; and • the Reserve Capacity Price. Most of this information is unavailable for the 2020 Reserve Capacity Cycle and subsequent Reserve Capacity Cycles.
5	AEMO	If the proposal were restricted to address the manifest error only, and limit estimates to network outage intervals, then there is a risk that more effort will be required in the future. That is, the mechanism through which AEMO proposes to currently identify relevant Trading Intervals depends on the current GIA implementation approach. If that approach changes, the mechanism may no longer work, and an alternative solution will be needed. There	Please refer to section 5.2.2 of this report.

Issue	Submitter	Comment/Issue Raised	Rule Change Panel's Response
		has not been enough time to consider what this solution may require. A lower cost alternative raised by AEMO at the 5 May 2020 MAC meeting, is for the Market Participant to advise AEMO of Trading Intervals where the Facility's output was impacted by a Network outage. AEMO could then assess the Trading Intervals and provide a corresponding estimate. This method would involve some effort for both the Market Participant and AEMO. The process would be similar to the current Consequential Outage process. That is, the Market Participant would need to identify the relevant Trading Intervals which AEMO would then need to validate.	

Appendix B. Further Amendments to the Proposed Amending Rules

The Rule Change Panel has made some changes to the proposed Amending Rules following the consultation period.

These changes are as follows (~~deleted text~~, added text, clauses that are included for context but not amended):

Appendix 9: Relevant Level Determination

…

Proposed step 3(d) has been amended to more clearly specify that the relevant Operating Instructions are issued in accordance with a Network Control Service Contract.

Step 3: For each Candidate Facility, identify any Trading Intervals in the period identified in step 1(b) where:

(a) the Facility, other than a Facility in the Balancing Portfolio, was directed to restrict its output under a Dispatch Instruction as provided in a schedule under clause 7.13.1(c); or

(b) the Facility, if in the Balancing Portfolio, was instructed by System Management to deviate from its Dispatch Plan or change its commitment or output as provided in a schedule under clause 7.13.1C(d); or

(c) was affected by a Consequential Outage as notified by System Management to AEMO under clause 7.13.1A; or

(d) the Facility was directed to restrict its output under an Operating Instruction~~,~~ ~~under clause 5.7.4~~ issued in accordance with a Network Control Service Contract, as provided in a schedule under clause 7.13.1(cC).

…

Step 6: For each Candidate Facility and Trading Interval identified in step 3(c) use:

(a) the schedule of Consequential Outages determined by System Management under clause 7.13.1A;

(b) the quantity determined for the Facility and Trading Interval in step 2; and

(c) the information recorded by System Management under clause 7.13.1C(a),

to estimate the quantity of energy (in MWh) that would have been sent out by the Facility had it not been affected by the notified Consequential Outage during the Trading Interval.

Proposed step 6A has been amended to make it more consistent with step 6.

Step 6A: For each Candidate Facility and Trading Interval identified in step 3(d) use:

(a) the schedule of Operating Instructions determined by System Management under clause 7.13.1(cC);

(b) the quantity determined for the Facility and Trading Interval in step 2; and

(c) the information recorded by System Management under clause 7.13.1C(a),

to estimate the ~~maximum~~ quantity of energy (in MWh) that would have been ~~generated~~ sent out by the Facility had ~~the Operating Instruction issued in accordance with clause 5.7.4 had not been issued in~~ it not been subject to an Operating Instruction during the Trading Interval.

Step 7 has been amended to account for the estimates produced in step 6A.

Step 7: Determine for each Trading Interval in each 12 month period identified in step 1(b) the Existing Facility Load for Scheduled Generation (in MWh) as:

(Total_Generation + DSP_Reduction + Interruptible_Reduction + Involuntary_Reduction) – CF_Generation

where

Total_Generation is the total sent out generation of all Facilities, as determined from Meter Data Submissions;

…

CF_Generation is the total sent out generation of all Candidate Facilities, as determined in step 2 or estimated in steps 4, 5 ~~or 6~~, 6 or 6A as applicable.

…

Step 10 has been amended to use the standard time format for the Market Rules.

Step 10: For each New Candidate Facility determine, for each Trading Interval in the period identified in step 1(a) that falls before ~~8:00AM~~ 8:00 AM on the Full Operation Date for the Facility, an estimate of the quantity of energy (in MWh) that would have been sent out by the Facility in the Trading Interval, if it had been in operation with the configuration proposed under clause 4.10.1(dA) in the relevant application for certification of Reserve Capacity. The estimates must reflect the estimates in the expert report provided for the Facility under clause 4.10.3, unless AEMO reasonably considers the estimates in the expert report to be inaccurate.

Step 11 has been amended to account for the estimates produced in step 6A.

Step11: For each New Candidate Facility determine, for each Trading Interval in the period identified in step 1(a), the New Facility Load for Scheduled Generation (in MWh) as:

(a) if the Trading Interval falls before 8:00 AM on the Full Operation Date for the Facility:

EFLSG + Actual_CF_Generation – Estimated_CF_Generation

where

EFLSG is the Existing Facility Load for Scheduled Generation for the Trading Interval, determined in step 7 or identified in step 9(a) as applicable;

Actual_CF_Generation is the sent out generation of the New Candidate Facility for the Trading Interval, as identified in step 9(b), determined in step 2 or estimated in steps 4, 5~~ or 6~~, 6 or 6A as applicable; and

Estimated_CF_Generation is the quantity determined for the New Candidate Facility and the Trading Interval in step 10;

or

(b) the Existing Facility Load for Scheduled Generation for the Trading Interval, otherwise.

…

Steps 13 and 14 have been amended to account for the estimates produced in step 6A.

Step 13: For each Existing Candidate Facility, determine the 60 quantities comprising:

(a) the MWh quantities determined in step 2 or estimated in steps 4, 5~~ or 6~~, 6 or 6A as applicable for each of the Trading Intervals determined in step 8, multiplied by 2 to convert to units of MW; and

(b) the MWh quantities determined in step 9(b) for each of the Trading Intervals identified in step 9(c), multiplied by 2 to convert to units of MW.

Step 14: For each New Candidate Facility, determine the 60 quantities comprising:

(a) the MWh quantities identified in step 9(b), determined in step 2 or estimated in steps 4, 5~~ or 6~~, 6 or 6A as applicable for each of the Trading Intervals identified in step 12 that fall after 8:00 AM on the Full Operation Date for the Facility, multiplied by 2 to convert to units of MW; and

(b) the MWh quantities determined in step 10 for each of the Trading Intervals identified in step 12 that fall before 8:00 AM on the Full Operation Date of the Facility, multiplied by 2 to convert to units of MW.