

Wholesale Electricity Market Rule Change Proposal Submission

RC_2017_02: Implementation of 30-Minute Balancing Gate Closure

Submitted by:

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Submissions on Rule Change Proposals can be sent by:

Email to: rcp.secretariat@rcpwa.com.au

Post to: Rule Change Panel
Attn: Executive Officer
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PO Box 8469
PERTH BC WA 6849

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

Introduction

Alinta Energy (**Alinta**) welcomes the opportunity to provide a submission to the Rule Change Panel on the *Rule Change Proposal: Implementation of 30-Minute Balancing Gate Closure (RC_2017_02)* which seeks to reduce the length of the Balancing Gate Closure period from two hours to no more than 30 minutes.

Alinta supports the continued evolution of the Wholesale Electricity Market (**WEM**) in a manner consistent with the Wholesale Market Objectives. In particular, Alinta supports amendments to the Market Rules that promote the economic efficiency of the WEM. In this respect, Alinta is highly supportive of the proposal to reduce gate closure.

Reducing the gate closure will increase the ability of generators to take efficient actions in response to changing market circumstances, such as changes in demand, wind generation levels, unplanned plant outages, early return from outages and unplanned transmission outages. We consider the productive efficiency benefits of this additional flexibility will be considerable.

Alinta acknowledges System Management's concern that a 30 minute (or less) gate closure may compromise its ability to plan the system to allow movements to occur, whilst ensuring sufficient Ancillary Services are scheduled and ensuring the Synergy portfolio is positioned to meet the peaks and troughs. However, we note that even in current circumstances there can be late 'bona fide' changes to offers close to real time, and that System Management manages this risk effectively. As such, we consider the security implications of a 30 minute gate closure period should be manageable – noting that, if required, System Management can call a high, or emergency, risk operating state in order to resolve any power system security and/or reliability issues.

If System Management's concerns are unable to be mitigated sufficiently, then Alinta notes that there are a number of options which could be considered by the Rule Change Panel, for example, by IPPs implementing flexible ramp rates via a software change¹, dispatching some facilities ten minutes into the Trading Interval, or consideration of amending the Rule Change Proposal to reduce the length of the Balancing Gate Closure period from two hours to no more than one hour.

Each of these issues, with Alinta's recommendations, is discussed in greater detail below. Alinta welcomes the opportunity to continue to further engage on this submission if required.

Detailed submission

1. Gate closure reduces flexibility to respond but there may be a trade-off

Under the current WEM design IPP's must submit half hourly bids two hours ahead of the relevant Trading Interval. The Market Rules provide Synergy with fewer opportunities to revise its Balancing Portfolio Submissions and these submissions are locked in ahead of IPP gate closure. Participants are not permitted to revise Balancing Submissions for a Trading Interval once Gate Closure has occurred for that Trading Interval except in certain circumstances (for example if a Forced Outage occurs).

The current gate closure times limit the flexibility of generators to take efficient actions in response to changing circumstances. The gate closure times constrain generators (both IPPs and Synergy) from responding dynamically to changing environmental and commercial conditions, meaning that higher cost plant may be dispatched when lower cost plant should be. Gate closure restrictions limit the flexibility of resources to respond to changing circumstances in the two hours leading up to real time.

In the lead up to a Trading Interval, new information about the power system conditions that will prevail becomes available to participants. For example:

- electricity consumption can increase or decline at a faster or slower rate than expected;
- intermittent generation output can change;
- forecasts of the above quantities can change;
- unplanned generation and/or transmission outages can occur; and
- planned generation and/or transmission outages can be cancelled, postponed, extended, or finish earlier than expected.

Some participants are able to physically respond to information that becomes available after the two hour gate closure. Possible physical responses include:

- increasing or decreasing the output of a facility that is currently operating;
- starting a facility that is not currently running, but is nevertheless able to operate;
- reversing a decision to start up a slow-start thermal generating unit;
- returning a facility from a Planned Outage early; and/or
- increasing or reducing electricity consumption.

¹ As discussed with the Rule Change Panel secretariat staff on 24 May 2017.

These responses by participants are efficient, to the extent that they result in an overall reduction in the costs of running the power system.

Under the current Market Rules, the gate closure provisions can prevent participants from taking efficient actions. For instance, if a planned generation outage finishes earlier than expected a participant may not bring it back into service until after the two hours have elapsed. Other capacity, which may have a higher marginal cost, would operate instead.

Reducing the gate closure window will increase the ability of generators to take efficient actions in response to changing market circumstances. We consider the productive efficiency benefits of this additional flexibility will be considerable.

On the other hand, Alinta acknowledges that gate closure helps System Management manage security, including planning the system to allow movements to occur, whilst ensuring sufficient Ancillary Services are scheduled and ensuring the Synergy portfolio is positioned to meet the peaks and troughs. Given the discussion at the Market Advisory Committee meeting, it appears possible to reduce gate closure without significant detrimental effects on those matters.

Therefore, Alinta notes that the design of gate closure timing reflects a trade-off between:

- capturing the benefits of flexibility, by allowing offer revisions to reflect underlying supply conditions in response to changing circumstances; and
- managing system security.

If System Management's concerns regarding the management of system security are unable to be mitigated sufficiently within the proposal as it stands, then Alinta notes that there are a number of options which could be considered by the Rule Change Panel. These are addressed in turn below:

Option 1 - IPP Ramp Rates

Alinta notes that at the Market Advisory Committee meeting 2017-01 System Management advised that if the dispatch systems and Market Rules were changed to allow the linear ramping of IPP facilities then System Management would be able to manage a 30-minute gate closure.

Alinta considers that requiring linear ramping via the Market Rules would be problematic and costly to implement. Alinta notes that this option would cost in the order of \$200k per unit to implement as it requires control system and governor changes. Further, there is the potential that these amendments would only be required for a short period of time as these changes would unlikely be required to support the market reform currently being contemplated by the Minister for Energy (i.e. security constrained five minute dispatch and co-optimised energy and ancillary services markets).

Given this, Alinta would not support the dispatch systems and Market Rules being changed to require the linear ramping of IPP facilities.

However, as discussed with the Rule Change Panel Secretariat on 24 May 2017, Alinta notes that there could be other software changes that could be made outside the governor that could provide a solution to the IPP ramp rate issue and allow facilities to support flexible ramping, in a significantly more cost effective manner. This solution would require further assessment to understand if it is a viable solution.

Option 2 - Staggered Dispatch Instructions

Alinta notes that the Real Time Dispatch Engine currently provides Dispatch Instructions on a ten minute basis. Alinta considers that consideration could be given to dispatching some facilities ten or even twenty minutes into the Trading Interval, in order to alleviate System Management's issues with IPPs being dispatched at their maximum ramp rates at the start of a Trading Interval, and this resulting in combined IPP ramp rates that are sometimes 3-4 times higher than the ramp rate of the Balancing Portfolio. As above, this solution would require further assessment to understand if it is a viable solution.

Option 3 – Reducing gate closure to no more than one hour

If there isn't a cost effective technical solution to resolving System Management's system security concerns, Alinta considers that the Rule Change Panel could, in its Draft Decision, look to amend the Rule Change Proposal to reduce the length of the Balancing Gate Closure period from two hours to no more than one hour. This may provide a balanced solution which addresses the tradeoff between:

- capturing the benefits of flexibility, by allowing offer revisions to reflect underlying supply conditions in response to changing circumstances; and
- managing system security.

This solution also allows a move to a 30 minute (or less) gate closure as time, and circumstances, allow.

Recommendation 1: If System Management's system security concerns are unable to be alleviated, the Rule Change Panel should seek to identify cost efficient solutions that will:

- reduce that regulatory barriers that hinder participants from taking efficient actions to react to changing circumstances in the lead-up to real time; while
- maintaining the existing level of reliability of supply;

Options which could be considered are:

- requiring participants to implementing flexible ramp rates via a software change;
- look to dispatch some IPP facilities ten minutes into the Trading Interval; or
- amending the Rule Change Proposal to reduce the length of the Balancing Gate Closure period from two hours to no more than one hour.

Each of these options should be subject to a cost-benefit analysis to identify the most appropriate solution.

2. Costs and Benefits of reducing gate closure

There are several benefits with reducing gate closure. These are:

- Assisting short term participation and risk management in the physical electricity market;
- Providing more flexibility for participants to respond to changing market conditions resulting from changes to demand or non-scheduled generation forecasts, unexpected generation outages or early return to service and/or fuel supply constraints;
- Enabling greater certainty for participants about their own fuel and plant status when making final submissions;
- Reduced reporting, compliance, and administration costs, i.e. participants submitting revisions to bids between two hours (current gate closure) and the gate closure that is implemented will no longer have an obligation to report their reasons (noting that records will still be kept outlining any reasons for the rebids – as per the current rule requirements).

These benefits will lead to the improvement in overall market efficiency – particularly productive efficiency.

Specific costs associated with reducing gate closure depend on the solution adopted, however these costs could be:

- AEMO (including System Management) system, staff and procedure costs;
- Participant's IT system, staff and procedure costs, as well as any software changes to

implement flexible ramping (if required).

Alinta will be in a better position to quantify any costs it expects to incur once the Rule Change Panel releases its draft decision.

3. Treatment of the Synergy Balancing Portfolio

Under the current WEM design Synergy continues to be subject to differential treatment in a number of circumstances. Currently Synergy is able to bid as a portfolio in the energy markets; cognisant of this the Market Rules provide Synergy with fewer opportunities to revise its Balancing Portfolio Submissions and these submissions are locked in ahead of IPP gate closure.

Synergy can only make Balancing Submissions and LFAS Submissions for the Synergy Portfolio during five fixed periods each day. These timelines can lead to inefficient market outcomes. Alinta understands that the current arrangements were originally needed to facilitate a smooth transition to the new market arrangements without risking system security and reliability, and to address concerns around market power.

It is Alinta's preference that Synergy be required to make submissions for each of its facilities so that it is dispatched on the same basis as other participants' facilities (including the form of submissions, gate closure, surveillance etc.) as soon as practicable.

Noting this, it is not in the market's interest for Synergy to base its bids on potentially highly inaccurate information, or for its gate closure restrictions to adversely affect other market outcomes. Alinta considers that there will be benefits with replacing the 6-hour block-based gate closure for the LFAS Market with a rolling gate closure and changing Balancing Market gate closure for the Balancing Portfolio to a rolling gate closure, provided that the cost/implementation of these amendments don't present an impediment to, or delay of, a move to full facility bidding.

If the Balancing Market gate closure for the Balancing Portfolio was moved to a rolling gate closure it is still important that IPPs are able to update their Balancing and LFAS Submissions having seen the final position for the Synergy Portfolio, therefore the gate closure times selected will need to allow for this.

Recommendation 2: Consideration should be given to replacing the 6-hour block-based gate closure for the LFAS Market with a rolling gate closure and changing Balancing Market gate closure for the Balancing Portfolio to a rolling gate closure.

This should be subject to a cost-benefit analysis, and the solution selected should not present an impediment to, or delay of, a move to full facility bidding.

4. Other amendments

Alinta notes that the Market Rules would benefit from further amendments, including allowing (but not requiring) Market Generators to update their wind forecasts after gate closure.

Recommendation 3: Consideration should be given to amending the Market Rules to allow (but not require) Market Generators to update their wind forecasts after gate closure.

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

The current gate closure times limit the flexibility of generators to take efficient actions in response to changing circumstances. The gate closure times constrain generators from responding dynamically to changing environmental and commercial conditions, meaning that higher cost plant may be dispatched when lower cost plant should be. Allowing Market Participants to base submissions on more up to date information is expected to better promote the economic efficiency of the physical

markets (Wholesale Market Objective (a)).

- 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.**

Alinta will be in a better position to quantify any costs it expects to incur once the Rule Change Panel releases its draft decision.

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

If the Rule Change Proposal is accepted as proposed by Perth Energy, Alinta would be able to implement the change with limited lead time. However, if Alinta is required to make software changes to allow for greater flexibility in ramping, Alinta would need sufficient time to implement this solution. Alinta will be in a better position to identify the time required before implementation once the Rule Change Panel releases its draft decision.
