RCP Rule Change Panel

Call for Further Submissions: Reduction of the prudential exposure in the Reserve Capacity Mechanism (RC_2017_06)

Standard Rule Change Process

10 April 2018

1. Rule Change Process and Timeline

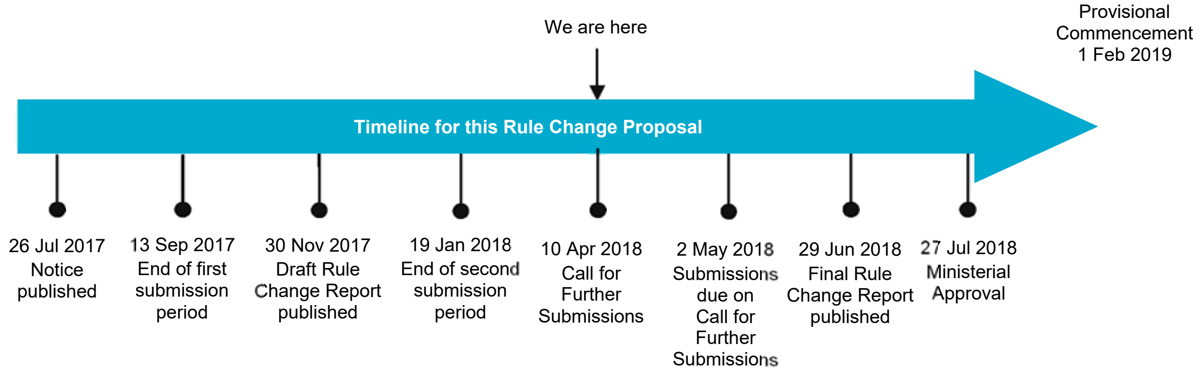
On 17 July 2017, the Australian Energy Market Operator (**AEMO**) submitted a Rule Change Proposal to the Rule Change Panel (**Panel**) titled "Reduction of the prudential exposure in the Reserve Capacity Mechanism" (RC_2017_06).

This proposal is being processed using the Standard Rule Change Process described in section 2.7 of the Wholesale Electricity Market Rules (**Market Rules**).

On 28 February 2018, the Panel extended the publication date for the Final Rule Change Report to 29 June 2018. The reason for this extension was that AEMO provided the Panel with revised estimates of the time and cost to implement the Amending Rules, which were materially different from those previously provided and reported in the Draft Rule Change Report. [1] As a consequence, the Panel determined that it required additional time to consider the implications of the revised estimates on its final decision, and that additional consultation with stakeholders may be appropriate.

Full details relating to RC_2017_06 are available on the Panel's website at https://www.erawa.com.au/rule-change-panel/market-rule-changes/rule-change-rc_2017_06.

The key dates for progressing this Rule Change Proposal, as amended in the most recent extension notice, and including this call for further submissions, are:[2]



2. Call for Further Submissions

The Panel has conducted a more detailed cost-benefit analysis of RC_2017_06 following receipt of AEMO's updated estimates of time and cost to implement the Rule Change Proposal. Based on conservative assumptions, the Panel has estimated that RC_2017_06 has a payback period of less than 4 years (see section 3). The Panel invites submissions from interested stakeholders on the following questions:

(1) What impact do AEMO's updated cost estimate and this cost-benefit analysis have on your views of RC_2017_06?

(2) Do you agree with the Panel's approach to the cost-benefit analysis of RC_2017_06? If not, please provide reasons and propose an alternative approach.

(3) What are your per dollar costs of providing Credit Support?[3]

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1 The proposed Amending Rules are available in the Draft Rule Change Report, which is available on the Panel's website.

2 The current provisional commencement date is based on the timing from the Draft Rule Change Report and does not reflect AEMO's current estimate of the time it will require to implement RC_2017_06.

3 This will be kept confidential and will be used to verify the Panel's assumptions on the cost of providing Credit Support.

(4) Given the nature of AEMO's investment in systems and your costs to implement RC_2017_06:

(a) What do you consider to be a reasonable payback period?

(b) What do you consider to be an appropriate discount rate for use in this cost-benefit analysis?

The further submission period is 15 Business Days from the publication of this notice. Submissions must be delivered to the Panel by **5:00 PM on Wednesday 2 May 2018**.

The Panel prefers to receive submissions by email, using the submission form available at https://www.erawa.com.au/rule-change-panel/make-a-rule-change-submission sent to rcp.secretariat@rcpwa.com.au.

Submissions may also be sent to the Panel by post, addressed to:

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

3. Cost-Benefit Analysis of RC_2017_06

3.1 Background

AEMO has identified that the current prudential regime does not fully account for the Individual Reserve Capacity Requirement (**IRCR**) related prudential exposure of Market Customers. This means that AEMO likely holds insufficient Credit Support from Market Customers to cover all prospective amounts that could be owed to AEMO in the event of a Market Customer default under section 9.23 of the Market Rules.

AEMO developed RC_2017_06 to reduce the actual level of unaccounted for prudential exposure, which would mitigate the need for Market Customers to provide increased Credit Support to cover such exposure. However, AEMO has determined that the cost to implement RC_2017_06 will be about $2.7 million, which is significantly higher than was specified during consultation on the Draft Rule Change Report.

The Panel and AEMO have explored several options for changes to the Amending Rules, as proposed in the Draft Rule Change Report for RC_2017_06, to reduce the implementation costs. However, AEMO has advised that none of the changes considered would lead to significant cost savings.

Therefore, the Panel has undertaken the cost-benefit analysis outlined herein to inform its decision on RC_2017_06. The analysis is based on the Amending Rules presented in the Draft Rule Change Report.

3.2 Scenarios

The Panel considered a Status Quo Scenario where it rejects RC_2017_06. The Status Quo Scenario would save the market the costs to implement RC_2017_06, but the currently unaccounted for prudential exposure would remain. The Panel does not support the Status Quo Scenario because:

- the Status Quo Scenario is inconsistent with the Wholesale Market Objectives;
- no Market Participants have supported the Status Quo Scenario;

- the design of the Market Rules clearly indicates an intent for all Market Participants to cover their prudential exposure, and the Status Quo Scenario does not achieve this intent because:
    - some Market Customers are not required to provide sufficient Credit Support to cover their own prudential exposure, leaving the associated credit risk to be carried by the market; while
    - all other Market Participants are required to provide sufficient Credit Support to cover their own prudential exposure; and
- the status quo results in a cross-subsidy to some Market Customers for which there is no logical justification.

The Panel has therefore considered two scenarios in its cost-benefit analysis:

RC_2017_06 Scenario:

- The Panel approves RC_2017_06 as proposed in the Draft Rule Change Report.
- AEMO develops and implements systems changes to implement RC_2017_06.
- The currently unaccounted for prudential exposure is removed and will therefore not need to be covered by increased Credit Support.

Alternative Scenario:

- The Panel approves RC_2017_06 in a modified form:
    - the Panel, in consultation with AEMO and other stakeholders, develops another, simpler set of Amending Rules;[4] and
    - the alternative Amending Rules would allow AEMO to amend the Credit Limit and Outstanding Amount calculations to cover the presently unaccounted for prudential exposure with Credit Support.
- AEMO develops and implements systems changes to implement the alternative Amending Rules.
- The presently unaccounted for prudential exposure is covered by Credit Support.

3.3 Assumptions

Table 1 sets out the Panel's assumptions for the costs and benefits of the changes to the Market Rules under the RC_2017_06 and Alternative Scenarios.

4 If this option is selected, the Panel will conduct a full consultation process on the alternative Amending Rules prior to approving RC_2017_06 in an amended form.

Table 1 – Assumptions for the Cost-Benefit Analysis		
	Alternative Scenario	**RC_2017_06 Scenario**
Costs	• An alternative proposal has not been fully scoped and would need to be developed. • AEMO has estimated its minimum costs to develop and implement the required rule changes, procedure changes, and system changes of [redacted].[5] • The Panel would incur additional costs to develop and process the rule change. • Market Customers may incur costs for system changes.	• AEMO has estimated it will cost up to $2.7 million to update its systems.[6] • Some Market Customers have indicated that they will incur costs for systems changes to implement RC_2017_06, although no Market Participant has provided specific estimates, and none have indicated that these costs would be sufficiently material that they would object to the proposal. • Some Market Customers may need to amend their Power Purchase Agreements (**PPAs**) because of RC_2017_06 and would incur costs to do so.
Benefits	• The currently unaccounted for prudential exposure is covered by Credit Support.	• It is estimated that the maximum IRCR-related prudential exposure that will need to be covered by Credit Support will be about $69 million lower under the RC_2017_06 Scenario than under the Alternative Scenario.[7] • The calculation methodology for this estimate is explained in Appendix A.

5 AEMO provided an estimate of its costs to develop and implement the Alternative Scenario based on assumptions about the time it would take to develop the necessary changes to the Market Rules and procedures, and to develop and implement the system changes, using a team of internal and external resources. AEMO provided a conservative estimate of its minimum costs for the Alternative Scenario because the details of the scenario have not been fully developed. AEMO has therefore requested that this cost estimate be kept confidential.

6 AEMO's estimated cost for the RC_2017_06 Scenario of $2.7 million is based on a robust estimation process, including tender submissions, and incorporates a contingency. This is therefore a reliable and conservative estimate.

7 That is, by implementing RC_2017_06, Market Customers will not need to provide AEMO with Credit Support to cover $69 million of prudential exposure that would need to be accounted for in the Alternative Scenario.

As indicated in the Draft Rule Change Report, AEMO's original estimate was that $150 million to $190 million of Credit Support would be needed to cover the unaccounted for prudential exposure. However, this estimate did not fully take into account the ability of Market Customers with Capacity Credits to use their Capacity Credits to offset their IRCR liabilities. Therefore the estimate in the Draft Rule Change Report represents an upper bound on the unaccounted for prudential exposure.

For the current cost-benefit analysis, the Panel has decided to recognise some income from Capacity Credits in the estimate of the unaccounted for prudential exposure. It is uncertain how the prudential regime would actually be amended in the Alternative Scenario, so it is not clear what the actual difference in Credit Support would be between the two scenarios. The approach used for this cost-benefit analysis, as outlined in Appendix A, ensures a conservative assessment of the payback period for RC_2017_06.

Table 1 – Assumptions for the Cost-Benefit Analysis		
	Alternative Scenario	**RC_2017_06 Scenario**
Development time	• Uncertain. • An alternative proposal to RC_2017_06 has not been fully scoped. The time it would take to develop, approve, and implement an alternative proposal may extend the period that the market is exposed to the unaccounted for prudential amount.	• AEMO has estimated it will take 11 months to implement RC_2017_06 from the point that the Minister approves the proposal. • Some Market Customers may need to amend their PPAs because of RC_2017_06, although only Synergy has provided a specific timeline, suggesting that it and other Market Participants would require up to 12 months from the Minister's approval of the Amending Rules to make any necessary changes to their PPAs.
Qualitative Benefits	• None identified.	• Removing the time lag for the responsible party reference month will remove the risks that are borne by Market Customers because they continue to incur IRCR liabilities for a load for three months after losing that load. • Determining the 12 Peak SWIS Trading Intervals at one fixed point in time instead of every month will remove the risk that the 12 Peak SWIS Trading Intervals will change during a Capacity Year, which represents a risk for Market Customers in the form of uncertainty.
Qualitative Costs	• None identified.	• None identified.

3.4 Methodology

The Panel has modelled the discounted payback period for the investment to implement RC_2017_06 to provide the Panel and Market Participants with information to assess the costs and benefits of the proposal. Discounted payback period was selected as the metric to present to Market Participants because some of the cost information used in the analysis is confidential.

The formula for the discounted payback period is:[8]

$$DPP=\ln\left(\frac{1}{1-\frac{TCI \times r}{UPE \times CCS}}\right) \div \ln(1+r)$$

Where:

DPP	=	discounted payback period;
ln	=	natural logarithm;
TCI	=	total cost to implement RC_2017_06;
UPE	=	unaccounted for prudential exposure;
CCS	=	cost of additional credit support; and
r	=	discount rate.

Table 2 indicates how the assumptions from section 3.3 have been applied to the payback period calculation.

Table 2 – Cost-Benefit Methodology	
Variable	**Source**
Total cost to implement RC_2017_06 (TCI)	The TCI for the cost-benefit analysis = [redacted]. This is calculated as the cost of the RC_2016_07 Scenario ($2.7 million) less the cost of the Alternative Scenario ([redacted]), as indicated in Table 1.
Unaccounted for prudential exposure (UPE)	The unaccounted for prudential exposure is estimated at $69 million. This is the estimated difference in prudential exposure between the RC_2017_06 vs Alternative Scenarios. See Appendix A for information on how this was determined.
Cost of additional credit support (CCS)	The cost of Credit Support is estimated at [redacted]. The Panel estimated the cost of Credit Support as a weighted cost of Credit Support for the various Market Customers. The weights used in calculating the cost of Credit Support were based on the Market Customers' share of the unaccounted for prudential exposure. Synergy has provided the Panel with information on its costs for providing Credit Support.[9]

8 The formula for the discounted payback period was sourced from http://financeformulas.net/Discounted-Payback-Period.html.

9 Synergy's cost of Credit Support is confidential, and so the Panel's assumptions on the cost of Credit Support have been redacted from this report.

Table 2 – Cost-Benefit Methodology	
Variable	**Source**
	The Panel has made some highly conservative assumptions on the cost for Credit Support for the other Market Customers based on publicly available information.[10] The Panel would like information from Market Customers on their per dollar costs for providing Credit Support so that it can verify the cost-benefit analysis in this report. This information will be kept strictly confidential.
Discount rate (r)	The discount rate is estimated at [redacted].[11] This Panel has assumed a conservative discount rate based on publicly available information. The Panel would like the views of Market Participants on the appropriate discount rate that should be used in this cost-benefit analysis, given the nature of AEMO's investment in systems and Market Participants' costs to implement RC_2017_06.

3.5 Results

The Panel estimates the payback period for implementing RC_2017_06 to be less than 4 years, at an [redacted] discount rate.

The Panel has conducted a sensitivity analysis on the payback period, and as would be expected, found that the payback period:

- increases as the total cost of implementation (TCI) increases;[12]
- reduces as the cost of Credit Support (CCS) increases; and
- increases as the discount rate (r) increases.

10 The Panel assumed the other Market Customers provide Credit Support through Security Deposits and bank guarantees.

The appropriate cost of providing Credit Support via Security Deposits is a risk adjusted opportunity cost that recognises that the Market Customers will forgo other investment opportunities in providing the Credit Support. The cost of providing the Credit Support for these Market Customers is therefore calculated as:

$R_d = R_f + DRP$

Where

R_d = the cost of debt;

R_f = the risk-free cost of debt, which is assumed to be the Government Bank Bill Rate (currently 1.7% for April 2018, as published by AEMO); and

DRP = the Market Customer's debt-risk premium.

However, AEMO pays interest to Market Customers that provide Security Deposits, at the Government Bank Bill Rate. Therefore, the cost of Credit Support for Market Customers that provide Security Deposits is equivalent to DRP.

The Panel has made some highly conservative assumptions on the DRP for Market Customers based on publicly available information. However, the Panel would like information from Market Customers on their per dollar costs for providing Credit Support so that it can verity the cost-benefit analysis in this report.

11 The discount rate has been redacted from this report so that the confidential cost information in this report cannot be back-calculated.

12 The relationship between the cost of implementing RC_2017_06 and the payback period is not linear, and becomes more sensitive (i.e. the payback period changes by a larger amount) as the cost to implement RC_2017_06 increases.

Appendix A Calculation of the Prudential Exposure Removed by RC_2017_06

The Panel has estimated the unaccounted for IRCR-related prudential exposure that will be removed under the RC_2017_06 Scenario to be the difference between:

- the IRCR-related exposure under the RC_2017_06 Scenario; and
- the IRCR-related exposure under the Alternative Scenario.

This estimate is based on data available to the Panel about individual Market Participants' Capacity Credits, IRCRs, and bilateral allocations of Capacity Credits for the 2017 Reserve Capacity Year.

The Panel has made the following assumptions to calculate the difference in IRCR-related exposure between the RC_2017_06 and the Alternative Scenarios:

- For days in the past, for which the Capacity Credit Allocation window has already closed:
  - the IRCR-related exposure will be the same under the RC_2017_06 and Alternative Scenarios.
- For days in the past, for which the Capacity Credit Allocation window has not yet closed:[13]
  - under the RC_2017_06 Scenario, bilateral allocations of Capacity Credits are locked in (by Capacity Credit Allocation Submissions and Capacity Credit Allocation Acceptances) at a historic level (based on each Market Participant's average bilateral allocations in the 2017 Reserve Capacity Year);
  - under the Alternative Scenario:
    - bilateral allocations of Capacity Credits between different Market Participants are not taken into account; and
    - Market Customers that hold Capacity Credits (e.g. gentailers) are taken to sell all their Capacity Credits to AEMO (creating revenue that is accounted for); and
  - payments for DSM Capacity Credits are taken into account under both scenarios.
- For days in the future (following the suspension of the Market Participant):
  - under the RC_2017_06 Scenario, there is no IRCR-related exposure; and
  - under the Alternative Scenario:
    - Market Customers incur an IRCR-related exposure for three months into the future;
    - future revenue from Capacity Credits for gentailers is taken into account to offset their future IRCR-related exposure;[14] and
    - potential revenue from DSM Capacity Credits is not accounted for, because the Market Customer would likely lose the Associated Loads of its Demand Side Programmes in the case of a suspension event, and would therefore also lose its DSM Capacity Credits.

[13] This period can be a maximum of 46 days under the current Settlement Timeline.

[14] This approach is chosen because AEMO can direct Market Generators that have been suspended to fulfil their Reserve Capacity Obligations. To account for the uncertainty of these revenues due to possible refunds and reductions of Capacity Credits, the Panel has discounted the Capacity Credits of each Market Generator by excluding the Capacity Credits of its biggest unit.