CREDIT LIMIT PROCEDURES

SUMMARY OF CHANGES

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AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

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1 PURPOSE

This document is provided by AEMO as part of the consultation for Version 2 of the Credit Limit Procedures. The purpose is to summarise the background of the proposed changes and provide supporting information.

2 BACKGROUND

The new prudential standard in the National Electricity Rules took effect on 1 November 2012 and the first maximum credit limit (MCL) review in accordance with the new credit limit procedures (CLP) was made effective on 28 November 2013.

As a result of the introduction of the Clean Energy Act 2011 (CEA), the current calculation of price (P_R) in the CLP includes an adjustment for carbon price. This adjustment increases the historical regional reference prices (RRP) by $20/MWh for each trading interval prior to 1 July 2012.

The Australian Government intends to repeal the CEA. The current expectation is that the Senate will vote on the proposed repeal legislation after 1 July 2014, but with retrospective effect to that date. At that time, the CLP must take into account the removal of the carbon price as this is a step change which the CLP calculation cannot adequately address in an appropriate timeframe.

Additionally, AEMO has reviewed the MCL determination for participants included in section 10.2 of the CLP which include:

- New market generators and small generation aggregators (SGA) not yet generating.
- Existing market participants that are inactive and planning to deregister.

Version 2 of the CLP has been edited to:

- Remove the impact of the carbon price on historical prices used in CLP calculations when the CEA repeal is effective.
- Revise the MCL for new and exiting participants.
- Implement minor amendments.

3 SUMMARY OF CHANGES

3.1 Repeal of the Carbon Price

The life of the National Electricity Market (NEM) regional model used in the CLP is designed to trend the historical prices since the start of the NEM and estimate future seasonal prices using an exponential weighted moving average process. This model is not able to cater for quantifiable, material step changes such as that presented by the introduction and repeal of CEA legislation.

Historical RRP adjustments

The historical RRPs used in the current CLP calculation are adjusted by increasing each trading interval price prior to 1 July 2012 by $20/MWh. This adjustment was included to take account of the step change in prices introduced by the CEA and will require removal once the CEA has been repealed.

Historical RRPs since 1 July 2012 have included direct carbon price impacts as a result of the introduction of the CEA. AEMO's most recent assessment of the carbon price component in historical RRPs is approximately $21/MWh in the mainland regions of the NEM, and $12/MWh in Tasmania[1]. This estimate is based on the known carbon price and the published emission factors for marginal generators in AEMO's historical dispatch.

To avoid a material distortion of the regional volatility factor (VF) percentiles, prices (P_R), and VFs used in the CLP calculation, it is necessary to remove the direct impact of the carbon price in the historical RRPs.

AEMO proposes to amend the CLP to allow for:

- Removal of the current carbon price adjustment ($20/MWh) from the RRPs in all trading intervals prior to 1 July 2012.
- A reduction in the RRPs for each trading interval from 1 July 2012 until 30 June 2014 (or a later date from which AEMO determines the direct carbon price impact is effectively removed from the RRP) by:
  - $21/MWh in the mainland regions of the NEM[2].
  - $12/MWh in Tasmania.

AEMO considers that the approach used in calculating this reduction for the specific purpose of adjusting historical RRPs is consistent with the carbon price adjustment of $20/MWh applied prior to 1 July 2012. Note this approach is not deterministic and provides an indicative reduction only.

Following adjustment of the historical RRPs, the VF percentiles will be re-calculated for each region to meet the 2% prudential standard over the life of the NEM. The P_R and VFs for each region will then be calculated using the new VF percentiles and historical prices.

The new VF percentiles will be used in calculations for all future seasons until the calculation factors are reviewed according to the CLP review process.

The size of the proposed historical RRP adjustment from 1 July 2012 is an assessment of the historic carbon impact of the marginal generator. The marginal generator was the generator that, in a given historic dispatch period, supplied the last MW of energy within the pricing and scheduling process. It was the accepted offer price of this generator that determined the historical spot market price. This historical RRP adjustment is not intended to be a projection of how prices may actually change in the future as a result of the repeal of the CEA.

[1] These values may change if AEMO calculates a different estimate of the direct impact of the carbon price from 1 July 2012 prior to the final determination of the CLP.

[2] Prices change over time due to a range of factors including: (1) the direct impact of changes in the fuel, operating, maintenance, and emissions costs of the marginal generator; (2) the indirect impact of changes in these costs on the merit order of generation that is dispatched to supply electricity to the market; (3) factors such as transmission losses, power system constraints, and significant asset outages; and (4) other factors such as changing features in bilateral contracts, water storage levels of hydro-power generators, and the bidding practices of market participants.

Impact

The general impact of the adjustment to RRPs will be a reduction in prices and an increase in the volatility factors used in determining credit support requirements. Analysis performed to 30 November 2013 results in the following percentiles (assuming the initial MCL review with historical RRP adjustments is conducted in 2014 shoulder 2 season) compared to the current values:

Table 3-1 — Estimated VF Percentiles for 2014 shoulder 2 season

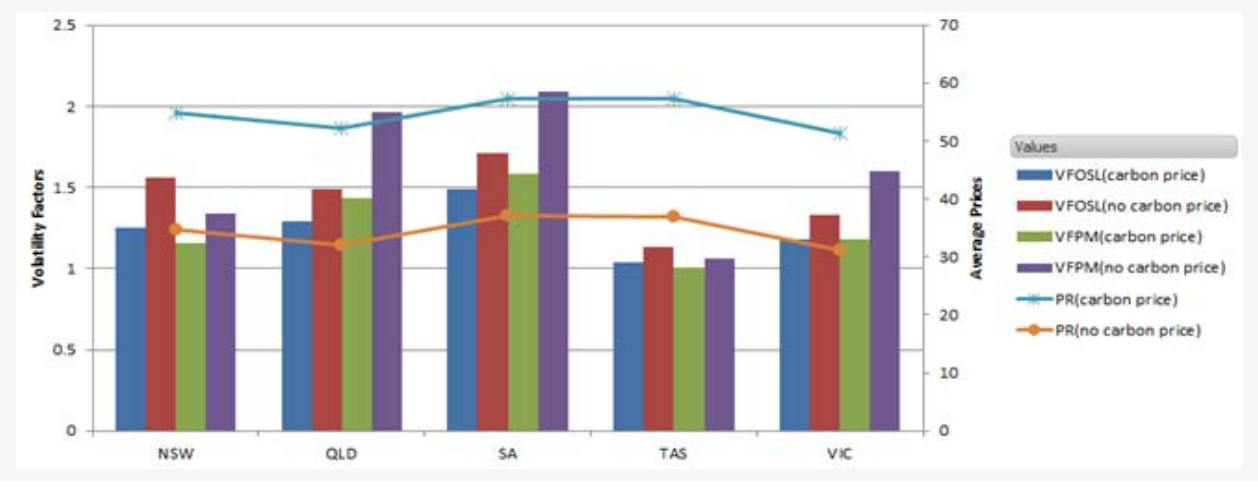
	NSW	QLD	SA	TAS	VIC
Current	84.7%	91.7%	95.8%	64.2%	91.6%
New	89.8%	95.2%	97%	72.3%	94.7%

The regional volatility factors and prices for 2014 shoulder 2 season have been estimated using the new VF percentiles. The volatility factors multiplied by prices are illustrated below with a comparison to the current values:

Table 3-2 — Estimated VFs multiplied by prices for 2014 shoulder 2 season

	NSW		QLD		SA		TAS		VIC	
	$VFOSL_R \times P_R$	$VFPM_R \times P_R$	$VFOSL_R \times P_R$	$VFPM_R \times P_R$	$VFOSL_R \times P_R$	$VFPM_R \times P_R$	$VFOSL_R \times P_R$	$VFPM_R \times P_R$	$VFOSL_R \times P_R$	$VFPM_R \times P_R$
Current	68.65	63.71	67.45	74.77	85.5	90.66	59.50	57.78	60.48	60.48
New	53.63	46.36	47.82	62.48	63.59	77.27	42.7	42.32	41.23	49.6

The changes in the life of NEM trended regional volatility factors and prices used for determination of credit support requirements for 2014 shoulder 2 season are illustrated below:



The life of NEM regional model indicates that adjustments to historical prices will reduce the price used in determining credit support requirements by approximately 25% to 40%, and reduce the MCL levels by approximately 10% to 35% in all regions for all seasons in the life of NEM.

Implementation Triggers

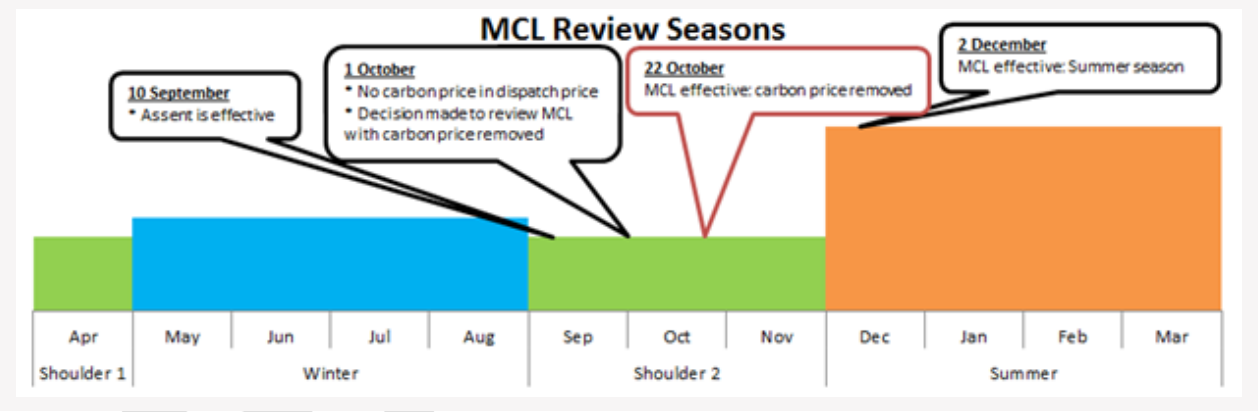
An MCL review that includes adjustments to remove the direct impact of the carbon price from historical RRPs will be conducted as near as practical to the date on which repeal of the CEA is in effect.

AEMO proposes to implement and make effective the initial MCL review with the carbon price removed when the following conditions are met:

1) Assent of carbon price repeal legislation has occurred.
2) Wholesale NEM dispatch prices across NEM regions evidence a change consistent with removal of the carbon price[3].
3) If there is a scheduled review effective within four weeks of the effective date of the initial review with the carbon price removed then the initial review will be that scheduled review. Otherwise a mid-season special review to remove the carbon price will be conducted. (The scheduled review calendar can be found at **http://www.aemo.com.au/Electricity/Settlements/Prudentials/NEM-Regional-Volatility-and-Price.**)
4) At least three weeks of carbon price-exempt prices are included in participant liabilities. This is required to mitigate the risk of holding insufficient credit support.

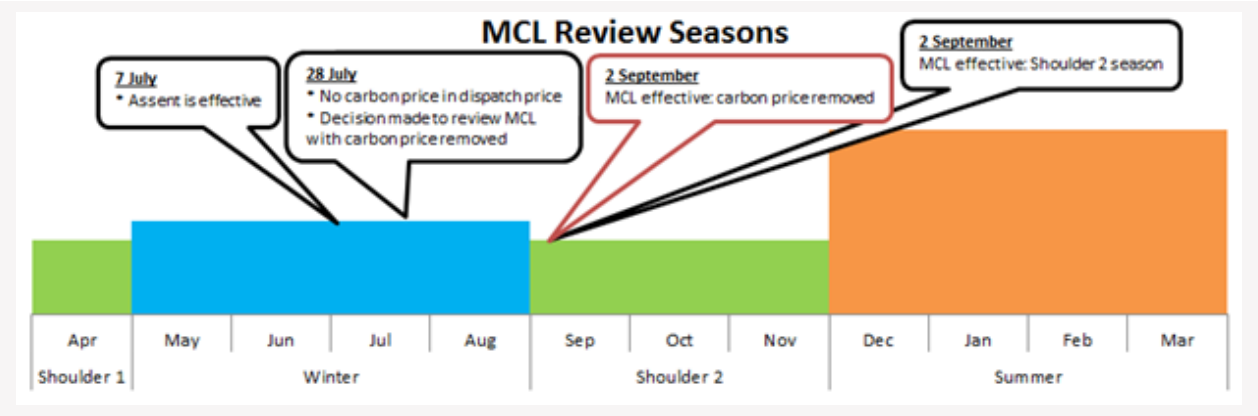
The following graphs illustrate the timelines in different scenarios:

- On 10 September, condition 1 is met and a report evidencing that condition 2 has been met is published by 1 October. The next scheduled review (summer review effective on 2 December) is not within the next four weeks. Therefore, the initial MCL review with the carbon price removed is effective six weeks after 10 September (22 October):



- On 7 July, condition 1 is met and a report evidencing that condition 2 has been met is published by 28 July. The next scheduled review (shoulder 2 review effective on 2 September) is within the next four weeks. Therefore, the initial MCL review with the carbon price removed is the shoulder 2 scheduled review:

[3] This will be based on a market assessment published by AEMO.



These timelines reflect AEMO's view that implementing historical price adjustments, and determining the new VF percentiles, VFs, and prices before issuing the new MCL letters is a three-week process.

Retrospective removal of the carbon price will not impact retrospective MCL levels.

3.2 MCL for New Entrants

AEMO has reviewed the methodology used to establish MCLs for new market participants and existing inactive market participants who are planning to deregister. In order to better align this methodology with the standard MCL calculation, the following changes will be made to the MCL assessment for these participants:

- New market generator and SGA – not yet generating:

  The OSL is $2,000 for each MW rounded up to the nearest 1 MW.

  The PM is $500 for each MW rounded up to the nearest 1 MW.

  The following assumptions have been used in this determination:

  – OSL assumes 2% house load, 24 hours per day for 35 days with a $VFOSL_R \times P_R$ of $75/MWh based on each 1 MW of generating capacity rounded up to the nearest 1 MW.

  – PM assumes 2% house load, 24 hours per day for 7 days with a $VFPM_R \times P_R$ of $90/MWh based on each 1 MW of generating capacity rounded up to the nearest 1 MW.

  The $VFOSL_R \times P_R$ and $VFOSL_R \times P_R$ in the assumptions above are the average of the volatility factors multiplied by average prices for all regions in all seasons in 2014.

  To simplify the management of prudential requirements, rounding is applied as below:

  – VFOSLR × PR and VFOSLR × PR are rounded up to the nearest $5.

  – VFOSLR × PR × 24 hours × 35 days × 2% is rounded up to the nearest $1000.

  – VFPMR × PR × 24 hours × 7 days × 2% is rounded up to the nearest $500.

- New market customer – planning to acquire customers:

  AEMO will conduct a MCL review based on the estimated consumption provided by the participant. When a participant cannot provide any data on their expected load, a default OSL of $80,000 and PM of $20,000 may be applied.

- Existing market participant – inactive:

  For an existing inactive market participant with a zero load and planning to deregister, AEMO may determine both OSL and PM to be zero when a minimum six months of inactive trading pattern is evidenced.

3.3 Minor Amendments

Naming of PRAF

A parameter in the MCL calculation is abbreviated as PRAF. The name of this parameter is currently spelled out as “Participant Risk Adjustment Factor” and “Participant Regional Adjustment Factor” in different sections in the CLP. To maintain naming consistency, PRAF is now spelled out as “Participant Risk Adjustment Factor” which more appropriately describes the meaning of the parameter.

Typing Errors and Minor Editorials

A number of minor editorial or style changes have been made throughout the document and typographical errors corrected. These are marked up in the CLP and none of them changes the substance of the procedures.