Operation of the administered price provisions in the National Electricity Market

July 2019

Briefing paper

Important notice

PURPOSE

AEMO has prepared this document to provide information about operation of the administered price provisions in the National Electricity Market, as at the date of publication.

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VERSION CONTROL

Release date	Changes
24/05/2019	• Updated to new template • Updated with the FY 2019/20 CPT amount

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1. Introduction

The administered price provisions of the National Electricity Rules form an important component of the market safety net which operates to protect and sustain electricity trading during periods of sustained high prices. If market prices in a region rise to levels which are likely to cause substantial financial stress, then those prices are capped until they return to lower levels. This paper describes the operation of such administered price periods.

2. Trigger for administered price period

Administered price conditions are independently assessed for each region and each market of the National Electricity Market (NEM). An administered price period (APP) is triggered for each of the following periods in a region:

- A trading interval, where the sum of the spot prices for the previous 336 trading intervals (equivalent to seven days) [1] reaches the cumulative price threshold (CPT).
- A dispatch interval, where the sum of the ancillary service prices for a market ancillary service in the previous 2,016 dispatch intervals (equivalent to seven days) [2] exceeds six times the CPT.

The CPT is calculated according to the formula defined by clause 3.14.1(e)-(f) of the National Electricity Rules (NER), and published on the Australian Energy Market Commission (AEMC) website[3]. It is reviewed annually and applies from 1 July each year.

The CPT for the 2019-20 financial year is $221,100, which is equivalent to an average spot price of $658.04/MWh over the previous seven days. A period of 7.5 hours at the Market Price Cap (MPC) is typically sufficient to breach the CPT and trigger an APP.

[1] If any of the spot prices were subject to APP in the last seven days, use the prices calculated as if APP did not apply.

[2] If any of the ancillary service prices were subject to APP in the last seven days, use the prices calculated as if APP did not apply.

[3] http://www.aemc.gov.au/

3. Operation during an administered price period in a region

The application and operation of an APP is specified by the AEMC at:

http://www.aemc.gov.au/Rule-Changes/Application-and-operation-of-Administered-Price-Pe

If an APP is triggered in relation to energy, price capping and flooring is applied to the dispatch price (i.e. energy and all market ancillary service prices) in the region. If an APP is triggered in relation to a market ancillary service, price capping is applied to all market ancillary services in the region.

When an APP is triggered, AEMO publishes a market notice to advise the start of an APP from the beginning of the trading interval immediately after that in which the CPT was exceeded. Market prices and generation dispatch continue to be calculated normally. However, the Administered Price Cap (APC) and Administered Floor Price (AFP) are invoked to apply upper and lower limits on the published dispatch prices as per clause 3.14.2 of the NER.

- The value of the APC for each region is $300/MWh applied to energy and market ancillary services.
- The AFP for each region to apply to energy dispatch price is -$300/MWh. The AFP does not apply to ancillary service prices as ancillary service prices are never negative.

As the prices are capped for individual dispatch intervals, the spot price for a trading interval in an APP will reach the cap value only if each of the six dispatch interval prices in a trading interval is at least equal to the cap value.

Administered price caps are applied after all other price modifiers, such as over-constrained dispatch and non-physical loss re-runs, as well as market suspension pricing and the setting of MPC when load is about to be shed or has been shed and cannot be restored.

The published spot market prices are those resulting from the average of the dispatch prices subject to the application of the administered price caps. All market settlement amounts including distributions under the Settlement Residue Distribution Agreements are calculated using the published spot market prices.

The APP arrangements have no direct effect on the dispatch of scheduled generation. The regional dispatch prices prior to application of any capping are recorded so that the cumulative price of the last 336 consecutive trading intervals can be tracked continuously.

Once invoked, the APP continues at least to the end of the current trading day at 0400 hours. Section 5 provides the criteria to determine the end of APP.

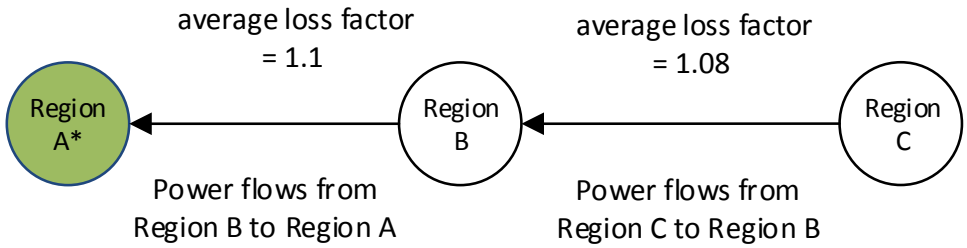
4. Effect on connected regions

Administered price arrangements include provisions to transfer price caps and floors to interconnected regions.

During an APP in a region, a price cap is applied to a neighbouring region when power flows on one or more regulated interconnectors are from the neighbouring region towards the administered priced region. Under these conditions, the Regional Reference Price (RRP) for that adjacent exporting region is capped to a value determined by scaling the importing region's capped dispatch price by taking into account the average loss factor of the interconnector between the two regions. The average loss factor is determined from the published inter-regional loss factor equations published on the AEMO website[4], and is different to the marginal loss factor used to determine optimal dispatch.

Figure 1 shows how APP can be applied to connected regions. If region A price is capped at APC, when power is flowing from region C to B to A, then the dispatch price of region C is capped to a value determined by the cap applying to region C and the product of the two average loss factors (for the two interconnectors).

Figure 1: An example of how APP is applied to connected regions



	Region A	Region B	Region C
Original Price	$1000/MWh	$900/MWh	$850/MWh
Capped Price	$300/MWh	300/1.1=$272.73/MWh	300/(1.1*1.08)=$252.53/MWh

If power from a region subject to an APC is dispatched to one that is not, then the RRP in the importing region is not affected, creating a price separation between the two regions. This may generate large inter-regional settlement residues.

Similar price adjustment applies if a price is floored during an APP. The difference is that the adjustment is applied to the importing region or regions for AFP, whereas the adjustment is applied to the exporting region or regions for APC. If power from a region subject to an AFP is dispatched to one that is not, then the RRP in the importing region and subsequent importing regions, is floored to a value determined by scaling the exporting region's floored dispatch price by the average loss factor of the interconnectors between the regions.

[4] https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/Loss-factor-and-regional-boundaries

5. End of administered price period

An administered price period ends at 0400 hours if, at that time, the cumulative price (as calculated from dispatch prices without capping or flooring) has fallen below the CPT.