



**Discussion paper**

## **Formulae for control mechanisms – Revised**

**Matters relevant to the framework and approach for NSW  
and ACT DNSPs 2014–19**

February 2013

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## Request for submissions

Interested parties are invited to make written submissions to the Australian Energy Regulator (AER) regarding this paper by the close of business, 20 February 2013.

Submissions should be sent electronically to: [NSWACTelectricity@aer.gov.au](mailto:NSWACTelectricity@ aer.gov.au)

Alternatively, submissions can be sent to:

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The AER prefers that all submissions be publicly available to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information are requested to:

- clearly identify the information that is the subject of the confidentiality claim
- provide a non-confidential version of the submission in a form suitable for publication.

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Enquires about this paper, or about lodging submissions, should be directed to the Network Regulation branch of the AER on (02) 9230 9133.

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# 1 Control mechanism formulae

The Australian Energy Regulator (AER) released its Preliminary Positions Framework and Approach (F&A) Papers for NSW and the ACT electricity distribution businesses on 25 June 2012. The F&A Papers set out our initial views on matters that will affect the regulatory arrangements for the distribution businesses over the 2014 to 2019 regulatory control period. Submissions on these F&A Papers closed on 17 August 2012.

In December 2012, the Australian Energy Market Commission (AEMC) released a rule change that will affect the F&A Paper for the NSW and ACT distribution businesses.

As a result of the rule change, and on this occasion only, the F&A Paper will be split into two stages. The Stage 1 Final F&A Paper for the NSW and ACT Distribution Network Service Providers is required to include some additional information that was not previously required. In particular, we are required to include the formulae for the control mechanisms for direct control services (standard and alternative control services). These formulae govern how prices may vary over the regulatory control period.

As the formulae were not included in the Preliminary Positions F&A Paper, we are releasing this paper to provide an opportunity (albeit limited) for interested parties to comment on the AER's proposed formulae. These formulae may be applied to standard and alternative control services provided by electricity distribution businesses in NSW and the ACT for the 2014–19 regulatory control period. Some provisions of the new Rules may influence the years in which the formulae may be applied. We invite comment from interest parties.

## 1.1 NSW Standard Control Services

The AER has proposed to apply a revenue cap to services classified as standard control services in NSW. We consider the key elements of the proposed formula are:

- Given a set of forecast quantities, prices must be set to target the maximum allowable revenue (MAR) in each year.
- Adjustments made for incentive schemes and annual/transitional adjustments are set out in generic form to allow for future specification.
- The adjustment mechanisms only enter the equations through the allowable revenue term, not the MAR. This prevents them having a cumulative effect in future years.
- The time period "t" is 1,...,5. The revenue cap will apply in the transitional regulatory control period (2014-15) and in the subsequent regulatory control period (2015-19).

$$MAR_t = \sum_{i=1}^n \sum_{j=1}^m p_{ij}^t q_{ij}^{t*}$$

i=1,...,n and j=1,...,m and t=1,...,5

$$MAR_t = AR_t + I_t + T_t + B_t$$

$$AR_t = AR_{t-1}(1 + CPI)(1 - X_t)$$

Where:

$MAR_t$  is the maximum allowable revenue in year t.

$p_{ij}^{t*}$  is the price of component i of tariff j in year t.

$q_{ij}^{*t}$  is the forecast quantity of component i of tariff j in year t.

$AR_t$  is the allowable revenue for year t.

$I_t$  is the sum of incentive scheme adjustments in year t. To be decided in the final decision.

$T_t$  is the sum of transitional adjustments in year t. To be decided in the final decision.

$B_t$  is the sum of annual adjustments in year t. To be decided in the final decision.

$CPI_t$  is the percentage increase in the consumer price index. To be decided in the final decision.

$X_t$  is the X-factor in year t. To be decided in the final decision.

$AR_1$  is the allowable revenue in the first year of the regulatory control period. To be decided in the final decision.

## 1.2 NSW Alternative Control Services

### Services currently classified as alternative control services and remain classified as alternative control services

The AER has proposed to apply caps on the prices of individual services to services classified as alternative control services in NSW which are currently classified as alternative control services. We consider the key elements of the proposed formula are:

- The price of each service must be set less than or equal to the cap.
- The time period "t" is 1,...,4 because caps on the prices of individual services will not apply in the transitional regulatory control period. Instead, prices from the last year of the current regulatory control period will be escalated by Consumer Price Index (CPI) to set the prices for the transitional regulatory control period.
- The caps in year one will be determined at the time of the final decision, after the basis of the form of control has been decided.
- Depending on the basis of the form of control, the X-factor may be set to 0. E.g. an annuity approach.

$$\bar{p}_i^t \geq p_i^t \quad i=1,\dots,n \text{ and } t=1,\dots,4,$$

$$\bar{p}_i^t = \bar{p}_i^{t-1}(1 + CPI_t)(1 - X_t)$$

Where:

$\bar{p}_i^t$  is the cap on the price of service i in year t.

$p_i^t$  is the price of service i in year t.

$CPI_t$  is the percentage increase in the consumer price index. To be decided in the final decision.

$X_t$  is the X-factor in year t. To be decided in the final decision.

$\bar{p}_i^1$  is the cap on the price of service i in the first year of the regulatory control period. To be decided in the final decision.

## Services currently classified as standard control services but which may be reclassified as alternative control services

The AER has proposed to apply caps on the prices of those services which may be classified as alternative control services in NSW but which are currently classified as standard control services. We consider the key elements of the proposed formula are:

- The price of each service must be set less than or equal to the cap.
- The time period "t" is 1,...,5 because for alternative control services which the classification of services has changed, caps on the prices of individual services will apply to the transitional regulatory control period.
- The caps in year one will be determined at the time of the final decision, after the basis of the form of control has been decided.
- Depending on the basis of the form of control, the X-factor may be set to 0. e.g. an annuity approach.

$$\bar{p}_i^t \geq p_i^t \quad i=1,\dots,n \text{ and } t=1,\dots,5$$

$$\bar{p}_i^t = \bar{p}_i^{t-1}(1 + CPI_t)(1 - X_t)$$

Where:

$\bar{p}_i^t$  is the cap on the price of service i in year t.

$p_i^t$  is the price of service i in year t.

$CPI_t$  is the percentage increase in the consumer price index. To be decided in the final decision.

$X_t$  is the X-factor in year t. To be decided in the final decision.

$\bar{p}_i^1$  is the cap on the price of service i in the first year of the regulatory control period. To be decided in the final decision.

### 1.3 ACT Standard Control Services

The AER proposes the formula for an average revenue cap for services classified as standard control services in the ACT should contain the following key elements:

- Prices in each year must be set so the average revenue is less than or equal to the maximum allowable average revenue.
- Adjustments made for incentive schemes and annual/transitional adjustments are set out in generic form to allow for future specification.
- The adjustment mechanisms only enter the equations through the allowable average revenue term, not the maximum allowable average revenue term. This prevents them having a cumulative effect in future years. These adjustments are divided by kWh transported in the year t-2 to turn them into "average revenue" form.
- The time period t is set as 1,...,5. The average revenue cap will apply to the transitional regulatory control period and the subsequent regulatory control period.

$$MAAR_t \geq \frac{\left( \sum_{i=1}^n \sum_{j=1}^m p_{ij}^t q_{ij}^{t-2} \right)}{kWhtransported_{t-2}} \quad i=1,\dots,n \text{ and } j=1,\dots,m \text{ and } t=1,\dots,5$$

$$MAAR_t = AAR_t + \frac{(I_t + T_t + B_t)}{kWhtransported_{t-2}}$$

$$AAR_t = AAR_{t-1}(1 + CPI)(1 - X_t)$$

Where:

$MAAR_t$  is the maximum allowable average revenue in year t.

$p_{ij}^t$  is the price of component i of tariff j in year t.

$q_{ij}^{t-2}$  is the quantity of component i of tariff j in year t-2.

$AAR_t$  is the average allowable revenue in year t.

$kWhtransported_{t-2}$  is the total kWh in year t-2.

$I_t$  is the sum of incentive scheme adjustments in year t. To be decided in the final decision.

$T_t$  is the sum of transitional adjustments in year t. To be decided in the final decision.

$B_t$  is the sum of annual adjustments in year t. To be decided in the final decision.

$CPI_t$  is the percentage increase in the consumer price index in year t. To be decided in the final decision.

$X_t$  is the X-factor in year t. To be decided in the final decision.

$AAR_1$  is the average allowable revenue in year one. To be decided in the final decision.

## 1.4 ACT Alternative Control Services

### Services currently classified as alternative control services and which continue to be classified as alternative control services

The AER has proposed to apply caps on the prices those services currently classified as alternative control services and which remain classified as alternative control services in the ACT. We consider the key elements of the proposed formula are:

- The price of each service must be set less than or equal to the cap
- The time period "t" is 1,...,4 because caps on the prices of individual services will not apply in the transitional regulatory control period. Instead, prices from the last year of the current regulatory control period will be escalated by CPI to form the prices for the transitional regulatory control period.
- The caps in year one will be determined at the time of the final decision, after the basis of the form of control has been decided.
- Depending on the basis of the form of control, the X-factor may be set to 0. e.g. an annuity approach.

$$\bar{p}_i^t \geq p_i^t \quad i=1,\dots,n \text{ and } t=1,\dots,4,$$

$$\bar{p}_i^t = \bar{p}_i^{t-1}(1 + CPI_t)(1 - X_t)$$

Where:

$\bar{p}_i^t$  is the cap on the price of service i in year t.

$p_i^t$  is the price of service i in year t.

$CPI_t$  is the percentage increase in the consumer price index. To be decided in the final decision.

$X_t$  is the X-factor in year t. To be decided in the final decision.

$\bar{p}_i^1$  is the cap on the price of service i in the first year of the regulatory control period. To be decided in the final decision.

## Services currently classified as standard control services which may be reclassified as alternative control services

The AER has proposed to apply caps on the prices of services currently classified as standard control services which may be reclassified as alternative control services in the ACT. We consider the key elements of the proposed formula are:

- The price of each service must be set less than or equal to the cap
- The time period "t" is 1,...,5 because for alternative control services which the classification of services has changed, caps on the prices of individual services will apply to the transitional regulatory control period.
- The caps in year one will be determined at the time of the final decision, after the basis of the form of control has been decided.
- Depending on the basis of the form of control, the X-factor may be set to 0. e.g. an annuity approach.

$$\bar{p}_i^t \geq p_i^t \quad i=1,\dots,n \text{ and } t=1,\dots,5,$$

$$\bar{p}_i^t = \bar{p}_i^{t-1}(1 + CPI_t)(1 - X_t)$$

Where:

$\bar{p}_i^t$  is the cap on the price of service i in year t.

$p_i^t$  is the price of service i in year t.

$CPI_t$  is the percentage increase in the consumer price index. To be decided in the final decision.

$X_t$  is the X-factor in year t. To be decided in the final decision.

$\bar{p}_i^1$  is the cap on the price of service i in the first year of the regulatory control period. To be decided in the final decision.