ACTEWAGL DISTRIBUTION 2017/18 NETWORK PRICING PROPOSAL

Submission to the Australian Energy Regulator

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Overview

ActewAGL Distribution (AAD) offers customers a range of network tariff options across three tariff classes—residential, commercial low voltage and high voltage. Customers are able to choose the tariff that best suits their needs, subject to some eligibility requirements as set out in this document.

Following the release of the Australian Energy Regulator's (AER's) Final Decision on 30 April 2015, AAD applied to the Australian Competition Tribunal for merits review and the Federal Court for judicial review of the AER's final 2014–19 distribution determination. In February 2016, the Tribunal decided to set aside the AER's Final Decision. On 24 March 2016 the AER applied to the Federal Court for judicial review of the Australian Competition Tribunal decision to set aside the Final Decision[1].

In the absence of a Final Determination, AAD acknowledged that having regard to the judicial review proceeding before the Federal Court and the possible remittal process of the AER, may cause significant delay in the AER remaking its decision with respect to AAD's distribution determination. As such, AAD agreed to proffer an Enforceable Undertaking to the AER to determine network prices for 2016/17, without submitting a formal Pricing Proposal. The Undertaking was intended to ameliorate uncertainty for users about the determination of network prices and the legal effect of the non-price provisions of the Final Determination, while the legal proceedings were underway[2]. The 2016/17 Undertaking set standard control service prices constant in real terms, and alternative control service prices to align with the Final Determination. The 2016/17 Undertaking will expire, at the latest, on 30 June 2017.

Given the Federal Court proceedings are unclear, AAD has again agreed to proffer an Enforceable Undertaking to the AER to determine network pricing for 2017/18. In response to a request from the AER, AAD has also prepared this Pricing Proposal which includes the details regarding the derivation of network prices for 2017/18.

In 2017/18, the first Tariff Structure Statement will be implemented[3]. This includes the introduction of new residential and LV commercial demand tariffs from 1 December 2017, as approved by the AER[4], following the commencement of the Metering Rule changes as a result of the Australian Energy Market Commission's (AEMC's) *Power of Choice* reforms.

The proposed network tariffs and charges for 2017/18 are set in accordance with the relevant requirements in the National Electricity Rules (Rules) and the associated 2017/18 Enforceable Undertaking.

The proposed distribution use of system (DUOS) charges for 2017/18 are 0.10 cents per kWh, or 2.1 per cent in nominal terms, lower on average than the DUOS charges for 2016/17. Transmission use of system (TUOS) charges, levied on AAD by TransGrid, are 1.09 cents per kWh, or 50 per cent in nominal terms, lower on average than the charges for 2016/17. The charges for jurisdictional schemes[5], primarily reflecting ACT

[1] http://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/actewagl-determination-2014-19
[2] http://www.aer.gov.au/system/files/ActewAGL%20enforceable%20undertaking%20-%20May%202016.pdf
[3] http://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/pricing-proposals-tariffs/actewagl-tariff-structure-statement-2017
[4] http://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/pricing-proposals-tariffs/actewagl-tariff-structure-statement-2017/final-decision
[5] Jurisdictional schemes are expenses incurred by ActewAGL Distribution pursuant to ACT Government requirements, such as the feed-in tariff.

Government renewables policies, are 1.38 cents per kWh, or 136 per cent in nominal terms, higher on average than the charges for 2016/17.

The proposed network use of system (NUOS) charges (comprising DUOS, TUOS, charges for jurisdictional schemes) for 2017/18 are, on average 0.19 c/kWh, or 2.4 per cent in nominal terms, higher than the average NUOS plus metering charges for 2016/17.

AAD estimates that the proposed 2017/18 network and metering charges will increase the electricity network bill for an average residential customer, consuming 7000 kWh per annum on the Residential Basic network tariff, by $0.39 per week (including GST)—a real increase of 1.7 per cent (3.0 per cent nominal). For a commercial customer consuming 30 MWh per annum on the General Network tariff, the proposed network and metering price increases would increase the electricity network bill by $1.09 per week (including GST)— implying a 0.2 per cent real increase in network prices (1.5 per cent nominal increase).

1 Introduction

1.1 Purpose and scope of the document

This document provides the required information on the tariffs and charges to apply to ActewAGL Distribution's regulated distribution services from 1 July 2017 to 30 June 2018. A checklist of the regulatory requirements and where they are met in this document is provided in Attachment 1.

AAD has prepared this document in anticipation of the Australian Energy Regulator (AER) accepting an Enforceable Undertaking in respect of pricing for 1 July 2017 to 30 June 2018 substantially in the same terms as the draft Undertaking AAD provided to the AER on 24 March 2017. AAD reserves its right to revisit its pricing for 2017/18 in the event this does not occur.

The document contains tariffs and charges for AAD's standard control services provided by its distribution network and alternative control services, as classified in the AER's Final Decision ActewAGL distribution determination 2015-16 to 2018-19 (Final Decision). It also contains tariffs and charges for the recovery of designated pricing proposal charges and jurisdictional scheme amounts. Charges for AAD's alternative control services, comprising the provision and servicing of type 5 and 6 meters and ancillary network services, are also set out in this Pricing Proposal.

Separate regulatory control mechanisms apply to standard control and alternative control services, so separate price schedules must be determined. The combined standard control (network) and metering prices are also provided in this document.

As well as setting out the proposed network tariffs and charges and demonstrating compliance with the relevant Rules and the 2017/18 Enforceable Undertaking, the pricing proposal includes explanations of the basis for the 2017/18 tariff structure and the tariff setting process. While this information is not required under the pricing provisions in the Rules, AAD believes that transparency and promoting consumer awareness are important, and the annual network pricing proposal provides a useful vehicle for achieving this.

1.2 Background

The AER is responsible for the economic regulation of distribution services provided by ActewAGL Distribution. The average annual smoothed revenue (AAR) for ActewAGL Distribution's standard control services from 2015/16 has been inflated by CPI for two subsequent years to calculate an adjusted average annual revenue cap (AARC) for 2017/18. Alternative control services include metering and ancillary network services. In 2017/18, ancillary network service charges continue to be based on the Final Decision[6]. Specifically, these charges will increase by 2.5 per cent in nominal terms (applying the change in CPI of 1.28 per cent and the X factor of -1.22), while upfront metering charges will increase by 2.0 per cent in nominal terms (applying the change in CPI of 1.28 per cent and the X factor of -0.73).

[6] Australian Energy Regulator, *Final Decision ActewAGL distribution Determination*, Attachment 16, Tables 16.17 and 16.22 inflated by CPI. 30 April 2015.

Annual metering charges are split into two components:

- a capital component that is applied to customers who were connected at 30 June 2015; and
- a non-capital component that is applied to customers connected at 30 June 2015 and also to those with new connections from 1 July 2015 that have paid in full for their meters.

Annual metering charges (capital and non-capital) are escalated by CPI only in 2017/18.

In November 2014 the AEMC published its final determination on amendments to the distribution network pricing rules.[7] The new rules required AAD to submit its first Tariff Structure Statement (TSS) to the AER in November 2015. A revised version of the TSS was submitted on 4 October 2016, and was approved by the AER on 28 February 2017[8]. During 2015/16 and 2016/17, AAD engaged with consumers, via its Energy Consumer Reference Council and other forums, on its future tariff structure. A copy of AAD's proposed and revised TSS is published on the ActewAGL website[9]. This pricing proposal is the first that includes the new kW demand tariffs, which were developed as part of AAD's first TSS, in accordance with the new chapter 6 pricing principles.

This document should be read in conjunction with AAD's TSS and the associated 2017/18 Enforceable Undertaking, as they set out in detail the basis of the costs that are reflected in AAD's proposed tariffs and charges.

1.3 Structure of the document

AAD's tariff structure for standard control services is set out in chapter 2.

The proposed network tariffs and charges for AAD's standard control services for 2017/18 are presented in chapter 3. The chapter includes discussion of the changes relative to 2016/17.

The structure and basis of AAD's charges for alternative control (ancillary network services and metering) services, the proposed charges for 2017/18 and the changes relative to 2016/17 are presented and explained in chapter 4.

Indicative estimates of the likely impacts of the price changes on average customer electricity bills are provided in chapter 5, together with a statement about the review of tariffs.

Chapter 6 provides indicative 2018/19 prices while chapter 7 compares the indicative 2017/18 prices contained in the first TSS to the actual 2017/18 prices.

[7] AEMC 2014, *National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014, Final Determination*, November
[8] http://www.aer.gov.au/networks-pipelines/determinations-access-arrangements/pricing-proposals-tariffs/actewagl-tariff-structure-statement-2017/final-decision
[9] https://www.actewagl.com.au/Networks/About-our-network/Initiatives/Consumer-engagement/Tariff-Structure-Statements.aspx

2 The structure and basis of ActewAGL Distribution's network tariffs

The Rules (clause 6.18.2) require a description of the tariff classes[10] and tariffs that are to apply in 2017/18. For each tariff within a tariff class, the charging parameters[11] and the elements of service to which they relate must also be set out in the pricing proposal.

2.1 Network tariff structure

ActewAGL Distribution offers network tariffs in three tariff classes:

- Residential;
- Commercial low voltage (LV); and
- High voltage (HV).

The Rules stipulate that tariff classes must be constituted with regard to the need to group customers together on an economically efficient basis and the need to avoid unnecessary transactions costs (clause 6.18.3(d)). AAD meets this requirement by grouping customers according to type of connection (residential or commercial), and connection voltage (LV or HV). Customers within each class have similar load and connection characteristics. The relevant costs for each class can then be identified and reflected in the tariffs for each class.

Within each of the three tariff classes, AAD has developed a suite of network tariffs that effectively meets the diverse needs of its customer base, encourages efficient use of the network and signals the costs of future network expansion.

Each of the tariffs has been reviewed to base them on the long run marginal cost (LRMC) of the network (as per clause 6.18.5(f) of the Rules). This approach is discussed in more detail in section 2.2.

Customers are able to choose the option which best suits their needs, subject to the eligibility criteria set out in Tables 2.1 to 2.3 below.

The network tariffs from each tariff class comprise different combinations of the following charging parameters.

- Network access charges—these apply per customer for residential customers and per connection point for commercial customers. They involve a fixed daily charge and do not vary with electricity consumption or capacity.
- Energy charges—these apply to each unit of electricity consumed. The cents per kilowatt hour (c/kWh) rate may vary with the level of consumption (with higher rates applying above certain thresholds) or with the time-of-use (with lower rates applying at off-peak periods).
- Maximum demand charges—these apply for some residential and commercial tariffs. They involve a charge per unit of maximum demand (in c/kVA/day[12] or c/kW/day). The

[10] A tariff class is defined in chapter 10 of the *National Electricity Rules* as "a class of customers for one or more direct control services who are subject to a particular tariff or particular tariffs".
[11] Charging parameters are defined as "the constituent elements of a tariff" in chapter 10 of the *National Electricity Rules*.
[12] c/kVA/day refers to cents per kilo-volt-ampere per day

maximum demand is the highest demand recorded over a 30-minute interval during the billing period.

- Capacity charges—these apply on the same basis as maximum demand charges, but are for the maximum demand recorded over a 30-minute interval during the previous 12 months.

The tariffs and charging parameters for each tariff class are shown in the following tables (2.1 to 2.3). The tables include an explanation of the purpose of each tariff and the customers to which each tariff may apply.

2.1.1 Network tariffs for residential customers

Residential customers are offered a choice of four network tariff options plus two controlled load off-peak options and an embedded renewable generation tariff option.

- Residential Basic Network
- Residential TOU Network
- Residential 5000 Network
- Residential with Heat Pump Network

From 1 December 2017, a new residential demand tariff will be introduced. The new demand tariff will offer residential customers a more cost reflective option than existing residential tariffs. The new demand tariff will enable residential customers to more actively manage and control the size of their electricity bills by considering when and how they use electricity. The new demand tariff will include a fixed component, an anytime energy consumption component, and a demand component. The demand component will apply a demand charge to a customers' maximum half hourly demand (measured in kilowatts) during the hours of 5-8pm daily during a billing period.

The introduction of the new residential demand tariff has been established to coincide with the introduction of remotely read interval meters (type 4 meters) from 1 December 2017. Only customers who have a type 4 meter installed from 1 December 2017 will be assigned, by default, to the new demand tariff in one of two ways.

1. Residential customers who move into **new premises** and are connected with a remotely read interval meter, will default to the new demand tariff with an opt-out provision to the residential time-of-use tariff. This is a change from the existing policy which assigns new consumers to the time-of-use tariff by default with an opt-out provision to the Residential Basic tariff.
2. When an existing residential customers' meter is **replaced** with a remotely read meter, they will also be assigned to the new demand tariff by default. This is also a change from our existing policy in which customers who have a replacement meter installed remain on their existing tariff. Customers who are assigned to the new demand tariff (by default) will be able to opt out of the demand tariff to the time-of-use tariff.

This assignment policy means that, as customers with type 4 meters are assigned to the demand tariff, the following residential tariffs will eventually become obsolete.

- Residential Basic Network (code 010 and 011)
- Residential 5000 Network (code 020 and 021)

- Residential with Heat Pump Network (code 030 and 031)

The Off Peak tariffs (codes 060 and 070) which apply to controlled loads will continue to be offered, as these are supplementary tariffs that encourage usage at off peak times.

AAD's residential network tariff structure is shown in Table 2-1, and a brief description of these tariffs is provided below.

The *Residential Basic* tariff is a flat rate tariff. The majority of AAD's residential customers are assigned to this tariff, and it was AAD's default residential tariff until September 2010. The Residential basic tariff will be closed to new customers from 1 December 2017.

The *Residential time-of-use (TOU), Residential 5000* and *Residential with heat pump* tariffs are refinements of the *Residential basic* tariff to reflect customer load profiles.

The *Residential TOU* tariff provides an opportunity and an incentive for customers with the necessary metering capability to respond to price signals at different times of the day, where reflected in the final price of their retailer, and manage their electricity use in line with the costs they impose on the network. The Residential TOU tariff has been the default tariff for all new residential customers since October 2010, but will cease to be the default tariff from 1 December 2017.

The *Residential 5000* and *Residential with heat pump* tariffs involve a higher connection charge and an inclining block structure with a higher energy charge (cents per kWh) applying above certain thresholds. These tariffs more accurately tailor costs to the load profile of these customers. The *Off-peak (1) night* and *Off-peak (3) day and night* tariff options can be used in conjunction with the *Residential basic, Residential TOU* and *Residential demand* network tariffs.

The new *Residential Demand* tariff offers customers with a type 4 meter (more commonly known as a "smart meter") a tariff that provides a more cost reflective signal based on the demand that the customer places on the network during periods of peak demand. The tariff includes a fixed charge, flat charge for consumption, and a demand charge based on a customer's maximum demand (measured in kilowatts) over a 30 minute period during the maximum demand window of 5pm – 8pm every day. The demand tariff will become AAD's default residential tariff from 1 December 2017. Customers assigned to this tariff can opt out to the *Residential TOU* tariff.

Table 2-1 Network tariff structure – residential

Tariff	*Charging parameters*	*Explanation*
Residential basic network	Network access charge (c/day/customer) Energy charge (c/kWh)	The residential basic network tariff is available to installations at private dwellings, excluding serviced apartments, but including: • Living quarters for members and staff of religious orders; • Living quarters on farms; • Charitable homes; • Retirement villages; • Residential sections of nursing homes and hospitals; • Churches, buildings or premises which are primarily used for public worship; and • Approved caravan sites.

Tariff	*Charging parameters*	*Explanation*
		The energy charge varies neither with the level of consumption nor the time of day. However, customers on this tariff are also eligible for the off-peak tariffs. This tariff is closed to new customers from 1 December 2017 and will become obsolete over time.
Residential time-of-use (TOU) network[13]	Network access charge (c/day/customer) Energy at max times, ie 7am to 9am and 5pm to 8pm every day (c/kWh) Energy at mid times, ie 9am to 5pm and 8pm to 10pm every day (c/kWh) Energy at economy times, ie all other times (c/kWh)	This tariff is available to residential customers (as defined above) and to electric vehicle recharge facilities on residential premises with a meter able to be read as a time-of-use meter. The energy charges relate to the supply of network services at various times. Higher rates apply at max or peak times to encourage users to shift their load to off-peak periods. Customers on this tariff are also eligible for the controlled load off-peak tariffs. Residential customers with a meter with two registers capable of providing time-of-use consumption data from each register may have the time-of-use charges applied separately to each register.
Residential 5000 network	Network access charge (c/day/customer) Energy for the first 60 kWh/day (c/kWh) Energy above 60 kWh/day (c/kWh)	This tariff is designed for residential customers who have large continuous (rather than time controlled) loads, such as electric hot water systems, and consume over 5,000 kWh per annum. The energy charges relate to the supply of network services above and below certain volume thresholds. An inclining block structure applies (ie higher energy rates for the second block of energy). The lower energy rate is limited to consumption up to 60 kWh per day, reflecting a typical domestic usage profile. This is sufficient to cover the energy requirements of many residential customers. This tariff is closed to new customers from 1 December 2017 and will become obsolete over time.
Residential with heat pump	Network access charge (c/day/customer) Energy for the first 165 kWh/day (c/kWh) Energy above 165 kWh (c/kWh)	This tariff is only available to residential customers with a reverse cycle air conditioner. An inclining block structure applies (ie higher energy rates for the second block of energy). The lower energy rate is set to recover the incremental cost of energy load on the network as a demand management tool to lower winter peak loads and improve utilisation of the network in summer and so improve overall network utilisation. This tariff is closed to new customers from 1 December 2017 and will become obsolete over time.
Residential Demand	Network access charge (c/kW/day) Energy charge (c/kWh) Maximum demand (in billing period) (c/kW/day)	This tariff is available to residential customers from 1 December 2017 who have a Type 4 (ie, "Smart") meter installed. The energy charge varies neither with the level of consumption nor the time of day. Customers on this tariff are also eligible for the off-peak tariffs. The demand charge is based on a customers' maximum demand in a 30 minute period during the maximum demand window of 5pm – 8pm every day. This tariff will become AAD's default tariff for residential customers with a type 4 meter from 1 December 2017.
Off-peak (1) night network	Energy at controlled times, ie between 10 pm and 7 am (c/kWh)	The off-peak (1) night charge is available only to consumers utilising a controlled load element, and taking all other energy at residential basic network, residential time-of-use, residential demand, general network, general time-of-use or LV commercial KW demand tariff rates. The off-peak (1) night charge is applicable to permanent heat (or cold) storage; electric vehicle recharge; and CNG vehicle gas compression

[13] All times for metering are Eastern Standard Time.

Tariff	*Charging parameters*	*Explanation*
		installations. The design and rating must be acceptable to ActewAGL Distribution. The installation must use most energy during the controlled times but may be boosted at the principal charge, or charges, at other times. The off-peak (1) night network energy charge relates to supply of network services at controlled times, for 6 to 8 hours per day between the hours of 10 pm and 7 am.
Off-peak (3) day and night network	Energy at controlled times, ie between 10 pm and 7 am and 9 am and 5 pm (c/kWh)	Available only to customers utilising a controlled load element, and taking all other energy at residential basic network, residential time-of-use, residential demand, general network, general time-of-use or LV commercial KW demand tariff rates. This charge is applicable to permanent heat (or cold) storage installations. The design and rating must be acceptable to ActewAGL Distribution. The off-peak (3) day and night network energy rate applies to power supplied for up to 13 hours per day between 10 pm and 7 am and again between 9 am and 5 pm.
Renewable generation	Energy charges (c/kWh)	This tariff applies to customers with grid connected solar or wind energy generation systems. Different arrangements apply to customers participating in the ACT feed-in tariff scheme, in accordance with the *Electricity Feed-in (Renewable Energy Premium) Act 2008* (ACT). Net metering applies to new PV customers since July 2013.

For each of the tariffs shown in this table (other than off-peak and renewable energy) two separate codes will apply – one which includes a meter capital charge and one which excludes the meter capital charge (XMC). The basis for the separate meter capital charges is explained in section 4.2 below.

2.1.2 Network tariffs for low voltage commercial customers

Low voltage (LV) commercial customers are offered four main tariff options.

From 1 December 2017, LV commercial customers that move to new premises with a remotely read (type 4) meter or whose meter is replaced with a type 4 meter will be assigned to the new LV commercial demand tariff by default. This is a change from our existing policy which assigns new customers to the time-of-use tariff (code 090). Customers have the choice to opt-out of the new demand tariff to the Time-of-Use (code 090 and 091), KVA demand (code 101 and 103) or Capacity (code 103 and 105) tariffs. The new LV commercial demand tariff has the same structure as the new residential demand tariff. That is, the new LV commercial demand tariff will include a fixed component, an anytime energy consumption component, and a demand component. The demand component will apply a demand charge to a customers' maximum half hourly demand (measured in kilowatts) during the hours of 7am-5pm on weekdays during a billing period.

This assignment policy means that the General Network commercial LV tariff (codes 040 and 041) will eventually become obsolete. This is because, over time, all LV commercial customers will have their meter replaced with a type 4 meter which will mean they are assigned to the new LV commercial demand tariff (with an opt-out provision to other cost reflective tariffs).

The exception to the above assignment policy is for small unmetered loads (code 135) and streetlighting (code 080), where usage is not measured using a meter. In the case of small

unmetered loads (which applies to eligible installations such as telephone boxes), AAD has not connected meters to these loads. The streetlight tariff applies only to usage for public lighting loads that operate at night. Most of these loads are also unmetered. These tariffs do not vary with usage, or load profile, and therefore, there is no need for AAD to transition these loads onto a demand tariff as consumers on these tariffs are unlikely to respond.

AAD sets different tariffs for commercial low voltage (LV) and high voltage (HV) customers recognising the different costs associated with supplying each group. Within the LV commercial tariff class a range of tariff options has been developed to meet the diverse needs of commercial customers and to accommodate their differing load profiles and ability to respond to price signals. Of the five main options offered to LV commercial customers, all but the *General network* and new *LV commercial demand* tariffs involve time-of-use charges. The *General network* tariff does, however, involve an inclining block tariff structure with higher energy charges (c/kWh) applying above certain thresholds. LV commercial customers on the General Network, General TOU and LV commercial demand tariffs also have access to the off-peak (controlled load) tariff options and the embedded renewable generation tariff option on a similar basis to customers in the residential class.

Three of the LV commercial options involve capacity and/or maximum demand charges, in conjunction with consumption charges. Customers able to improve their load factor[14] have an incentive to choose a tariff with a demand or capacity charge and thereby reduce their energy bills. In 2017/18, AAD will offer LV commercial customers a new tariff that measures demand on a kW basis, rather than the kVA basis on which the existing demand tariffs are set. This will enable small LV commercial customers to have access to a demand tariff, given the capability of their meter. Customers on the *General network* and *General time-of-use network* tariffs will move to the new demand tariff when they have a type 4 meter installed. This is designed to lower their network costs if they have a sufficiently large load (for the network cost savings to offset the higher cost of interval metering) and if their load factor is suitable (to ensure that the demand costs do not offset the lower energy charges).

[14] The load factor is the ratio of average load to the maximum demand (peak load).

Table 2-2 Network tariff structure - commercial low voltage

Tariff	*Charging parameters*	*Explanation*
General network	Network access charge (c/day/customer) Energy for the first 330 kWh/day (c/kWh) Energy above 330 kWh/day (c/kWh)	The tariff is most suitable for small commercial customers operating in regular business hours or larger customers with poorer load factors (peaky loads). This tariff may be used in conjunction with the off-peak tariffs. This tariff is closed to new customers from 1 December 2017 and will become obsolete over time.
General TOU network	Network access charge (c/day/customer) Energy at business times* (c/kWh) Energy at evening times (c/kWh) Energy at off-peak times (c/kWh)	This tariff is particularly suitable for small commercial customers with discretionary or relatively large off-peak loads such as bakers, freezer installations, irrigators and to customers operating on weekends. The energy charges relate to supply of network services at different times.
LV TOU kVA demand network	Network access charge (c/day/connection point). Maximum demand (in billing period) (c/kVA/day) Energy at business times* (c/kWh) Energy at evening times (c/kWh) Energy at off-peak times (c/kWh)	This tariff is appropriate for customers with an average or stable commercial load. The maximum demand charge is designed to encourage consumers to manage their demand upon the network. The energy charges relate to supply of energy at different times, with lower rates in off-peak times reflecting the availability of capacity and encouraging consumers to shift their load from peak to off-peak times to utilise the available capacity. It is not available to customers with an embedded generation (other than micro generation) system.
LV TOU capacity network	Network access charge (c/day/connection point) Maximum demand (in billing period) (c/kVA/day) Capacity (max demand in last year) (c/kVA/day) Energy at business times* (c/kWh) Energy at evening times (c/kWh) Energy at off-peak times (c/kWh)	This tariff is open to all low voltage customers and intended to reward those customers with seasonally stable loads. It is prescribed for low voltage customers with embedded generation. The tariff provides an incentive for customers with embedded generation to manage their output and their down-times (eg for servicing) so as to minimise their demand on the network.
LV Demand network	Network access charge (c/day/connection point) Energy charge (c/kWh) Maximum demand (in billing period) (c/kW/day)	This tariff is available to LV commercial customers from 1 December 2017 who have a Type 4 (ie, “Smart”) meter installed. The energy charge varies neither with the level of consumption nor the time of day. Customers on this tariff are also eligible for the off-peak tariffs. The demand charge is based on a consumers’ maximum demand in a 30 minute period during the maximum demand window of 7am – 5pm week days. This tariff will become the default tariff for LV commercial customers with a type 4 meter from 1 December 2017.
Streetlighting	Network access charge (c/day/customer) Energy at any time (c/kWh)	This tariff applies to the night-time lighting of streets and public ways and places.

Small unmetered loads	Network access charge (c/day/customer) Energy at any time (c/kWh)	This tariff applies to eligible installations as determined by ActewAGL Distribution, including: • telephone boxes • telecommunication devices • other, as determined by the National Metrology Coordinator. Energy charges are calculated based on the assessed rating of the load and the charge period.

* Business times are between 7 am and 5 pm Eastern Standard Time on weekdays. Evening times are between 5 pm and 10 pm Eastern Standard Time on weekdays. Off-peak times are all other times.

For each of the tariffs shown in Table 2-2 (except small unmetered loads), two separate codes will apply – one which includes a meter capital charge and one which excludes the meter capital charge (XMC). The basis for the separate meter capital charges is explained in section 4.2 below.

2.1.3 Network tariffs for high voltage customers

To qualify for the high voltage demand network charges, consumers must take their energy at high voltage (nominal voltage not less than 11 kV) and make a capital contribution towards their connection assets and transformers. High voltage consumers have the option of owning and operating their own high voltage assets. Some customers have aggregated their load, incorporating part of AAD's low voltage network to become a high voltage customer. A separate high voltage network charge is available for such customers.

Customers taking their energy at high voltage also have the option of selecting the network tariffs available to low voltage customers. For example, a high voltage customer with a poor load factor may select the *General time-of-use* network tariff.

As set out in AAD's first TSS, HV commercial customers will be offered three tariff options in 2017/18. This is a change from 2016/17 where four tariffs were offered to HV commercial customers. Specifically, from 1 July 2017, the HV TOU Demand Network – Consumer HV (Code 112) tariff will be eliminated. The tariff currently has no consumers, so there is no consumer impact from this change. Given that AAD has a relatively small number of HV commercial customers, and that the tariffs offered to those customers are already similar, this change will simplify the tariff schedule.

Table 2-3 Network tariff structure - high voltage

Tariff (code)	*Charging parameters*	*Explanation*
HV TOU Demand Network (111)	Network access charge (c/day/connection point) Max demand (in billing period) (c/kVA/day) Capacity (max demand in past year) (c/kVA/day) Energy at business times* (c/kWh) Energy at evening times (c/kWh) Energy at off-peak times (c/kWh)	This tariff is appropriate for large customers taking supply at high voltage with a low voltage network owned and maintained by ActewAGL Distribution. The network access charge relates to the connection services provided to the customer including provision of the current transformer necessary to meter these large loads. The demand charge is applied to the maximum demand in the billing period while the capacity chare is applied to the maximum demand in the previous 12 months. The capacity charge encourages the consumer to monitor and manage their peak demand over the year while the demand charge continues to encourage consumers to manage their capacity requirements each month. The energy charges relate to supply of network services at different times, with lower rates in off-peak times reflecting the relatively low costs of off-peak supply, and thereby providing incentives for customers to switch their utilisation of the network to off-peak periods.
HV TOU Demand Network – Customer LV (121)	Network access charge (c/day/connection point) Max demand (in billing period) (c/kVA/day) Capacity (max demand in past year) (c/kVA/day) Energy at business times* (c/kWh) Energy at evening times (c/kWh) Energy at off-peak times (c/kWh)	This network tariff is appropriate for large customers taking supply at high voltage where the customer owns and is fully responsible for their own low voltage network. The network access charge relates to the connection services provided to the customer including provision of the current transformer necessary to meter these large loads. The demand charge is applied to the maximum demand in the billing period while the capacity chare is applied to the maximum demand in the previous 12 months. The capacity charge encourages the consumer to monitor and manage their peak demand over the year while the demand charge continues to encourage consumers to manage their capacity requirements each month. The energy charges relate to supply of network services at different times, with lower rates in off-peak times reflecting the relatively low costs of off-peak supply, and thereby providing incentives for customers to switch their utilisation of the network to off-peak periods.

HV TOU Demand Network – Customer HV and LV (122)	Network access charge (c/day/connection point) Max demand (in billing period) (c/kVA/day) Capacity (max demand in past year) (c/kVA/day) Energy at business times* (c/kWh) Energy at evening times (c/kWh) Energy at off-peak times (c/kWh)	This network tariff is appropriate for large customers taking supply at high voltage where the customer owns and is fully responsible for their own low voltage network and where the customer owns and is responsible for their high voltage assets (including transformers and switch gear). The network access charge relates to the connection services provided to the customer including provision of the current transformer necessary to meter these large loads. The demand charge is applied to the maximum demand in the billing period while the capacity chare is applied to the maximum demand in the previous 12 months. The capacity charge encourages the consumer to monitor and manage their peak demand over the year while the demand charge continues to encourage consumers to manage their capacity requirements each month. The energy charges relate to supply of network services at different times, with lower rates in off-peak times reflecting the relatively low costs of off-peak supply, and thereby providing incentives for customers to switch their utilisation of the network to off-peak periods.

* Business times are between 7 am and 5 pm Eastern Standard Time on weekdays. Evening times are between 5 pm and 10 pm Eastern Standard Time on weekdays. Off-peak times are all other times.

2.1.4 Ancillary network charges

In addition to the network tariffs set out above, AAD offers a range of ancillary network services. The structure of each ancillary service charge depends on the type of service. Some services are charged on a per visit basis, others per installation or per test. The charges for ancillary network services are set on a cost reflective basis, in accordance with the 2017/18 Undertaking and the AER's Final Decision. For example, separate rates apply for temporary connections depending on whether they relate to an overhead or underground connection, as these will involve different costs. Ancillary network services and metering services charges are discussed in chapter 4.

2.2 Pricing strategy

ActewAGL Distribution has developed and refined its network tariff structure over time, guided by its pricing strategy. The strategy involves:

- setting prices to signal to customers the economic costs of providing distribution services;
- providing customers with a choice of flexible and innovative tariffs to best meet their needs;
- providing incentives and opportunities for demand management;
- ensuring that tariffs are set to recover costs in a way that encourages efficient use of the network and signals to customers the cost of network expansion; and,
- offering customers a clear and simple tariff structure, noting the need to take account of the ability of different customer groups to respond to price signals and the need to keep transaction costs low.

AAD's pricing strategy has accommodated the development of innovative tariffs and significant customer responses. For example, in line with the strategies of setting cost reflective prices and providing opportunities and incentives for demand management, AAD has introduced time-of-use tariffs for both commercial and residential customers, which have been the default tariff for all new residential and commercial customers.

The application of maximum demand and capacity charges in several commercial tariff options has further strengthened price signals to customers, providing incentives to use the network more efficiently and resulting in significant customer responses. The maximum demand charges signal to customers the relatively high cost of providing capacity to meet demand and provide incentives to customers to improve both their load factor (that is, spread their load more evenly) and power factor (which allows the existing network to deliver more energy).

These price signals have been effective demand management tools and have allowed AAD to keep network augmentation costs to a minimum. To continue this journey towards more cost-reflective tariffs, two new demand tariffs will be introduced from 1 December 2017. As per the first TSS, the changes to each tariff class are outlined below.

- Residential customers — A new demand tariff for residential customers whose premises are fitted with a remotely read interval meters (type 4 meter). This will be effective from 1 December 2017 in line with the expected timeframe for metering contestability. For our customers without remotely read metering technology, AAD has improved the alignment of their tariff levels to the estimates of long run marginal cost of supply.
- Low voltage commercial customers — A new peak period demand tariff for LV commercial customers whilst continuing to offer existing cost-reflective tariffs for customers in this tariff class.
- High voltage commercial customers — Maintain the existing tariff structure for high voltage commercial customers and consolidate the number of tariffs from four to three.

2.3 Consistency with the pricing principles in the Rules

In this subsection, the manner in which tariffs have been set to ensure they comply with each of the pricing principles in the Rules is set out.

2.3.1 Tariffs to be based on the long run marginal cost

Clause 6.18.5(f) of the Rules states that each tariff must be based on the long run marginal cost (LRMC) of the network service. The purpose of the LRMC requirement is to ensure that prices signal to customers the forward-looking costs of meeting additional demand or the savings from reduced demand.

In order to be compliant with Clause 6.18.5 (f) of the Rules, all network tariffs have been reviewed to be based on the LRMC of providing electricity network services. Network businesses have flexibility about how they measure their LRMC.

The approach to basing tariffs on LRMC is outlined in more detail in Section 2.4.

2.3.2 There are no cross subsidies between tariff classes

The Rule changes retain the existing pricing principle that is designed to avoid cross-subsidies between different classes of consumers (that is, residential and commercial consumers). This principle requires the revenues recovered from each tariff class to lie between the avoidable cost of not providing the service and the stand-alone cost of providing the service to the relevant consumers. This safeguards against large cross-subsidies between tariff classes, consistent with Clause 6.18.5 (e).

The results for avoidable and stand-alone costs are shown in Table 2.4. The table also shows that average 2017/18 distribution use-of-system (DUOS) revenue for each tariff class lies within the range established by avoidable costs and standalone costs. The tariffs therefore comply with the requirement in clause 6.18.5(e) of the Rules.

Table 2-4 Avoidable and standalone costs 2017/18 ($'000)

Tariff Classes	*Avoidable Cost ('000)*	*DUOS Charges ('000)*	*Stand Alone Cost ('000)*
Residential	$8,335	$54,235	$131,558
Commercial Low Voltage	$984	$70,554	$124,206
High Voltage	$32	$7,785	$123,255
Total		$132,574	

2.3.3 Tariffs recover total efficient costs

The revenue to be recovered from each network tariff must recover the network business' total efficient costs of providing network services in a way that minimises distortions to price signals that encourage efficient use of the network by customers. This principle has three parts:

1. to enable the recovery of total efficient costs;
2. that the revenue from each tariff reflects the total efficient cost of providing services to those consumers; and
3. that revenue is recovered in a way that minimises distortions to consumers' usage decisions consistent with Clause 6.18.5 (g).

Each year AAD intends to adjust the price levels, such that the expected revenue from all tariffs is in accordance with the revenue allowance set out in an Undertaking or Final Determination. AAD will also ensure that tariffs reflect the total efficient costs of serving each customer assigned to each tariff by basing tariffs on LRMC.

2.3.4 Consideration of consumer impacts

Tariffs are to be developed in line with a new consumer impact principle that requires network businesses to consider the impact on consumers of changes in network prices and to develop tariff structures that are able to be understood by consumers, as per Clause 6.18.5(h) of the Rules.

The consumer impacts of changing network tariffs have been carefully considered in determining how to transition consumers to cost reflective tariffs over time. As stated by the AEMC, it is important that clear, understandable and stable network prices, in accordance with

the principles in the network pricing Rules, facilitate the ability of consumers to receive and respond to future price signals.[15]

AAD has carefully considered consumer impacts in developing the network tariffs for 2017/18. Specifically, bill impacts are estimated in Section 5.

2.3.5 Capable of being understood

AAD has designed tariffs to ensure they are reasonably capable of being understood by consumers, in accordance with Clause 6.18.5 (i).

Over time, as many network businesses across Australia move towards more cost reflective tariff structures, the familiarity and therefore understanding of demand tariffs will improve. This will include a greater understanding of the drivers of network costs and how network prices reflect these costs.

In setting the tariff structure for 2017/18, the ability of consumers to understand changes to the tariff structure has been carefully assessed. For example, the new demand tariffs for residential and LV commercial consumers are based on a single charge in every season applied over a peak time period. While a more complex tariff may be more cost reflective, it is also less likely to be understood, which may lead to consumers being unaware or unable to respond to the price signal.

2.3.6 Tariffs comply with jurisdictional obligations

As per Clause 6.18.5 (j), network tariffs must comply with any jurisdictional pricing obligations imposed by state or territory governments. If network businesses need to depart from the above principles to meet jurisdictional pricing obligations, they must do so transparently and only to the minimum extent necessary. In line with ACT Government requirements, AAD recovers the jurisdictional schemes in the ACT. These jurisdictional schemes are recovered in network use-of-system (NUOS) tariffs.

2.4 The price setting process

The process of setting network prices according to the associated 2017/18 Undertaking involves the following steps.

1. Determine the maximum revenue to be recovered through distribution use of system (DUOS) charges, as described in section 2.4.1 below.
2. Determine the total amount of the LRMC which is to be recovered in each tariff (section 2.4.2).
3. Determine the prices to be applied to each component of each tariff so as to recover the LRMC for each tariff. This process of setting the DUOS charges for each tariff class is described in section 2.4.3 below.
4. Allocate transmission use of system (TUOS) and jurisdictional scheme (JS) charges to tariff classes. These together with the metering capital (MC) charge are combined to

[15] AEMC 2014, *National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014,* Rule Determination, p.12

form the total network charges (DUOS+TUOS+JS+MC) to apply for each tariff class. The process of allocating TUOS charges and jurisdictional scheme costs is described in section 2.4.4 below. Section 4.3 explains why the metering capital charge is included in the network charge.

2.4.1 Revenue to be recovered through DUOS charges

In accordance with the 2017/18 Enforceable Undertaking, the average annual smoothed revenue for 2015/16 (in c/kWh) is escalated by CPI for 2016/17 (1.51 per cent) and CPI for 2017/18 (1.28 per cent) to calculate an AAR for 2017/18 of $0.04559 per kwh. This 2017/18 AAR is converted to a smoothed revenue for 2017/18 by multiplying it by the 2015/16 throughput (in kWh). Approved cost pass-throughs (positive or negative) are then added to this total smoothed revenue. However, there are no pass throughs for 2017/18 being claimed by AAD. The resulting value is the total annual revenue requirement to be recovered through the 2017/18 DUOS charges when they are applied to the 2015/16 customer numbers and throughput profile for each tariff.

The relevant values for each of these components and the calculation of the DUOS cap for 2017/18 are provided in chapter 3.

2.4.2 Determine LRMC

The LRMC for a network service can be calculated in a number of different ways. AAD uses the Average Incremental Cost (AIC) approach, which is underpinned by a business' forecast of the change it expects to incur in its future costs (numerator) as a result of its forecast change in demand for its service/s (denominator), with both the numerator and denominator discounted back to create a net present value (NPV). The AIC approach ensures that if the underlying demand and cost forecasts eventuate, the NPV of revenue generated over the evaluation period from the implementation of LRMC-based tariffs will equal the NPV of the costs that AAD incurs.

Using the AIC approach derives an LRMC estimate that is based on $/kVA. AAD's approach to applying LRMC to network tariffs is unchanged from the approach set out in AAD's Tariff Structure Statement[16]. In determining the total LRMC to be applied to each tariff:

- the maximum demand for the total load on each tariff was estimated; and then
- the LRMC was applied to these maximum demands to determine the total LRMC to be recovered within each tariff.

The maximum demand for each tariff was calculated by applying an estimate of the annual load factor for each tariff to the energy consumed under each tariff. For the residential tariffs, the annual load factor was estimated using the residual load profile less an assumed load profile for small non-residential consumers.

In estimating the load factors, AAD recognised that it was also necessary to take into account other relevant factors. These include the standard of supply to different tariff classes, the fact that off peak loads are unlikely to have an effect on the LRMC of the network, and that high

[16] https://www.actewagl.com.au/Networks/About-our-network/Initiatives/Consumer-engagement/Tariff-Structure-Statements.aspx

voltage consumers make a capital contribution towards their high voltage asset and towards upstream augmentation.

The adjusted load factors were applied to the energy consumption for each tariff to determine the maximum demand of the load for each tariff. If the maximum demand for all tariffs is aggregated, they are necessarily larger than the system peak because the peak for different tariffs or even tariff classes, don't occur simultaneously. In the same way, the estimated maximum demand for each tariff would not occur simultaneously. For this reason, a diversity factor is applied to lower the maximum demand of all tariffs so that when the diversified maximum demand is applied to the LRMC, the tariffs recover those costs to comply with the revenue allowance set according to the Undertaking. More detail regarding the determination of LRMC is contained in Attachment 1 of AAD's first TSS[17].

2.4.3 Determine DUOS Prices

When setting the levels of the tariff components that make up each tariff, slightly different approaches have been adopted, depending on whether a tariff has a demand component or not. These approaches are described below.

Non-demand based tariffs

Where a tariff does not have a demand tariff component, AAD has generally sought to retain fixed charges at similar levels to what they are currently, and adjusted the energy charge so that the average revenue generated from that tariff equals the LRMC for consumers on that tariff. In relation to tariffs that do not have a demand tariff component, the approach should not materially distort consumption or investment decisions.

Demand based tariffs

Each charging component within the overall network tariff has been set on the basis that the overall network tariff is on a price path to fully reflect the LRMC. Where a tariff has a demand tariff component, the demand rate is based on the LRMC, with a transition path to a fully cost reflective levels over time. The energy and fixed components of the tariff were set using existing flat and time-of-use tariffs' energy and fixed component levels as a starting point to move towards LRMC. In this way, consumers' bill impacts have been taken into account. The energy charges are set to become more cost-reflective over time, subject to a transition period. The fixed charges are set after determining the demand and energy charges, to recover the residual of the revenue requirement that is not recovered through demand or energy charges.

When setting prices for the two new demand tariffs, AAD used representative samples of demand data. For the residential sample, AAD established a process of collecting demand data from a sample of residential customers on a quarterly basis. For the commercial sample, AAD was able to draw on the demand data that is already collected for small LV commercial customers that are on the kVA based demand tariff.

These samples of demand data enabled AAD to set charges for each of the new demand tariff components in a way that sends a clear price signal to customers about when the use of the network is likely to bring forward the need for investment in additional capacity. Further, the

[17] ibid

data sample enabled a comparison of a typical electricity network bill on a flat, time-of-use and demand tariff to analyse customer impacts.

The AER determines the revenue that AAD is allowed to collect via distribution charges. The change in approach to setting DUOS prices (i.e. basing tariffs on LRMC, as per the Rule change in clause 6.18.5 (f)) does not change AAD's revenue allowance.

The approaches to demand and non-demand based tariffs have ensured that tariffs are based on the LRMC and generate revenue that complies with the DUOS revenue allowance as set out in the Undertaking.

2.4.4 Allocating transmission use of system charges and jurisdictional scheme costs

Transmission use of system (TUOS) costs comprise AAD's regulated revenue from its dual function assets, avoided TUOS payments to embedded generators and TUOS charges paid to TransGrid and other transmission network service providers (TNSPs). In addition, there are adjustments each year through AAD's overs and unders account to ensure that charges recover only the costs incurred. The dual function asset costs and TUOS charges paid to TransGrid have increased in 2017/18. However, the relatively large over recovery of TUOS revenue in 2016/17 (due to a CPI increase in TUOS prices, as per the Undertaking, rather than the activation of the under and overs account and the reduction in charges paid to TransGrid and other TNSPs), results in an overall decrease in TUOS charges for 2017/18. AAD recovers TUOS costs in its energy charges and, where possible, in its demand and capacity charges.

Jurisdictional scheme costs are allocated to network energy charges, so customers pay in proportion to the amount of energy they consume. The allocation of jurisdictional scheme costs involves some weighting for peak and off-peak energy use in tariffs containing a time-of-use energy component. This is because if the jurisdictional charges were the same for peak, shoulder and off-peak energy, it would change the relativities between these energy consumption charges, resulting in a diluted price signal.

3 Network tariffs for 2017/18

3.1 The average annual smoothed revenue cap for standard control services

3.1.1 Average annual smoothed revenue for standard control services

AAD's standard control service prices are regulated using an average annual smoothed revenue (AAR) cap. The AAR for 2017/18 calculated according to the 2017/18 Enforceable Undertaking is $0.04559 per kWh. For 2017/18 the X factor is assumed to be 0 per cent. The CPI of 1.51 per cent (for 2016/17) and 1.28 per cent (for 2017/18) is applied to the allowed average revenue (AAR) for 2015/16 to calculate the AAR in 2017/18. The calculations of the AAR are shown in Table 3-1.

Table 3-1 Calculation of the Allowable Average Revenue 2017/18

	AAR previous year	*X Factor*	*Sum of CPI indices*	*CPI*	*AAR*
2015/16	$0.05326	-18.76%	*424.3*	2.49%	$0.04435
2016/17	$0.04435	0.00%	*430.7*	1.51%	$0.04502
2017/18	$0.04502	0.00%	*436.2*	1.28%	$0.04559

Note that, while the CPI is shown as a percentage to 2 decimal places, the actual CPI figures applied to the AAR are calculated based on the CPI index for the sum of the CPI indices for each year divided by the sum of the CPI indices for the previous year[18]. Similarly, the AAR figures are not rounded.

3.1.2 Calculation of the revenue cap for DUOS prices

The AAR is applied to the actual energy transported in the previous full financial year to establish an average revenue cap for the following financial year. Therefore, the prices for 2017/18 are based upon energy transported in 2015/16. The actual energy transported in the 2015/16 financial year was 2,907,917,087 kWh. This is multiplied by the AAR for 2017/18 of $0.04559 per kWh, to give the revenue ceiling for standard control services delivered in 2017/18 of $132,574,002.

The calculation of the revenue to be recovered from 2017/18 distribution use of system (DUOS) charges is shown in Table 3-2.

Table 3-2 Calculation of the revenue cap for DUOS prices 2017/18

Allowable average revenue ($/kWh)		*A*	$0.04559
Energy sales ACT (kWh)	2015/16	*B*	2,907,917,086
Allowable revenue cap for standard control services		*C = A x B*	$132,574,002

Note: The AAR shown in this table has been rounded to 5 decimal places. The calculations have been made without rounding.

[18] NER Chapter 10, Glossary

3.2 Distribution use of system charges

AAD's proposed DUOS prices for 2017/18 are shown in Table 3-3. These prices would have recovered $132,574,002 on the actual customer, demand and energy quantities recorded in the 2015/16 financial year. The proposed distribution prices are, therefore, within the DUOS annual revenue cap of $132,574,002.

The table shows the tariff classes that are to apply in 2017/18 and the tariffs for each tariff class. The charging parameters for each tariff are set out together with the service to which that charging parameter relates. All prices exclude GST unless otherwise stated. The 2017/18 notional revenue numbers shown in the table are the proposed charges multiplied by the relevant quantities for the previous financial year (2015/16).

Table 3-3 Distribution use of system charges 2017/18

Code	Tariff & Element of Service	Units	2015/16 kWh /Cust No. / kVA	2017/18 Proposed Charges	2017/18 Notional Revenue
Residential tariffs					
010	**Residential Basic Network**				
	Network access	c/day/customer	132,319	26.048	$12,614,685
	Energy at any time	c/kWh	840,622,507	3.605	$30,304,441
015	**Residential TOU Network**				
	Network access	c/day/customer	25,564	26.048	$2,437,160
	Energy at max times	c/kWh	40,364,502	7.535	$3,041,465
	Energy at mid times	c/kWh	59,199,676	2.699	$1,597,799
	Energy at economy times	c/kWh	39,838,532	0.510	$203,177
020	**Residential 5000 Network**				
	Network access	c/day/customer	3,985	47.548	$693,435
	Energy for the first 60 kWh per day	c/kWh	32,268,916	2.305	$743,799
	Energy above 60 kWh per day	c/kWh	814,544	3.605	$29,364
025	**Residential Demand Network**				
	Network access charge	cents/day	1	26.048	$95
	Energy consumption	cents/kWh	6,327	1.072	$68
	Peak period maximum demand	c/kW/day	4	11.500	$184
030	**Residential with Heat Pump Network**				
	Network access	c/day/customer	5,109	90.848	$1,698,665
	Energy for the first 165 kWh per day	c/kWh	69,266,533	0.845	$585,302
	Energy above 165 kWh per day	c/kWh	522,462	3.605	$18,835
060	**Off-Peak (1) Night Network**				
	Energy at controlled times	c/kWh	11,588,559	0.212	$24,568
070	**Off-Peak (3) Day & Night Network**				
	Energy at controlled times	c/kWh	76,041,496	0.318	$241,812
	Renewable Energy Generation				
	Gross metered energy	c/kWh	20,448,812	0.000	$0
COMMERCIAL LOW VOLTAGE TARIFFS					
040	**General Network**				
	Network access	c/day/customer	12,204	47.690	$2,130,159
	Energy for the first 330 kWh per day	c/kWh	233,389,775	7.020	$16,383,962
	Energy above 330 kWh per day	c/kWh	16,756,621	10.622	$1,779,888

135Small Unmetered Loads Network				
Network access	c/day/customer	23	38.800	$3,266
Energy at any time	c/kWh	1,433,092	8.055	$115,436
080Streetlighting Network				
Network access	c/day/customer	19	47.990	$3,418
Energy for night time lighting of streets public ways & places	c/kWh	42,675,728	4.431	$1,890,961
090General TOU Network				
Network access	c/day/customer	2,236	47.690	$390,200
Energy at business times	c/kWh	61,829,124	11.063	$6,840,156
Energy at evening times	c/kWh	26,606,626	4.868	$1,295,211
Energy at off-peak times	c/kWh	70,476,314	2.190	$1,543,431
Low voltage time of use demand network				
101LV TOU kVA Demand Network				
Network access	c/day/connection point	1,870	52.907	$362,030
Maximum demand	c/kVA/day	216,507	35.767	$28,342,385
Energy at business times	c/kWh	353,960,161	1.714	$6,066,877
Energy at evening times	c/kWh	126,276,344	0.751	$948,335
Energy at off-peak times	c/kWh	384,057,617	0.330	$1,267,390
103LV TOU Capacity Network				
Network access	c/day/connection point	45	52.907	$8,738
Maximum demand (in billing period)	c/kVA/day	6,446	16.745	$395,026
Capacity (maximum demand in last year)	c/kVA/day	7,662	16.745	$469,595
Energy at business times	c/kWh	12,350,556	1.714	$211,689
Energy at evening times	c/kWh	5,443,215	0.751	$40,879
Energy at off-peak times	c/kWh	18,724,349	0.330	$61,790
106LV Demand Network				
Network access charge	cents/day	1	47.690	$175
Energy consumption	cents/kWh	50,427	1.613	$813
Peak period maximum demand	c/kW/day	19	29.700	$2,017

HIGH VOLTAGE TARIFFS

High voltage time of use demand network with ActewAGL low voltage network				
111HV TOU Demand Network				
Network access	$/day/connection point	1	19.600	$7,174
Maximum demand (in billing period)	c/kVA/day	1,618	12.500	$74,007
Capacity (maximum demand in last year)	c/kVA/day	1,925	12.500	$88,065
Energy at business times	c/kWh	2,809,969	0.756	$21,243
Energy at evening times	c/kWh	1,172,729	0.284	$3,331
Energy at off-peak times	c/kWh	3,511,411	0.092	$3,230
High voltage time of use demand network without ActewAGL low voltage network				
121HV TOU Demand Network – Customer LV				
Network access	$/day/connection point	22	19.600	$156,026
Maximum demand (in billing period)	c/kVA/day	64,313	12.500	$2,942,309
Capacity (maximum demand in last year)	c/kVA/day	81,046	12.500	$3,707,844
Energy at business times	c/kWh	128,545,919	0.236	$303,368
Energy at evening times	c/kWh	49,122,710	0.094	$46,175
Energy at off-peak times	c/kWh	160,085,930	0.032	$51,227
122HV TOU Demand Network – Customer HV and LV				

	Network access	$/day/connection point	3	19.600	$22,991
	Maximum demand (in billing period)	c/kVA/day	3,418	11.700	$146,358
	Capacity (maximum demand in last year)	c/kVA/day	4,497	11.700	$192,561
	Energy at business times	c/kWh	5,903,153	0.236	$13,931
	Energy at evening times	c/kWh	2,755,371	0.094	$2,590
	Energy at off-peak times	c/kWh	8,997,078	0.032	$2,879
	Total				**$132,573,992**
	Total Customers		**183,401**		
	Total Energy Consumption		**2,907,917,086**		

'* Each of the new demand tariffs assume that one customer with an average consumption and demand profile, was assigned to the tariffs in 2015/16. The volumes assigned to the new demand tariffs are deducted from the flat rate tariffs (Residential Basic and General Network) to ensure the summation of volumes matches the actual volumes for 2015/16. See accompanying Compliance report for more detail.

To show compliance with the AER's control mechanism, AAD is required to demonstrate that the sum of the standard control services revenue using the prices for the pricing year and the quantities for the previous financial year divided by the quantity of energy in kWh transported over the previous financial year (2015/16) is less than or equal to the Average Annual Revenue Cap (AARC) for the pricing year.

The sum of DUOS charges is divided by the 2015/16 financial year energy transported in the ACT of 2,907,917,086 kWh, resulting in an average price of $0.04559 per kWh (see Table 3-4). As the average price is equal to the AARC, the prices comply with the 2017/18 Enforceable Undertaking.

3.2.1 Weighted average prices

Table 3-4 sets out for each tariff class related to standard control services, the expected weighted average DUOS revenue for the regulatory year and the current year, as required by clause 6.18.2(b)(4) of the Rules.

Table 3-4 Weighted average DUOS revenue by tariff class

DUOS	**Weighted Average Revenue c/kWh**			
Tariff Class	**2016/17 (c/kWh)**	**2017/18 (c/kWh)**	**Change c/kWh**	**Change %**
Residential Tariffs	4.56	4.55	-0.01	-0.2%
Commercial Low Voltage	5.36	5.21	-0.15	-2.8%
High Voltage	2.34	2.15	-0.20	-8.5%
Average	4.66	4.56	-0.10	-2.1%

3.3 Transmission use of system charges

The AER separately regulates transmission use of system (TUOS) charges. The CPI of 1.48[19] per cent and the X factor of 0 per cent (updated for the 2016/17 cost of debt[20]) is applied to AAD's regulated revenue from prescribed (transmission) services for 2016/17 of $24,352,434 to determine the transmission revenue cap of $24,712,880 for 2017/18. AAD advised TransGrid of this revenue requirement and Transgrid subsequently advised AAD of the transfer payments. These transfer payments, including Queanbeyan transmission charges, show that AAD's net transmission charge to be paid to other TNSPs for 2017/18 is 26.916 million. This net transfer was combined with the regulated revenue from prescribed (transmission) services and avoided TUOS payments to calculate AAD's total transmission related payments of $51.689 million in 2017/18.

AAD's total TUOS charges are not part of its regulated revenue requirement for distribution standard control services. Clause 6.18.7(a) of the Rules allows AAD to pass on to customers the charges to be incurred by AAD for TUOS services. Clause 6.18.7(b) of the Rules says that the amount to be passed on must not exceed the estimated amount of the TUOS charges for the relevant regulatory year adjusted for under or over recovery in the previous regulatory year. Clause 6.18.7(c) describes the method to be applied in determining the extent of under or over recovery.

To demonstrate compliance with clause 6.18.7 of the Rules, AAD is required to maintain a TUOS overs and unders account. Clause 6.18.2(b)(7) requires AAD to provide information on this account as part of the annual pricing proposal. Table 3-5 provides details of the TUOS overs and unders account.

Table 3-5 TUOS overs and unders account ($'000)

	2015/16 Actual	2016/17 Estimate	2017/18 Forecast
Revenue from TUOS charges	61,776	63,388	31,283
ActewAGL Dual Function Asset Revenue Cap	24,102	24,352	24,712
Net Transmission charges paid to TNSPs	34,535	22,692	26,916
Avoided TUOS payments	62	62	62
Inter-DNSP payments	0	0	0
Total transmission related payments	58,699	47,106	51,689
Over (under) recovery for the financial year	3,077	16,282	-20,406
Overs and unders account			
Annual rate of interest applicable to balances	6.38%	6.35%	6.30%
Semi-annual interest rate	3.14%	3.13%	3.10%
Opening Balance	-330	2,822	19,793

[19] The CPI applied to TUOS is the change in the CPI from December 2015 to December 2016, as per Figure 14.3 of the AER's Final Decision.
[20] As per AAD's letter to the AER on 3 November 2016, AAD's revenue cap for 2017/18 reflects an updated cost of debt for 2016/17.

Interest on opening balance	-21	179	1,246
Over/under recovery for financial year	3,077	16,282	-20,406
Interest on over/under recovery	97	509	-632
Closing balance	2,822	19,793	0

The forecast revenue requirement from TUOS charges for 2017/18 shown in Table 3-6 is $31,283,081; a decrease of 50 per cent compared to estimated TUOS revenue for 2016/17. AAD recovers TUOS charges from ACT consumers according to the energy they consume and, where possible, according to maximum demand in a month (and over the year where capacity charges apply). The cost allocations take into account the load profile of each customer class. The consumption profile used to calculate TUOS prices is the same 2015/16 consumption profile used to calculate DUOS prices. Also, the TUOS charges are adjusted for the over or under recovery of TUOS charges in the previous regulatory years.

The TUOS prices would have recovered revenue of $31,283,081 under the 2015/16 profile as shown in Table 3-6.

Table 3-6 Transmission use of system charges 2017/18

Description	Unit	Cust. No./ KWh/ KW/ KVA 2015/16	Proposed Price 2017/18	Notional TUOS Revenue
RESIDENTIAL TARIFFS				
010 Residential Basic Network				
Network access charge	cents/day	132,319	0.000	$0
Energy consumption	cents/kWh	840,622,507	1.052	$8,839,146
015 Residential TOU Network				
Network access charge	cents/day	25,564	0.000	$0
Energy at max times	cents/kWh	40,364,502	1.451	$585,527
Energy at mid times	cents/kWh	59,199,676	0.908	$537,237
Energy at economy times	cents/kWh	39,838,532	0.686	$273,093
Energy at controlled economy times	cents/kWh	0	0.000	$0
020 Residential 5000 Network				
Network access charge	cents/day	3,985	0.000	$0
Energy for the first 60 kWh per day	cents/kWh	32,268,916	1.052	$339,308
Energy above 60 kWh per day	cents/kWh	814,544	1.052	$8,565
025 Residential Demand Network				
Network access charge	cents/day	1	0.000	$0
Energy consumption	cents/kWh	6,327	0.105	$7
Peak period maximum demand	cents/kW/day	4	3.600	$58
030 Residential with Heat Pump Network				
Network access charge	cents/day	5,109	0.000	$0
Energy for the first 165 kWh per day	cents/kWh	69,266,533	1.052	$728,338
Energy above 165 kWh per day	cents/kWh	522,462	1.052	$5,494
060 Off-Peak (1) Night Network				
Energy consumption	cents/kWh	11,588,559	0.480	$55,613
070 Off-Peak (3) Day & Night Network				

Energy consumption	cents/kWh	76,041,496	0.818	$621,639
Renewable Energy Generation				
Gross metered energy	cents/kWh	31,907,262	0.000	$0
Net metered energy	cents/kWh		0.000	$0
COMMERCIAL LOW VOLTAGE TARIFFS				
040 General Network				
Network access charge	cents/day	12,204	0.000	$0
Energy for the first 330 kWh per day	cents/kWh	233,389,775	1.387	$3,235,949
Energy above 330 kWh per day	cents/kWh	16,756,621	1.385	$231,995
135 Small Unmetered Loads Network				
Network access charge	cents/day	23	0.000	$0
Energy consumption	cents/kWh	1,433,092	1.661	$23,807
080 Streetlighting Network				
Network access charge	cents/day	19	0.000	$0
Energy consumption	cents/kWh	42,675,728	0.851	$363,000
090 General TOU Network				
Network access charge	cents/day	2,236	0.000	$0
Energy at business times	cents/kWh	61,829,124	2.170	$1,341,568
Energy at evening times	cents/kWh	26,606,626	0.929	$247,043
Energy at off-peak times	cents/kWh	70,476,314	0.196	$138,275
Low voltage time of use demand network				
101 LV TOU kVA Demand Network				
Network access per connection point	cents/day	1,870	0.000	$0
Maximum demand charge	c/KVA/day	216,507	6.533	$5,176,861
Energy at business times	cents/kWh	353,960,161	1.289	$4,561,839
Energy at evening times	cents/kWh	126,276,344	0.100	$126,276
Energy at off-peak times	cents/kWh	384,057,617	0.100	$384,058
103 LV TOU Capacity Network				
Network access per connection point	cents/day	45	0.000	$0
Maximum demand charge	c/KVA/day	6,446	3.055	$72,070
Capacity charge	c/KVA/day	7,662	3.055	$85,674
Energy at business times	cents/kWh	12,350,556	1.289	$159,174
Energy at evening times	cents/kWh	5,443,215	0.100	$5,443
Energy at off-peak times	cents/kWh	18,724,349	0.100	$18,724
106 LV Demand Network				
Network access charge	cents/day	1	0.000	$0
Energy consumption	cents/kWh	50,427	0.444	$224
Peak period maximum demand	cents/kW/day	19	7.000	$475
HIGH VOLTAGE TARIFFS				
High voltage time of use demand network with ActewAGL low voltage network				
111 HV TOU Demand Network				
Network access per connection point	$/day	1	0.000	$0
Maximum demand charge	c/KVA/day	1,618	2.000	$11,841
Capacity charge	c/KVA/day	1,925	2.000	$14,090
Energy at business times	cents/kWh	2,809,969	1.270	$35,684
Energy at evening times	cents/kWh	1,172,729	0.100	$1,173
Energy at off-peak times	cents/kWh	3,511,411	0.100	$3,511
High voltage time of use demand network without ActewAGL low voltage network				
121 HV TOU Demand Network – Customer LV				

Network access per connection point	$/day	22	0.000	$0
Maximum demand charge	c/KVA/day	64,313	2.000	$470,769
Capacity charge	c/KVA/day	81,046	2.000	$593,255
Energy at business times	cents/kWh	128,545,919	1.270	$1,632,405
Energy at evening times	cents/kWh	49,122,710	0.100	$49,123
Energy at off-peak times	cents/kWh	160,085,930	0.100	$160,086
122 HV TOU Demand Network – Customer HV and LV				
Network access per connection point	$/day	3	0.000	$0
Maximum demand charge	c/KVA/day	3,418	2.000	$25,018
Capacity charge	c/KVA/day	4,497	2.000	$32,916
Energy at business times	cents/kWh	5,903,153	1.270	$74,964
Energy at evening times	cents/kWh	2,755,371	0.100	$2,755
Energy at off-peak times	cents/kWh	8,997,078	0.100	$8,997
Total				**$31,283,067**

3.4 Jurisdictional Schemes

Jurisdictional scheme amounts are those AAD must pay pursuant to ACT Government requirements. The jurisdictional schemes amounts in 2017/18 are:

- The Energy Industry Levy (EIL) $1.2m;
- The Utilities Network Facilities Tax (UNFT) $7.3m;
- The Feed-in Tariff (FiT) $17.7m; and
- The Feed-in Tariff for large schemes (FiT L) $39.1m.

These values for 2017/18 have been included in the jurisdictional scheme unders and overs account for 2017/18 presented in Table 3-7, together with the actual and estimated payments for 2015/16 and 2016/17, respectively.

Table 3-7 Jurisdictional Schemes unders and overs account

	2015/16 Actual ($'000)	2016/17 Estimate ($'000)	2017/18 Forecast ($'000)
Jurisdictional Scheme Revenue	28,639	30,309	69,653
Total jurisdictional scheme related revenue	28,639	30,309	69,653
Feed-in Tariffs (small & medium scale)	14,359	14,578	17,668
Feed-in Tariffs (large scale)	6,036	14,602	39,115
UNFT	6,478	7,170	7,326
Energy Industry levy	1,058	768	1,195
Total jurisdictional scheme related payments	27,931	37,117	65,304
Over (under) recovery for the financial year	708	-6,808	4,349
Overs and unders account			
Annual rate of interest applicable to balances	6.38%	6.35%	6.30%

Semi-annual interest rate	3.14%	3.13%	3.10%
Opening Balance	1,790	2,634	-4,219
Interest on opening balance	114	167	-266
Over/under recovery for financial year	708	-6,808	4,349
Interest on over/under recovery	22	-213	135
Closing balance	2,634	-4,219	0

The total amount to be recovered in jurisdictional scheme charges in 2017/18 is $69,653,411 as shown in Table 3-7. Table 3-8 presents the 2017/18 charges for jurisdictional schemes and revenues to be recovered assuming the energy consumption profile in 2015/16.

Table 3-8 Jurisdictional Scheme charges 2017/18

Description	Unit	Cust. No./ KWh/ KW/ KVA 2015/16	Proposed JS Prices 2017/18	Notional JS Revenue
RESIDENTIAL TARIFFS				
010 Residential Basic Network				
Network access charge	cents/day	132,319	0.000	$0
Energy consumption	cents/kWh	840,622,507	2.484	$20,876,860
015 Residential TOU Network				
Network access charge	cents/day	25,564	0.000	$0
Energy at max times	cents/kWh	40,364,502	3.104	$1,253,076
Energy at mid times	cents/kWh	59,199,676	2.484	$1,470,224
Energy at economy times	cents/kWh	39,838,532	1.855	$738,806
020 Residential 5000 Network				
Network access charge	cents/day	3,985	0.000	$0
Energy for the first 60 kWh per day	cents/kWh	32,268,916	2.484	$801,399
Energy above 60 kWh per day	cents/kWh	814,544	2.484	$20,229
025 Residential Demand Network				
Network access charge	cents/day	1	0.000	$0
Energy consumption	cents/kWh	6,327	2.484	$157
Peak period maximum demand	cents/kW/day	4	0.000	$0
030 Residential with Heat Pump Network				
Network access charge	cents/day	5,109	0.000	$0
Energy for the first 165 kWh per day	cents/kWh	69,266,533	2.484	$1,720,234
Energy above 165 kWh per day	cents/kWh	522,462	2.484	$12,975
060 Off-Peak (1) Night Network				
Energy consumption	cents/kWh	11,588,559	1.298	$150,431
070 Off-Peak (3) Day & Night Network				
Energy consumption	cents/kWh	76,041,496	1.855	$1,410,190
Renewable Energy Generation				
Gross metered energy	cents/kWh	31,907,262	0.000	$0
Net metered energy	cents/kWh		0.000	$0
COMMERCIAL LOW VOLTAGE TARIFFS				
040 General Network				

Network access charge	cents/day	12,204	0.000	$0
Energy for the first 330 kWh per day	cents/kWh	233,389,775	2.484	$5,796,235
Energy above 330 kWh per day	cents/kWh	16,756,621	2.484	$416,151
135 Small Unmetered Loads Network				
Network access charge	cents/day	23	0.000	$0
Energy consumption	cents/kWh	1,433,092	1.835	$26,294
080 Streetlighting Network				
Network access charge	cents/day	19	0.000	$0
Energy consumption	cents/kWh	42,675,728	2.508	$1,070,478
090 General TOU Network				
Network access charge	cents/day	2,236	0.000	$0
Energy at business times	cents/kWh	61,829,124	3.157	$1,952,069
Energy at evening times	cents/kWh	26,606,626	2.484	$660,776
Energy at off-peak times	cents/kWh	70,476,314	1.894	$1,334,680
Low voltage time of use demand network				
101 LV TOU kVA Demand Network				
Network access per connection point	cents/day	1,870	0.000	$0
Maximum demand charge	c/KVA/day	216,507	0.000	$0
Energy at business times	cents/kWh	353,960,161	3.157	$11,175,230
Energy at evening times	cents/kWh	126,276,344	2.339	$2,953,604
Energy at off-peak times	cents/kWh	384,057,617	1.760	$6,759,414
103 LV TOU Capacity Network				
Network access per connection point	cents/day	45	0.000	$0
Maximum demand charge	c/KVA/day	6,446	0.000	$0
Capacity charge	c/KVA/day	7,662	0.000	$0
Energy at business times	cents/kWh	12,350,556	3.157	$389,932
Energy at evening times	cents/kWh	5,443,215	2.339	$127,317
Energy at off-peak times	cents/kWh	18,724,349	1.760	$329,549
106 LV Demand Network				
Network access charge	cents/day	1	0.000	$0
Energy consumption	cents/kWh	50,427	2.484	$1,252
Peak period maximum demand	cents/kW/day	19	0.000	$0
HIGH VOLTAGE TARIFFS				
High voltage time of use demand network with ActewAGL LV network				
111 HV TOU Demand Network				
Network access per connection point	$/day	1	0.000	$0
Maximum demand charge	c/KVA/day	1,618	0.000	$0
Capacity charge	c/KVA/day	1,925	0.000	$0
Energy at business times	cents/kWh	2,809,969	3.094	$86,943
Energy at evening times	cents/kWh	1,172,729	2.166	$25,401
Energy at off-peak times	cents/kWh	3,511,411	1.628	$57,166
High voltage time of use demand network without ActewAGL LV network				
121 HV TOU Demand Network – Customer LV				
Network access per connection point	$/day	22	0.000	$0
Maximum demand charge	c/KVA/day	64,313	0.000	$0
Capacity charge	c/KVA/day	81,046	0.000	$0
Energy at business times	cents/kWh	128,545,919	3.094	$3,977,339
Energy at evening times	cents/kWh	49,122,710	2.166	$1,063,998

Energy at off-peak times	cents/kWh	160,085,930	1.628	$2,606,199
122 HV TOU Demand Network – Customer HV and LV				
Network access per connection point	$/day	3	0.000	$0
Maximum demand charge	c/KVA/day	3,418	0.000	$0
Capacity charge	c/KVA/day	4,497	0.000	$0
Energy at business times	cents/kWh	5,903,153	3.094	$182,649
Energy at evening times	cents/kWh	2,755,371	2.166	$59,681
Energy at off-peak times	cents/kWh	8,997,078	1.628	$146,472
Total				**$69,653,411**

3.5 Metering capital charges

Metering capital charges have been included in the network use-of-system charges, as per the changes required under the AER's Final Decision. An explanation of the metering capital charges for 2017/18 is set out in Section 4.4.

3.6 Network use of system charges

Network use of system (NUOS) charges for 2017/18 comprise the DUOS charges, TUOS charges, jurisdictional scheme charges and for customers connected at 30 June 2015, metering capital charges. The proposed NUOS charges are shown in Table 3-9. All charges exclude GST.

Table 3-9 Network use of system charges 2017/18 (excl. GST)

Description	Unit	Distribution Charges 2017/18	Transmission Charges 2017/18	Jurisdictional Charges 2017/18	Metering Capital 2017/18	Network Charges 2017/18
RESIDENTIAL TARIFFS						
010 Residential Basic Network						
Network access charge	cents/day	26.048	0.000	0.000	7.742	33.790
Energy consumption	cents/kWh	3.605	1.052	2.484		7.140
011 Residential Basic Network XMC*						
Network access charge	cents/day	26.048	0.000	0.000		26.048
Energy consumption	cents/kWh	3.605	1.052	2.484		7.140
015 Residential TOU Network						
Network access charge	cents/day	26.048	0.000	0.000	7.742	33.790
Energy at max times	cents/kWh	7.535	1.451	3.104		12.090
Energy at mid times	cents/kWh	2.699	0.908	2.484		6.090
Energy at economy times	cents/kWh	0.510	0.686	1.855		3.050
016 Residential TOU Network XMC						
Network access charge	cents/day	26.048	0.000	0.000		26.048
Energy at max times	cents/kWh	7.535	1.451	3.104		12.090
Energy at mid times	cents/kWh	2.699	0.908	2.484		6.090
Energy at economy times	cents/kWh	0.510	0.686	1.855		3.050
020 Residential 5000 Network						
Network access charge	cents/day	47.548	0.000	0.000	7.742	55.290
Energy for the first 60 kWh per day	cents/kWh	2.305	1.052	2.484		5.840
Energy above 60 kWh per day	cents/kWh	3.605	1.052	2.484		7.140

021 Residential 5000 Network XMC						
Network access charge	cents/day	47.548	0.000	0.000		47.548
Energy for the first 60 kWh per day	cents/kWh	2.305	1.052	2.484		5.840
Energy above 60 kWh per day	cents/kWh	3.605	1.052	2.484		7.140
025 Residential Demand Network						
Network access charge	cents/day	26.048	0.000	0.000	7.742	33.790
Energy consumption	cents/kWh	1.072	0.105	2.484		3.660
Peak period maximum demand	cents/kW/day	11.500	3.600	0.000		15.100
026 Residential Demand Network XMC						
Network access charge	cents/day	26.048	0.000	0.000		26.048
Energy consumption	cents/kWh	1.072	0.105	2.484		3.660
Peak period maximum demand	cents/kW/day	11.500	3.600	0.000		15.100
030 Residential with Heat Pump Network						
Network access charge	cents/day	90.848	0.000	0.000	7.742	98.590
Energy for the first 165 kWh per day	cents/kWh	0.845	1.052	2.484		4.380
Energy above 165 kWh per day	cents/kWh	3.605	1.052	2.484		7.140
031 Residential with Heat Pump Network XMC						
Network access charge	cents/day	90.848	0.000	0.000		90.848
Energy for the first 165 kWh per day	cents/kWh	0.845	1.052	2.484		4.380
Energy above 165 kWh per day	cents/kWh	3.605	1.052	2.484		7.140
060 Off-Peak (1) Night Network						
Energy consumption	cents/kWh	0.212	0.480	1.298		1.990
070 Off-Peak (3) Day & Night Network						
Energy consumption	cents/kWh	0.318	0.818	1.855		2.990
Renewable Energy Generation						
Gross metered energy	cents/kWh	0.000	0.000	0.000		0.000
Net metered energy	cents/kWh	0.000	0.000	0.000		0.000
COMMERCIAL LOW VOLTAGE TARIFFS						
040 General Network						
Network access charge	cents/day	47.690	0.000	0.000	13.540	61.230
Energy for the first 330 kWh per day	cents/kWh	7.020	1.387	2.484		10.890
Energy above 330 kWh per day	cents/kWh	10.622	1.385	2.484		14.490
041 General Network XMC						
Network access charge	cents/day	47.690	0.000	0.000		47.690
Energy for the first 330 kWh per day	cents/kWh	7.020	1.387	2.484		10.890
Energy above 330 kWh per day	cents/kWh	10.622	1.385	2.484		14.490
135 Small Unmetered Loads Network						
Network access charge	cents/day	38.800	0.000	0.000		38.800
Energy consumption	cents/kWh	8.055	1.661	1.835		11.551
080 Streetlighting Network						
Network access charge	cents/day	47.990	0.000	0.000	13.540	61.530
Energy consumption	cents/kWh	4.431	0.851	2.508		7.790
081 Streetlighting Network XMC						
Network access charge	cents/day	47.990	0.000	0.000		47.990
Energy consumption	cents/kWh	4.431	0.851	2.508		7.790
090 General TOU Network						
Network access charge	cents/day	47.690	0.000	0.000	13.540	61.230
Energy at business times	cents/kWh	11.063	2.170	3.157		16.390
Energy at evening times	cents/kWh	4.868	0.929	2.484		8.280
Energy at off-peak times	cents/kWh	2.190	0.196	1.894		4.280

091 General TOU Network XMC						
Network access charge	cents/day	47.690	0.000	0.000		47.690
Energy at business times	cents/kWh	11.063	2.170	3.157		16.390
Energy at evening times	cents/kWh	4.868	0.929	2.484		8.280
Energy at off-peak times	cents/kWh	2.190	0.196	1.894		4.280
Low voltage time of use demand network						
101 LV TOU kVA Demand Network						
Network access per connection point	cents/day	52.907	0.000	0.000	109.281	162.188
Maximum demand charge	c/KVA/day	35.767	6.533	0.000		42.300
Energy at business times	cents/kWh	1.714	1.289	3.157		6.160
Energy at evening times	cents/kWh	0.751	0.100	2.339		3.190
Energy at off-peak times	cents/kWh	0.330	0.100	1.760		2.190
103 LV TOU Capacity Network						
Network access per connection point	cents/day	52.907	0.000	0.000	109.281	162.188
Maximum demand charge	c/KVA/day	16.745	3.055	0.000		19.800
Capacity charge	c/KVA/day	16.745	3.055	0.000		19.800
Energy at business times	cents/kWh	1.714	1.289	3.157		6.160
Energy at evening times	cents/kWh	0.751	0.100	2.339		3.190
Energy at off-peak times	cents/kWh	0.330	0.100	1.760		2.190
104 LV TOU kVA Demand Network XMC						
Network access per connection point	cents/day	52.907	0.000	0.000		52.907
Maximum demand charge	c/KVA/day	35.767	6.533	0.000		42.300
Energy at business times	cents/kWh	1.714	1.289	3.157		6.160
Energy at evening times	cents/kWh	0.751	0.100	2.339		3.190
Energy at off-peak times	cents/kWh	0.330	0.100	1.760		2.190
105 LV TOU Capacity Network XMC						
Network access per connection point	cents/day	52.907	0.000	0.000		52.907
Maximum demand charge	c/KVA/day	16.745	3.055	0.000		19.800
Capacity charge	c/KVA/day	16.745	3.055	0.000		19.800
Energy at business times	cents/kWh	1.714	1.289	3.157		6.160
Energy at evening times	cents/kWh	0.751	0.100	2.339		3.190
Energy at off-peak times	cents/kWh	0.330	0.100	1.760		2.190
106 LV Demand Network						
Network access charge	cents/day	47.690	0.000	0.000	13.540	61.230
Energy consumption	cents/kWh	1.613	0.444	2.484		4.540
Peak period maximum demand	cents/kW/day	29.700	7.000	0.000		36.700
107 LV Demand Network XMC						
Network access charge	cents/day	47.690	0.000	0.000		47.690
Energy consumption	cents/kWh	1.613	0.444	2.484		4.540
Peak period maximum demand	cents/kW/day	29.700	7.000	0.000		36.700
High voltage time of use demand network with ActewAGL low voltage network						
111 HV TOU Demand Network						
Network access per connection point	$/day	19.600	0.000	0.000		19.600
Maximum demand charge	c/KVA/day	12.500	2.000	0.000		14.500
Capacity charge	c/KVA/day	12.500	2.000	0.000		14.500
Energy at business times	cents/kWh	0.756	1.270	3.094		5.120
Energy at evening times	cents/kWh	0.284	0.100	2.166		2.550
Energy at off-peak times	cents/kWh	0.092	0.100	1.628		1.820
High voltage time of use demand network without ActewAGL low voltage network						

121 HV TOU Demand Network – Customer LV					
Network access per connection point	$/day	19.600	0.000	0.000	19.600
Maximum demand charge	c/KVA/day	12.500	2.000	0.000	14.500
Capacity charge	c/KVA/day	12.500	2.000	0.000	14.500
Energy at business times	cents/kWh	0.236	1.270	3.094	4.600
Energy at evening times	cents/kWh	0.094	0.100	2.166	2.360
Energy at off-peak times	cents/kWh	0.032	0.100	1.628	1.760
122 HV TOU Demand Network – Customer HV and LV					
Network access per connection point	$/day	19.600	0.000	0.000	19.600
Maximum demand charge	c/KVA/day	11.700	2.000	0.000	13.700
Capacity charge	c/KVA/day	11.700	2.000	0.000	13.700
Energy at business times	cents/kWh	0.236	1.270	3.094	4.600
Energy at evening times	cents/kWh	0.094	0.100	2.166	2.360
Energy at off-peak times	cents/kWh	0.032	0.100	1.628	1.760

* XMC tariffs exclude metering capital charges.

3.7 Changes to network tariffs

Clause 6.18.2(b)(8) of the Rules requires an explanation of the nature and extent of changes from the previous regulatory year. Table 3-10 compares the network charges (excluding metering capital charges) in 2017/18 with those in 2016/17. The average change in network charges is shown in cents per kWh and as a percentage for an average consumer for each tariff.[21]

[21] The average change in network charges is calculated by determining the average revenue for each tariff using the prices for each year and taking the difference. The percentage change is this difference divided by the average revenue for each tariff using 2015/16 prices.

Table 3-10 Changes to network charges

Description	Unit	Network Charges 2016/17	Network Charges 2017/18	Average Change c/kWh	Average Change %
RESIDENTIAL TARIFFS					
010 Residential Basic Network				0.261	3.1%
Network access charge	cents/day	25.641	26.048		
Energy consumption	cents/kWh	6.902	7.140		
015 Residential TOU Network				0.336	4.0%
Network access charge	cents/day	25.641	26.048		
Energy at max times	cents/kWh	11.937	12.090		
Energy at mid times	cents/kWh	5.766	6.090		
Energy at economy times	cents/kWh	2.608	3.050		
020 Residential 5000 Network				0.491	6.6%
Network access charge	cents/day	47.161	47.548		
Energy for the first 60 kWh per day	cents/kWh	5.360	5.840		
Energy above 60 kWh per day	cents/kWh	6.902	7.140		
025 Residential Demand Network				N/A	N/A
Network access charge	cents/day	0.000	26.048		
Energy consumption	cents/kWh	0.000	3.660		
Peak period maximum demand	cents/kW/day	0.000	15.100		
030 Residential with Heat Pump Network				0.499	7.9%
Network access charge	cents/day	90.505	90.848		
Energy for the first 165 kWh per day	cents/kWh	3.888	4.380		
Energy above 165 kWh per day	cents/kWh	6.902	7.140		
060 Off-Peak (1) Night Network				0.112	6.0%
Energy consumption	cents/kWh	1.878	1.990		
070 Off-Peak (3) Day & Night Network				0.219	7.9%
Energy consumption	cents/kWh	2.771	2.990		
Renewable Energy Generation				0.000	0.0%
Gross metered energy	cents/kWh	0.000	0.000		
COMMERCIAL LOW VOLTAGE TARIFFS					
040 General Network				0.198	1.7%
Network access charge	cents/day	47.039	47.690		
Energy for the first 330 kWh per day	cents/kWh	10.729	10.890		
Energy above 330 kWh per day	cents/kWh	13.957	14.490		
135 Small Unmetered Loads Network				0.347	3.0%
Network access charge	cents/day	38.269	38.800		
Energy consumption	cents/kWh	11.207	11.551		
080 Streetlighting Network				0.471	6.4%
Network access charge	cents/day	47.536	47.990		
Energy consumption	cents/kWh	7.319	7.790		
090 General TOU Network				0.146	1.5%
Network access charge	cents/day	47.039	47.690		
Energy at business times	cents/kWh	16.962	16.390		
Energy at evening times	cents/kWh	8.323	8.280		
Energy at off-peak times	cents/kWh	3.441	4.280		
Low voltage time of use demand network					
101 LV TOU kVA Demand Network				0.084	1.1%
Network access per connection point	cents/day	51.059	52.907		

Maximum demand charge	c/KVA/day	42.329	42.300		
Energy at business times	cents/kWh	6.527	6.160		
Energy at evening times	cents/kWh	3.482	3.190		
Energy at off-peak times	cents/kWh	1.563	2.190		
103 LV TOU Capacity Network				0.156	2.5%
Network access per connection point	cents/day	51.059	52.907		
Maximum demand charge	c/KVA/day	19.794	19.800		
Capacity charge	c/KVA/day	19.794	19.800		
Energy at business times	cents/kWh	6.527	6.160		
Energy at evening times	cents/kWh	3.481	3.190		
Energy at off-peak times	cents/kWh	1.563	2.190		
106 LV Demand Network				N/A	N/A
Network access charge	cents/day	0.000	47.690		
Energy consumption	cents/kWh	0.000	4.540		
Peak period maximum demand	cents/kW/day	0.000	36.700		
HIGH VOLTAGE TARIFFS					
High voltage time of use demand network with ActewAGL low voltage network					
111 HV TOU Demand Network				0.051	0.9%
Network access per connection point	$/day	19.287	19.600		
Maximum demand charge	c/KVA/day	16.952	14.500		
Capacity charge	c/KVA/day	16.952	14.500		
Energy at business times	cents/kWh	4.659	5.120		
Energy at evening times	cents/kWh	2.700	2.550		
Energy at off-peak times	cents/kWh	1.127	1.820		
High voltage time of use demand network without ActewAGL low voltage network					
121 HV TOU Demand Network – Customer LV				0.116	2.3%
Network access per connection point	$/day	19.287	19.600		
Maximum demand charge	c/KVA/day	16.952	14.500		
Capacity charge	c/KVA/day	16.952	14.500		
Energy at business times	cents/kWh	4.253	4.600		
Energy at evening times	cents/kWh	2.346	2.360		
Energy at off-peak times	cents/kWh	0.984	1.760		
122 HV TOU Demand Network – Customer HV and LV				0.149	3.0%
Network access per connection point	$/day	19.287	19.600		
Maximum demand charge	c/KVA/day	15.937	13.700		
Capacity charge	c/KVA/day	15.937	13.700		
Energy at business times	cents/kWh	4.253	4.600		
Energy at evening times	cents/kWh	2.345	2.360		
Energy at off-peak times	cents/kWh	0.984	1.760		

Table 3-10 reflect the changes in DUOS, TUOS and jurisdictional scheme charges in 2017/18. Average DUOS charges decrease by 2.1 per cent from 2016/17, primarily to correct for one-off events that have been sustained beyond expected timeframes and have now been amended. Average TUOS charges decreased by 50 per cent and average jurisdictional scheme charges increased by 136 per cent in 2017/18.

4 Charges for alternative control services

4.1 Ancillary services

There are two types of ancillary network services – fee based services and quoted services. Each of these are discussed below.

4.1.1 Fee based services

Charges for fee-based services are typically fixed by the AER to reflect the cost of providing the service. In accordance with the 2017/18 Undertaking, charges for fee-based services in 2017/18 have been set in accordance with the AER's Final Decision[22]. The 2017/18 charges are shown in Table 4-1 below. The 2017/18 charges are then compared to 2016/17 charges in Table 4-2.

Table 4-1 Ancillary service charges 2017/18

Code	Description	Unit	Proposed Prices excl GST 2017/18	Proposed Prices incl.GST 2017/18
Premise Re-energisation – Existing Network Connection -These charges also apply where ActewAGL responds to a customer initiated call out and determines that the premise is energised at the connection point.				
501	Re-energise premise – Business Hours	per visit	$69.52	$76.48
502	Re-energise premise – After Hours	per visit	$88.13	$96.94
Premise De-energisation – Existing Network Connection				
503	De-energise premise – Business Hours	per visit	$69.52	$76.48
505	De-energise premise for debt non-payment	per test	$139.06	$152.96
Meter installation				
507	Install single phase, single element manually read interval meter	per meter	$522.25	$574.48
508	Install subsequent single phase, single element meter - same location & visit	per meter	$330.17	$363.18
509	Install single phase, two element meter	per meter	$635.12	$698.64
511	Install subsequent single phase, two element meter - same location & visit	per meter	$443.04	$487.34
512	Install three phase meter	per meter	$764.76	$841.23
513	Install subsequent three phase meter - same location & visit	per meter	$572.66	$629.92
Meter Investigations				
504	Meter Test (Whole Current) – Business Hours	per test	$278.12	$305.93
510	Meter Test (CT/VT) – Business Hours	per test	$322.09	$354.30
Special metering services				

[22] Australian Energy Regulator, *Final Decision ActewAGL distribution Determination*, Attachment 16, Tables 16.17 and 16.22 inflated by CPI. 30 April 2015.

506	Special Meter Read	per read	$32.16	$35.37
Temporary Network Connections				
520	Temporary Builders Supply – Overhead (Business Hours) (excludes meter cost)	per installation	$624.93	$687.42
522	Temporary Builders Supply – Underground (Business Hours) (excludes meter costs)	per installation	$1,364.26	$1,500.68
New Network Connections				
523	New Underground Service Connection – Greenfield	per installation	$0.00	$0.00
526	New Overhead Service Connection – Brownfield (Business Hours)	per installation	$820.78	$902.85
527	New Underground Service Connection – Brownfield from Front	per installation	$1,364.26	$1,500.68
528	New Underground Service Connection – Brownfield from Rear	per installation	$1,364.26	$1,500.68
Network Connection Alterations and Additions				
541	Overhead Service Relocation – Single Visit (Business Hours)	per installation	$783.39	$861.73
542	Overhead Service Relocation – Two Visits (Business Hours)	per installation	$1,566.77	$1,723.45
543	Overhead Service Upgrade – Service Cable Replacement Not Required	per installation	$783.39	$861.73
544	Overhead Service Upgrade – Service Cable Replacement Required	per installation	$820.78	$902.85
545	Underground Service Upgrade – Service Cable Replacement Not Required	per installation	$1,326.88	$1,459.57
546	Underground Service Upgrade – Service Cable Replacement Required	per installation	$1,364.26	$1,500.68
547	Underground Service Relocation – Single Visit (Business Hours)	per installation	$1,364.26	$1,500.68
548	Install surface mounted point of entry (POE) box	per installation	$630.93	$694.03
Temporary De-energisation				
560	Temporary de-energisation – LV (Business Hours)	per occurrence	$417.17	$458.89
561	Temporary de-energisation – HV (Business Hours)	per occurrence	$417.17	$458.89
Supply Abolishment / Removal				
562	Supply Abolishment / Removal – Overhead (Business Hours)	per site visit	$587.55	$646.31
563	Supply Abolishment / Removal - Underground (Business Hours)	per site visit	$1,061.51	$1,167.66
Miscellaneous Customer Initiated Services				
564	Install & Remove Tiger Tails – Per Installation (Business Hours)	per installation	$1,379.74	$1,517.71
565	Install & Remove Tiger Tails - Per Span (Business Hours)	per installation	$694.57	$764.03
566	Install & Remove Warning Flags – Per Installation (Business Hours)	per installation	$1,175.08	$1,292.59
567	Install & Remove Warning Flags - Per Span (Business Hours)	per installation	$595.34	$654.88
Embedded Generation - Operational & Maintenance Fees				
568	Small Embedded Generation OPEX Fees - Connection Assets	per annum	2.00%	2.00%
569	Small Embedded Generation OPEX Fees - Shared Network Asset	per annum	2.00%	2.00%
Connection Enquiry Processing - PV Installations				
570	PV Connection Enquiry – LV Class 1 (<= 10kW Single Phase / 30kW Three Phase)	per installation	$0.00	$0.00
571	PV Connection Enquiry – LV Class 2 to 5 (> 30kW <= 1500kW Three Phase	per installation	$571.20	$628.32
572	PV Connection Enquiry – HV	per installation	$1,142.41	$1,256.65

573	Provision of information for Network technical study for large scale installations	per installation	$11,424.12	$12,566.54
Network Design & Investigation / Analysis Services - PV Installations				
574	Design & Investigation - LV Connection Class 1 PV (<= 10kW Single Phase / 30kW Three Phase)		$0.00	$0.00
575	Design & Investigation - LV Connection Class 2 PV (> 30kW and <= 60kW Three Phase)	per installation	$3,808.04	$4,188.85
576	Design & Investigation - LV Connection Class 3 PV (> 60 kW and <= 120kW Three Phase)	per installation	$5,712.05	$6,283.26
577	Design & Investigation - LV Connection Class 4 PV (> 120 kW and <= 200kW Three Phase)	per installation	$7,616.08	$8,377.69
578	Design & Investigation - LV Connection Class 5 PV (> 200kW and <= 1500kW Three Phase) – ActewAGL Network Study	per installation	$11,424.12	$12,566.54
579	Design & Investigation - HV Connection Class 5 PV (>200kW and <= 1500kW Three Phase) – Customer Network Study	per installation	$14,280.14	$15,708.16
Residential Estate Subdivision Services*				
580	URD Subdivision Electricity Distribution Network Reticulation - Multi-Unit Blocks	per block	$0.00	$0.00
581	URD Subdivision Electricity Distribution Network Reticulation - Blocks <= 650 m^2	per block	$1,721.13	$1,893.25
582	URD Subdivision Electricity Distribution Network Reticulation - Blocks 650 - 1100m^2 with average linear frontage of 22-25 meters	per block	$2,254.96	$2,480.45
Upstream Augmentation**				
585	HV Feeder	per KVA	$37.28	$41.01
586	Distribution substation	per KVA	$21.59	$23.75
Rescheduled Site Visits				
590	**Rescheduled Site Visit – One Person**	**per site visit**	$139.06	$152.96
591	**Rescheduled Site Visit – Service Team**	**per site visit**	$587.55	$646.31
Trenching charges				
592	Trenching - first 2 meters	per visit	$533.33	$586.67
593	Trenching - subsequent meters	per meter	$124.03	$136.43
Boring charges				
594	Under footpath	per occurrence	$967.44	$1,064.19
595	Under driveway	per occurrence	$1,153.49	$1,268.84

* The above 2017/18 prices have been calculated by applying CPI of 1.28% and the appropriate X factor (below) to 2016/17 prices.

Codes 507-513 use an X factor of -0.73, as per Table 16.23 of AER Final Decision (April 2015).

All other ancillary codes use an X factor of -1.22, as per Table 16.19 of AER Final Decision (April 2015).

Codes 580-582 and 585-586 relate to standard control services, not alternative control services, and are therefore not included in the AER's table of charges for ancillary network services (classified as alternative control services) in the Final Decision (i.e. Table 16.17). In the 2015/16 pricing proposal, these charges were included in this list for completeness. For the 2015/16 pricing proposal, these charges were calculated in accordance with ActewAGL Distribution's Connection Policy 2015-19, approved by the AER in the Final Decision. For 2016/17, these charges were increased by CPI only, and in 2017/18 these charges have again been increased by CPI only, as per the Enforceable Undertaking given by ActewAGL Distribution and accepted by the AER.

Table 4-2 Changes to ancillary services charges

Code	Service	Unit	Prices excl. GST 2016/17	Prices excl. GST 2017/18	Change (%)
Premise Re-energisation – Existing Network Connection -These charges also apply where ActewAGL responds to a customer initiated call out and determines that the premise is energised at the connection point.					
501	Re-energise premise – Business Hours	per visit	$67.82	$69.52	2.5%
502	Re-energise premise – After Hours	per visit	$85.97	$88.13	2.5%
Premise De-energisation – Existing Network Connection					
503	De-energise premise – Business Hours	per visit	$67.82	$69.52	2.5%
505	De-energise premise for debt non-payment	per test	$135.65	$139.06	2.5%
Meter Reconfiguration					
507	Install single phase, single element manually read interval meter	per meter	$511.93	$522.25	2.0%
508	Install subsequent single phase, single element meter - same location & visit	per meter	$323.64	$330.17	2.0%
509	Install single phase, two element meter	per meter	$622.57	$635.12	2.0%
511	Install subsequent single phase, two element meter - same location & visit	per meter	$434.28	$443.04	2.0%
512	Install three phase meter	per meter	$749.64	$764.76	2.0%
513	Install subsequent three phase meter - same location & visit	per meter	$561.34	$572.66	2.0%
Meter Investigations					
504	Meter Test (Whole Current) – Business Hours	per test	$271.30	$278.12	2.5%
510	Meter Test (CT/VT) – Business Hours	per test	$314.20	$322.09	2.5%
Special metering services					
506	Special Meter Read	per read	$31.37	$32.16	2.5%
Temporary Network Connections					
520	Temporary Builders Supply – Overhead (Business Hours) (excludes meter cost)	per installation	$609.61	$624.93	2.5%
522	Temporary Builders Supply – Underground (Business Hours) (excludes meter costs)	per installation	$1,330.82	$1,364.26	2.5%
New Network Connections					
523	New Underground Service Connection – Greenfield	per installation	$0.00	$0.00	
526	New Overhead Service Connection – Brownfield (Business Hours)	per installation	$800.66	$820.78	2.5%
527	New Underground Service Connection – Brownfield from Front	per installation	$1,330.82	$1,364.26	2.5%
528	New Underground Service Connection – Brownfield from Rear	per installation	$1,330.82	$1,364.26	2.5%
Network Connection Alterations and Additions					
541	Overhead Service Relocation – Single Visit (Business Hours)	per installation	$764.19	$783.39	2.5%
542	Overhead Service Relocation – Two Visits (Business Hours)	per installation	$1,528.37	$1,566.77	2.5%
543	Overhead Service Upgrade – Service Cable Replacement Not Required	per installation	$764.19	$783.39	2.5%
544	Overhead Service Upgrade – Service Cable Replacement Required	per installation	$800.66	$820.78	2.5%
545	Underground Service Upgrade – Service Cable Replacement Not Required	per installation	$1,294.36	$1,326.88	2.5%

546	Underground Service Upgrade – Service Cable Replacement Required	per installation	$1,330.82	$1,364.26	2.5%
547	Underground Service Relocation – Single Visit (Business Hours)	per installation	$1,330.82	$1,364.26	2.5%
548	Install surface mounted point of entry (POE) box	per installation	$615.47	$630.93	2.5%
Temporary De-energisation					
560	Temporary de-energisation – LV (Business Hours)	per occurrence	$406.95	$417.17	2.5%
561	Temporary de-energisation – HV (Business Hours)	per occurrence	$406.95	$417.17	2.5%
Supply Abolishment / Removal					
562	Supply Abolishment / Removal – Overhead (Business Hours)	per site visit	$573.15	$587.55	2.5%
563	Supply Abolishment / Removal - Underground (Business Hours)	per site visit	$1,035.49	$1,061.51	2.5%
Miscellaneous Customer Initiated Services					
564	Install & Remove Tiger Tails – Per Installation (Business Hours)	per installation	$1,345.92	$1,379.74	2.5%
565	Install & Remove Tiger Tails - Per Span (Business Hours)	per installation	$677.55	$694.57	2.5%
566	Install & Remove Warning Flags – Per Installation (Business Hours)	per installation	$1,146.28	$1,175.08	2.5%
567	Install & Remove Warning Flags - Per Span (Business Hours)	per installation	$580.75	$595.34	2.5%
Embedded Generation - Operational & Maintenance Fees					
568	Small Embedded Generation OPEX Fees - Connection Assets	per annum	2%	2%	0.0%
569	Small Embedded Generation OPEX Fees - Shared Network Asset	per annum	2%	2%	0.0%
Connection Enquiry Processing - PV Installations					
570	PV Connection Enquiry – LV Class 1 (<= 10kW Single Phase / 30kW Three Phase)	per installation	$0.00	$0.00	
571	PV Connection Enquiry – LV Class 2 to 5 (> 30kW <= 1500kW Three Phase	per installation	$557.20	$571.20	2.5%
572	PV Connection Enquiry – HV	per installation	$1,114.41	$1,142.41	2.5%
573	Provision of information for Network technical study for large scale installations	per installation	$11,144.12	$11,424.12	2.5%
Network Design & Investigation / Analysis Services - PV Installations					
574	Design & Investigation - LV Connection Class 1 PV (<= 10kW Single Phase / 30kW Three Phase)	0	$0.00	$0.00	
575	Design & Investigation - LV Connection Class 2 PV (> 30kW and <= 60kW Three Phase)	per installation	$3,714.71	$3,808.04	2.5%
576	Design & Investigation - LV Connection Class 3 PV (> 60 kW and <= 120kW Three Phase)	per installation	$5,572.05	$5,712.05	2.5%
577	Design & Investigation - LV Connection Class 4 PV (> 120 kW and <= 200kW Three Phase)	per installation	$7,429.41	$7,616.08	2.5%
578	Design & Investigation - LV Connection Class 5 PV (> 200kW and <= 1500kW Three Phase) – ActewAGL Network Study	per installation	$11,144.12	$11,424.12	2.5%
579	Design & Investigation - HV Connection Class 5 PV (>200kW and <= 1500kW Three Phase) – Customer Network Study	per installation	$13,930.14	$14,280.14	2.5%
Residential Estate Subdivision Services*					
580	URD Subdivision Electricity Distribution Network Reticulation - Multi-Unit Blocks	per block	$0.00	$0.00	
581	URD Subdivision Electricity Distribution Network Reticulation - Blocks <= 650 m2	per block	$1,678.95	$1,721.13	2.5%

582	URD Subdivision Electricity Distribution Network Reticulation - Blocks 650 - 1100m2 with average linear frontage of 22-25 meters	per block	$2,199.69	$2,254.96	2.5%
Upstream Augmentation**					
585	HV Feeder	per KVA	$36.37	$37.28	2.5%
586	Distribution substation	per KVA	$21.06	$21.59	2.5%
Rescheduled Site Visits					
590	Rescheduled Site Visit – One Person	per site visit	$135.65	$139.06	2.5%
591	Rescheduled Site Visit – Service Team	per site visit	$573.15	$587.55	2.5%
Trenching charges					
592	Trenching - first 2 meters	per visit	$520.26	$533.33	2.5%
593	Trenching - subsequent meters	per meter	$120.99	$124.03	2.5%
Boring charges					
594	Under footpath	per occurrence	$943.73	$967.44	2.5%
595	Under driveway	per occurrence	$1,125.22	$1,153.49	2.5%

*These charges were not included in the AER's schedule of ancillary services in the Final Decision. However they are included here for completeness (they were also included in ActewAGL Distribution's subsequent and revised regulatory proposals). The charges are calculated in accordance with ActewAGL Distribution's *Connection Policy 2015-19,* approved by the AER in the Final Decision. The per block prices have been updated by CPI.

4.1.2 Quoted services

Charges for quoted services are based on the estimated time taken to perform the service. The quoted services formula is as follows.

Price = Labour + Contractor Services + Materials + Other Costs + Risk Margin[23]

The labour component is based on the Final Decision maximum raw labour rates[24] and escalated by $(1-X_t)(1+\Delta CPI_t)$. For 2016/17, the X factor of -1.13 and ΔCPI of 1.51 per cent is applied to the 2015/16 rates. For 2017/18, the X factor is -1.22 per cent (as per the AER Final Decision) and the ΔCPI is 1.28 per cent is applied to the 2016/17 rates. The 2017/18 rates are set out in the table below.

Table 4-3 Maximum Allowable Labour Rates (including on costs and overheads)

Labour category	Corresponding ActewAGL labour categories	AER maximum allowable 2015/16 hourly total labour rates ($2014-15)	2016/17	2017/18
Electrical worker	Technical	142.81	146.60	150.29
Electrical worker - labourer	Field worker	133.79	137.34	140.79
Electrical Apprentice	Field worker	133.79	137.34	140.79
Office support service delivery	Administration	89.06	91.42	93.72
Project officer design section	Engineer	177.52	182.23	186.81
Senior technical officer / engineer design section	Senior engineer	210.96	216.56	222.00

Source for 2015/16: AER, Final Decision, Attachment 16, Table 16.5

[23] AER, Final Decision, Attachment 16, Figure 16.2, April 2015
[24] AER, Final Decision, Attachment 16, Table 16.5, April 2015

The components of the quoted services formula are set out on pages 16-9 and 16-10 of the AER's Final Decision. Each component is summarised below.

- Labour component – includes labour costs (including on costs and overheads) incurred when providing the quoted service.
- Contractor services – includes all costs (including overheads) associated with external labour used in the provision of the quoted service.
- Materials – includes the cost of materials incurred (including overheads) in providing the quoted service.
- Other costs – includes costs that arise due to special requirements of the quoted service job, or services provided as per AAD's approved Connection Policy.
- Risk Margin – includes a margin to reflect the risk associated with the quoted service job.

With the Metering Rule Change taking effect during 2017/18 (1 December 2017), there are expected to be additional ancillary services required by customers. AAD proposes to treat these additional ancillary services as quoted services during this regulatory period. This is because the nature and cost associated with these new services is uncertain at the time of submitting this 2017/18 Annual Pricing Proposal. As these details become clearer after 1 December 2017, AAD may propose to classify these services as fee-based services in the next regulatory control period (2019/20- 2023/24).

4.2 The structure and basis of ActewAGL Distribution's metering charges

There are two types of metering service charges (as per the AER's Final Decision).

- Upfront capital charge (for all new and upgraded meters installed from 1 July 2015); and
- Annual charge comprising of two components:
    - capital —metering asset base recovery; and
    - non-capital —operating expenditure and tax.

For existing regulated meters installed before 30 June 2015, AAD has paid upfront for the capital costs of the meters which were then added to the asset base and recovered gradually, over the life of the meter, through annual charges. These customers (with a regulated type 5 or 6 meter), will continue to pay the following charges.

- Capital component of regulated annual metering charge
- Non-capital component of the regulated annual metering charge

To facilitate these metering arrangements, AAD includes the metering capital charge in its (non-XMC) network tariffs.

For regulated new meter connections installed after 1 July 2015, the capital costs are paid upfront by the customer. Therefore, they pay only the non-capital component of the regulated

annual metering charge. These customers are assigned to a network tariff that excludes metering capital charges (XMC tariffs). These XMC tariffs ensure that AAD and Retailers are be able to clearly identify, through the network billing system, which customers have paid for their meters and are therefore not liable for the metering capital charge.

The unmetered loads do not have an XMC tariff because AAD has not connected meters to these loads. Also, the off-peak network tariffs do not have an equivalent XMC tariff because the metering costs are associated with the customer's substantive tariff, not the supplementary off-peak tariff. Furthermore, there are no high voltage XMC network tariffs, because high voltage network tariffs exclude metering charges as AAD has not provided manually read meters to these customers since they have been required to use remotely read (types 1- 4) meters. The application of the charges is summarised in the table below.

TYPE OF CUSTOMER	Pays ActewAGL metering capital charge	Eligible for XMC tariffs	Pays ActewAGL metering non-capital charges
Existing connection at 30 June 2015, ActewAGL provides metering service.	Yes	No	Yes
Existing connection at 30 June 2015, switches to another metering provider.	Yes	No	No
Existing connection at 30 June 2015, pays for new meter for PV system, ActewAGL provides metering service.	Yes	No	Yes
Existing connection at 30 June 2015 pays for new meter for PV system, later switches to another metering provider.	Yes	No	No
New connection (from 1 July 2015) pays for new meter, ActewAGL provides metering service.	No	Yes	Yes
New connection (from 1 July 2015) pays for new meter, switches to another metering provider.	No	Yes	No

From 1 December 2017, the Metering Rule Change comes into effect, and a customer with an existing regulated metering connection on their premises may choose to switch to a competitive advanced metering service. When a customer switches to a type 4 meter after 1 December 2017, they stop paying the non-capital component of the regulated annual metering charge (assuming they are not receiving ongoing meter operating and maintenance services from AAD). However, a customer with a regulated type 5 or 6 meter installed before 1 July 2015 will continue to pay to AAD the capital component of the regulated annual metering charge (as per the AER's Final Decision, which states that these customers must continue to make a contribution to recovery of the value of the existing meter asset base).

As explained in sections 4.3 and 4.4 below, the capital and non-capital metering charges in 2017/18 are 1.28 per cent higher than metering charges in 2016/17, reflecting an increase by CPI.

4.3 Metering non-capital charges for 2017/18

The AER set caps for the annual metering non-capital charges in its Final Decision[25]. These 2015/16 charges were escalated by CPI (1.51 per cent) in 2016/17 and have been again escalated by CPI (1.28 per cent) for 2017/18. Table 4-4 presents the proposed metering non-capital charges for 2017/18.

Table 4-4 Metering non-capital charges, 2017/18

Code	Description	Unit	Excluding GST 2017/18	Including GST 2017/18
MP1	**Quarterly basic metering rate**	-		
	Accumulation and time-of-use meters read quarterly	cents per day per NMI *	3.810	4.191
MP2	**Monthly basic metering rate**	-		
	Accumulation and time-of-use meters read monthly	cents per day per NMI	6.670	7.337
MP3	**Time-of-use metering rate**	-		
	Time-of-use meters read monthly	cents per day per NMI	6.670	7.337
MP4	**Monthly manually-read interval metering rate**			
	Interval meters recording at either 15- or 30-minute intervals, read manually and processed monthly	cents per day per NMI	54.000	59.400
MP6	**Quarterly manually-read interval metering rate**			
	Interval meters recording at either 15- or 30-minute intervals, read manually and processed quarterly	cents per day per NMI	15.370	16.907

*National Meter Identifier

The up-front charges for meters for 2017/18 are included in Table 4-1 (codes 507-513).

4.4 Metering capital charges for 2017/18

The metering capital charges are shown below in Table 4-5 and were added to the network charges in Table 3-9. These charges were escalated by CPI (1.51 per cent) in 2016/17 and have been again escalated by CPI (1.28 per cent) for 2017/18.

[25] AER Final Decision, Attachment 16, (p16-61)

Table 4-5 Metering capital charges, 2017/18

Code	Description	Unit	Excluding GST 2017/18	Including GST 2017/18
MP7	**Quarterly basic metering rate**			
	Accumulation and time-of-use meters read quarterly	cents per day per NMI *	7.742	8.516
MP8	**Monthly basic metering rate**			
	Accumulation and time-of-use meters read monthly	cents per day per NMI	13.540	14.894
MP9	**Time-of-use metering rate**			
	Time-of-use meters read monthly	cents per day per NMI	13.540	14.894
MP10	**Monthly manually-read interval metering rate**			
	Interval meters recording at either 15- or 30-minute intervals, read manually and processed monthly	cents per day per NMI	109.281	120.209
MP11	**Monthly manually-read interval metering rate**			
	Interval meters recording at either 15- or 30-minute intervals, read manually and processed monthly	cents per day per NMI	31.180	34.298

*National Meter Identifier

5 Indicative customer impacts

5.1 Changes in network and metering charges

Table 5-1 shows network charges (DUOS, TUOS, jurisdictional schemes and metering capital) plus metering non-capital charges for 2017/18 and the comparable charges for 2016/17, excluding GST.

High voltage charges do not include metering charges as metering services to customers consuming more than 160 MWh per annum are open to competition and not regulated.

Table 5-1 Network and metering charges 2017/18

Description	Unit	Network& metering charges 2016/17	Network& metering charges 2017/18	Average Change c/kWh	Average Change %
RESIDENTIAL TARIFFS					
010 Residential Basic Network				0.270	3.0%
Network access charge	cents/day	37.051	37.600		
Energy consumption	cents/kWh	6.902	7.140		
015 Residential TOU Network				0.345	3.8%
Network access charge	cents/day	37.051	37.600		
Energy at max times	cents/kWh	11.937	12.090		
Energy at mid times	cents/kWh	5.766	6.090		
Energy at economy times	cents/kWh	2.608	3.050		
020 Residential 5000 Network				0.497	6.2%
Network access charge	cents/day	58.571	59.100		
Energy for the first 60 kWh per day	cents/kWh	5.360	5.840		
Energy above 60 kWh per day	cents/kWh	6.902	7.140		
025 Residential Demand Network				N/A	N/A
Network access charge	cents/day	0.000	37.600		
Energy consumption	cents/kWh	0.000	3.660		
Peak period maximum demand	cents/kW/day	0.000	15.100		
030 Residential with Heat Pump Network				0.503	7.6%
Network access charge	cents/day	101.915	102.400		
Energy for the first 165 kWh per day	cents/kWh	3.888	4.380		
Energy above 165 kWh per day	cents/kWh	6.902	7.140		
060 Off-Peak (1) Night Network				0.112	6.0%
Energy consumption	cents/kWh	1.878	1.990		
070 Off-Peak (3) Day & Night Network				0.219	7.9%
Energy consumption	cents/kWh	2.771	2.990		
Renewable Energy Generation					
Gross metered energy	cents/kWh	0.000	0.000	0.000	
COMMERCIAL LOW VOLTAGE TARIFFS					
040 General Network				0.202	1.7%

Network access charge	cents/day	66.996	67.900		
Energy for the first 330 kWh per day	cents/kWh	10.729	10.890		
Energy above 330 kWh per day	cents/kWh	13.957	14.490		
135 Small Unmetered Loads Network				0.347	3.0%
Network access charge	cents/day	38.269	38.800		
Energy consumption	cents/kWh	11.207	11.551		
080 Streetlighting Network				0.471	6.4%
Network access charge	cents/day	60.905	61.530		
Energy consumption	cents/kWh	7.319	7.790		
090 General TOU Network				0.147	1.5%
Network access charge	cents/day	66.996	67.900		
Energy at business times	cents/kWh	16.962	16.390		
Energy at evening times	cents/kWh	8.323	8.280		
Energy at off-peak times	cents/kWh	3.441	4.280		
Low voltage time of use demand network					
101 LV TOU kVA Demand Network				0.086	1.1%
Network access per connection point	cents/day	159.494	162.728		
Maximum demand charge	c/KVA/day	42.329	42.300		
Energy at business times	cents/kWh	6.527	6.160		
Energy at evening times	cents/kWh	3.482	3.190		
Energy at off-peak times	cents/kWh	1.563	2.190		
103 LV TOU Capacity Network				0.156	2.4%
Network access per connection point	cents/day	159.494	162.728		
Maximum demand charge	c/KVA/day	19.794	19.800		
Capacity charge	c/KVA/day	19.794	19.800		
Energy at business times	cents/kWh	6.527	6.160		
Energy at evening times	cents/kWh	3.481	3.190		
Energy at off-peak times	cents/kWh	1.563	2.190		
106 LV Demand Network				N/A	N/A
Network access charge		0.000	67.900		
Energy consumption	cents/kWh	0.000	4.540		
Peak period maximum demand	cents/kW/day	0.000	36.700		
HIGH VOLTAGE TARIFFS					
High voltage time of use demand network with ActewAGL LV network					
111 HV TOU Demand Network				0.051	0.9%
Network access per connection point	$/day	19.287	19.600		
Maximum demand charge	c/KVA/day	16.952	14.500		
Capacity charge	c/KVA/day	16.952	14.500		
Energy at business times	cents/kWh	4.659	5.120		
Energy at evening times	cents/kWh	2.700	2.550		
Energy at off-peak times	cents/kWh	1.127	1.820		
High voltage time of use demand network without ActewAGL LV network					
121 HV TOU Demand Network – Customer LV				0.116	2.3%
Network access per connection point	$/day	19.287	19.600		
Maximum demand charge	c/KVA/day	16.952	14.500		
Capacity charge	c/KVA/day	16.952	14.500		
Energy at business times	cents/kWh	4.253	4.600		
Energy at evening times	cents/kWh	2.346	2.360		
Energy at off-peak times	cents/kWh	0.984	1.760		

122 HV TOU Demand Network – Customer HV and LV				0.149	3.0%
Network access per connection point	$/day	19.287	19.600		
Maximum demand charge	c/KVA/day	15.937	13.700		
Capacity charge	c/KVA/day	15.937	13.700		
Energy at business times	cents/kWh	4.253	4.600		
Energy at evening times	cents/kWh	2.345	2.360		
Energy at off-peak times	cents/kWh	0.984	1.760		

5.2 Estimated impacts on average customer electricity network bills

The proposed 2017/18 increase in network and metering charges would increase the electricity network bill for an average residential customer consuming 7,000 kWh on the Residential Basic network tariff by $0.39 per week (including GST), a real increase of 1.7 per cent (3.0 per cent nominal).

For a commercial customer consuming 30 MWh per annum on the General network tariff, the network and metering charges would increase their electricity network bill by $1.09 per week (including GST) implying an increase of 0.2 per cent in real terms (1.5 per cent nominal increase).

5.3 Review of the basis on which a retail customer is charged

In its Final Decision[26], the AER required that:

> *Where the charging parameters for a particular tariff result in a basis of charge varying according to the retail customer's usage or load profile, ActewAGL must set out in its annual pricing proposal a method by which it will review and assess the basis on which a retail customer is charged.*

ActewAGL Distribution does not have any tariffs in which the basis of the charge varies according to the retail customer's usage or load profile. Even the streetlight tariff, which applies only to usage for public lighting loads that operate at night, and not to public lighting in tunnels, etc, the basis of the charge does not vary with usage, or its load profile. Therefore, there is no need for ActewAGL Distribution to propose any method to review the basis on which a retail customer is charged.

[26] Final Decision, Attachment 14 (p14.25)

6 Indicative Pricing Schedule

In accordance with Clause 6.18.2 (8) (d) of the Rules, Table 6-1 below shows the updated 2017/18 NUOS prices and indicative price levels for 2018/19 (the remaining year in this regulatory period).

Given the uncertainty surrounding the basis of 2018/19 NUOS prices, indicative 2018/19 prices are based on a CPI escalation of 2017/18 prices. The CPI used to calculate the 2018/19 indicative NUOS prices are based on the CPI contained in the post tax revenue model (PTRM) from the AER's Final Decision, at 2.38 per cent.

Table 6-1 Actual (2017/18) and indicative (2018/19) network and metering charges (excl. GST)

Description	Unit	2017/18 Actual	2018/19 Indicative	change
Residential Basic Network				
Network access charge	cents/day	34	35	1
Energy consumption	cents/kWh	7	7	0
Residential TOU Network				
Network access charge	cents/day	34	35	1
Energy consumption at max times	cents/kWh	12	12	0
Energy consumption at mid times	cents/kWh	6	6	0
Energy consumption at economy times	cents/kWh	3	3	0
Residential 5000 Network				
Network access charge	cents/day	55	57	1
Energy consumption for the first 60 kWh per day	cents/kWh	6	6	0
Energy consumption above 60 kWh per day	cents/kWh	7	7	0
Residential Demand Network				
Network access charge	cents/kWh	34	35	1
Energy consumption	cents/kWh	4	4	0
Peak period maximum demand	cents/kWh	15	15	0
Residential with Heat Pump Network				
Network access charge	cents/day	99	101	2
Energy consumption for the first 165 kWh per day	cents/kWh	4	4	0
Energy consumption above 165 kWh per day	cents/kWh	7	7	0
General Network				
Network access charge	cents/day	61	63	1
Energy consumption for the first 330 kWh per day	cents/kWh	11	11	0
Energy consumption above 330 kWh per day	cents/kWh	14	15	0
Small Unmetered Loads Network				
Network access charge	cents/day	39	40	1
Energy consumption	cents/kWh	12	12	0
Off-Peak (1) Night Network				
Energy consumption	cents/kWh	2	2	0
Off-Peak (3) Day & Night Network				
Energy consumption	cents/kWh	3	3	0

Streetlighting Network				
Network access charge	cents/day	62	63	1
Energy consumption	cents/kWh	8	8	0
General TOU Network				
Network access charge	cents/day	61	63	1
Energy consumption at business times	cents/kWh	16	17	0
Energy consumption at evening times	cents/kWh	8	8	0
Energy consumption at off-peak times	cents/kWh	4	4	0
LV TOU kVA Demand Network				
Network access charge per connection point	cents/day	162	166	4
Maximum demand charge	c/KVA/day	42	43	1
Energy consumption at business times	cents/kWh	6	6	0
Energy consumption at evening times	cents/kWh	3	3	0
Energy consumption at off-peak times	cents/kWh	2	2	0
LV TOU Capacity Network				
Network access charge per connection point	cents/day	162	166	4
Maximum demand charge	c/KVA/day	20	20	0
Capacity charge	c/KVA/day	20	20	0
Energy consumption at business times	cents/kWh	6	6	0
Energy consumption at evening times	cents/kWh	3	3	0
Energy consumption at off-peak times	cents/kWh	2	2	0
LV Demand Network				
Network access charge	cents/day	61	63	1
Energy consumption	cents/kWh	5	5	0
Peak period maximum demand	c/kW/day	37	38	1
HV TOU Demand Network				
Network access charge per connection point	$/day	20	20	0
Maximum demand charge	c/KVA/day	15	15	0
Capacity charge	c/KVA/day	15	15	0
Energy consumption at business times	cents/kWh	5	5	0
Energy consumption at evening times	cents/kWh	3	3	0
Energy consumption at off-peak times	cents/kWh	2	2	0
HV TOU Demand Network – Customer LV				
Network access charge per connection point	$/day	20	20	0
Maximum demand charge	c/KVA/day	15	15	0
Capacity charge	c/KVA/day	15	15	0
Energy consumption at business times	cents/kWh	5	5	0
Energy consumption at evening times	cents/kWh	2	2	0
Energy consumption at off-peak times	cents/kWh	2	2	0
HV TOU Demand Network – Customer HV and LV				
Network access charge per connection point	$/day	20	20	0
Maximum demand charge	c/KVA/day	14	14	0
Capacity charge	c/KVA/day	14	14	0
Energy consumption at business times	cents/kWh	5	5	0
Energy consumption at evening times	cents/kWh	2	2	0
Energy consumption at off-peak times	cents/kWh	2	2	0

7 Variation in Pricing Schedule

In accordance with Clause 6.18.2 (7A) of the Rules, Table 7-1 below compares the indicative NUOS charges published in the first TSS to the final 2017/18 NUOS charges. This variation is due to a range of factors including the following.

- Final 2017/18 NUOS prices are set according to the Undertaking, whereas the indicative prices were set according to the Final Decision.
- Final 2017/18 prices are based on up-to-date information about Jurisdictional scheme and TUOS costs, whereas indicative prices were based on earlier data.
- Final 2017/18 prices take into account updated CPI, rather than forecast CPI.

For the new demand tariffs, the table shows that the fixed charges in 2017/18 will be very similar to the indicative fixed charges, while the final energy and demand charges will be lower than the indicative charges. This change in the variable charges has occurred due to the analysis undertaken using a larger and more representative sample of demand data. The use of this data has resulted in a more accurate estimate of customers' consumption and demand profiles which has been used to set final 2017/18 prices.

Table 7-1 Actual and indicative 2017/18 network and metering charges (excl. GST)

			Indicative (TSS)	Final	Difference
010	**Residential Basic Network**				
	Network access charge	cents/day	34	34	0
	Energy consumption	cents/kWh	9	7	-2
015	**Residential TOU Network**				
	Network access charge	cents/day	34	34	0
	Energy consumption at max times	cents/kWh	14	12	-2
	Energy consumption at mid times	cents/kWh	7	6	-1
	Energy consumption at economy times	cents/kWh	4	3	-1
020	**Residential 5000 Network**				
	Network access charge	cents/day	56	55	-1
	Energy consumption for the first 60 kWh per day	cents/kWh	7	6	-1
	Energy consumption above 60 kWh per day	cents/kWh	9	7	-2
025	**Residential Demand Network**				
	Network access charge	cents/kWh	34	34	0
	Energy consumption	cents/kWh	6	4	-2
	Peak period maximum demand	cents/kWh	19	15	-4
030	**Residential with Heat Pump Network**				
	Network access charge	cents/day	99	99	0
	Energy consumption for the first 165 kWh per day	cents/kWh	6	4	-2
	Energy consumption above 165 kWh per day	cents/kWh	9	7	-2
040	**General Network**				
	Network access charge	cents/day	62	61	-1
	Energy consumption for the first 330 kWh per day	cents/kWh	11	11	0

	Energy consumption above 330 kWh per day	cents/kWh	14	14	0
135	**Small Unmetered Loads Network**				
	Network access charge	cents/day	39	39	0
	Energy consumption	cents/kWh	12	12	0
060	**Off-Peak (1) Night Network**				
	Energy consumption	cents/kWh	3	2	-1
070	**Off-Peak (3) Day & Night Network**				
	Energy consumption	cents/kWh	4	3	-1
080	**Streetlighting Network**				
	Network access charge	cents/day	62	62	0
	Energy consumption	cents/kWh	9	8	-1
090	**General TOU Network**				
	Network access charge	cents/day	62	61	-1
	Energy consumption at business times	cents/kWh	18	16	-2
	Energy consumption at evening times	cents/kWh	9	8	-1
	Energy consumption at off-peak times	cents/kWh	4	4	0
Low voltage time of use demand network					
101	**LV TOU kVA Demand Network**				
	Network access charge per connection point	cents/day	172	162	-10
	Maximum demand charge	c/KVA/day	39	42	3
	Energy consumption at business times	cents/kWh	8	6	-2
	Energy consumption at evening times	cents/kWh	5	3	-2
	Energy consumption at off-peak times	cents/kWh	2	2	0
103	**LV TOU Capacity Network**				
	Network access charge per connection point	cents/day	172	162	-10
	Maximum demand charge	c/KVA/day	18	20	2
	Capacity charge	c/KVA/day	18	20	2
	Energy consumption at business times	cents/kWh	8	6	-2
	Energy consumption at evening times	cents/kWh	5	3	-2
	Energy consumption at off-peak times	cents/kWh	2	2	0
106	**LV Demand Network**				
	Network access charge	cents/day	62	61	-1
	Energy consumption	cents/kWh	6	5	-1
	Peak period maximum demand	c/kW/day	45	37	-8
High voltage time of use demand network with ActewAGL low voltage network					
111	**HV TOU Demand Network**				
	Network access charge per connection point	$/day	20	20	0
	Maximum demand charge	c/KVA/day	16	15	-2
	Capacity charge	c/KVA/day	16	15	-2
	Energy consumption at business times	cents/kWh	7	5	-2
	Energy consumption at evening times	cents/kWh	4	3	-1
	Energy consumption at off-peak times	cents/kWh	2	2	0
High voltage time of use demand network without ActewAGL low voltage network					
121	**HV TOU Demand Network – Customer LV**				
	Network access charge per connection point	$/day	20	20	0
	Maximum demand charge	c/KVA/day	16	15	-2
	Capacity charge	c/KVA/day	16	15	-2
	Energy consumption at business times	cents/kWh	7	5	-2
	Energy consumption at evening times	cents/kWh	4	2	-2

	Energy consumption at off-peak times	cents/kWh	2	2	0
122	**HV TOU Demand Network – Customer HV and LV**				
	Network access charge per connection point	$/day	20	20	0
	Maximum demand charge	c/KVA/day	15	14	-1
	Capacity charge	c/KVA/day	15	14	-1
	Energy consumption at business times	cents/kWh	6	5	-1
	Energy consumption at evening times	cents/kWh	4	2	-2
	Energy consumption at off-peak times	cents/kWh	2	2	0

Note: "Indicative" refers to the 2017/18 NUOS charges published in ActewAGL Distribution's first TSS.

"Final" refers to the final 2017/18 NUOS charges published in the 2017/18 Annual Pricing Proposal.

Attachment 1: Compliance with regulatory requirements

Table A1.1 provides a checklist of where the relevant requirements of Part I of chapter 6 of the Rules are met in this document.

One of the Rule requirements is that the pricing proposal demonstrates compliance with any applicable distribution determination (clause 6.18.2(7)). Table A1.2 provides a separate checklist of where the relevant requirements from the 2017/18 Enforceable Undertaking are addressed in this document.

Table A1.1: Checklist of Rules requirements for pricing proposals

Rules	*Requirement*	*Coverage in this document*
6.18.2 (b)	The pricing proposal must:	
	(1) set out the tariff classes that are to apply for the relevant regulatory year; and	(1) The tariff classes for standard control services are set out in Section 2.1.
	(2) set out the proposed tariffs for each tariff class; and	(2) Network tariffs are in 3-9.
	(3) set out, for each proposed tariff, the charging parameters and the elements of service to which each charging parameter relates; and	(3) Section 2.1 and Tables 2-1, 2-2 and 2-3 set out each charging parameter and the element of service to which it relates.
	(4) set out, for each tariff class related to standard control services, the expected weighted average revenue for the relevant regulatory year and also for the current regulatory year; and	(4) Table 3-4 shows the weighted average DUOS revenue for 2016/17 and 2017/18.
	(5) set out the nature of any variation or adjustment to the tariff that could occur during the course of the regulatory year and the basis on which it could occur; and	(5) ActewAGL Distribution is introducing the changes to its tariff structure and assignment policy from 1 December 2017 that were approved by the AER in AAD's revised TSS. These changes are explained in Section 2.1.1 and 2.1.2.
	(6) set out how charges incurred by the Distribution Network Service Provider for transmission use of system services are to be passed on to customers and any adjustments to tariffs resulting from over or under recovery of those charges in the previous regulatory year; (and sub-clause (6A) mirrors this for jurisdictional scheme amounts)	(6) Section 3.3 provides an explanation of how TUOS charges are passed on to customers, and ActewAGL Distribution's adjustment for over recovery of TUOS costs in 2016/17. TUOS charges are provided in Table 3-6. Section 3.4 addresses the requirements for jurisdictional scheme amounts.
	(7) demonstrate compliance with the Rules and any applicable distribution determination including the Distribution Network Service Provider's tariff structure statement for the relevant regulatory control period;	(7) Sections 2.2, 2.3 and 2.4 provide an explanation regarding the way in which 2017/18 network pricing is consistent with the Rules and the TSS.
	(7A) demonstrate how each proposed tariff is consistent with the corresponding indicative pricing levels for the relevant regulatory year as set out in the relevant pricing schedule, or explain any material differences between them; and	(7A) Section 7 demonstrates the variation between the final 2017/18 charges and the indicative 2017/18 charges set out in the first TSS.
	(8) describe the nature and extent of change from the previous regulatory year and demonstrate that the changes comply with the Rules and any applicable distribution determination.	(8) As per Clause 5.1.2.3 of the Enforceable Undertaking, Clause 6.18.2(b)(8) of the Rules does not apply.
6.18.3		
	(b) Each customer for direct control services must be a member of 1 or more tariff classes.	(b) Each customer is on one or more tariffs within one or more tariff classes.
	(c) Separate tariff classes must be constituted for customers to whom standard control services are supplied and customers to whom alternative control services are supplied (but a customer for both standard control services and alternative control services may be a member of 2 or more tariff classes).	'(c) Separate tariff classes and charges are specified for standard control services in Table 3-33-9 and alternative control services in Table 4-1.
	(d) A tariff class must be constituted with regard to:	'(d) Section 2.1 contains an explanation of

	(i) the need to group customers together on an economically efficient basis; and (ii) the need to avoid unnecessary transaction costs.	the basis of the tariff classes.
6.18.4	(a) In formulating provisions of a distribution determination governing the assignment of customers to tariff classes or the re-assignment of customers from one tariff class to another, the AER must have regard to the following principles: (1) customers should be assigned to tariff classes on the basis of one or more of the following factors: (i) the nature and extent of their usage; (ii) the nature of their connection to the network; (iii) whether remotely-read interval metering or other similar metering technology has been installed at the customer's premises as a result of a regulatory obligation or requirement; (2) customers with a similar connection and usage profile should be treated on an equal basis; (3) however, customers with micro-generation facilities should be treated no less favourably than customers without such facilities but with a similar load profile; (4) a Distribution Network Service Provider's decision to assign a customer to a particular tariff class, or to re-assign a customer from one tariff class to another should be subject to an effective system of assessment and review.	As per Clause 5.1.2.3 of the Enforceable Undertaking, Clause 6.18.4 of the Rules does not apply.
6.18.5	(a) The network pricing objective is that the tariffs that a Distribution Network Service Provider charges in respect of its provision of direct control services to a retail customer should reflect the Distribution Network Service Provider's efficient costs of providing those services to the retail customer. (b) Subject to paragraph (c), a Distribution Network Service Provider's tariffs must comply with the pricing principles set out in paragraphs (e) to (j). (c) A Distribution Network Service Provider's tariffs may vary from tariffs which would result from complying with the pricing principles set out in paragraphs (e) to (g) only: (1) to the extent permitted under paragraph (h); and (2) to the extent necessary to give effect to the pricing principles set out in paragraphs (i) to (j). (d) A Distribution Network Service Provider must comply with paragraph (b) in a manner that will contribute to the achievement of the network pricing objective. (e) For each tariff class, the revenue expected to be recovered must lie on or between: (1) an upper bound representing the stand alone cost of serving the retail customers who belong to that class; and (2) a lower bound representing the avoidable cost of not serving those retail customers. (f) Each tariff must be based on the long run marginal cost of providing the service to which it relates to the retail customers assigned to that tariff with the method of calculating such cost and the manner in which that method is applied to be	(a) Section 3.1 (b) Sections 2.3.1 to 2.3.6 show compliance with paragraph b. (c) Section 2.3 explains compliance with paragraphs (e) to (g) so this Clause doesn't apply (d) As per paragraph (b) (e) Section 2.3.2 (f) Section 2.3.1

	determined having regard to: (1) the costs and benefits associated with calculating, implementing and applying that method as proposed; (2) the additional costs likely to be associated with meeting demand from retail customers that are assigned to that tariff at times of greatest utilisation of the relevant part of the distribution network; and (3) the location of retail customers that are assigned to that tariff and the extent to which costs vary between different locations in the distribution network.	
	(g) The revenue expected to be recovered from each tariff must: (1) reflect the Distribution Network Service Provider's total efficient costs of serving the retail customers that are assigned to that tariff; (2) when summed with the revenue expected to be received from all other tariffs, permit the Distribution Network Service Provider to recover the expected revenue for the relevant services in accordance with the applicable distribution determination for the Distribution Network Service Provider; and (3) comply with sub-paragraphs (1) and (2) in a way that minimises distortions to the price signals for efficient usage that would result from tariffs that comply with the pricing principle set out in paragraph (f).	(g) Section 2.3.3
	(h) A Distribution Network Service Provider must consider the impact on retail customers of changes in tariffs from the previous regulatory year and may vary tariffs from those that comply with paragraphs (e) to (g) to the extent the Distribution Network Service Provider considers reasonably necessary having regard to: (1) the desirability for tariffs to comply with the pricing principles referred to in paragraphs (f) and (g), albeit after a reasonable period of transition (which may extend over more than one regulatory control period); (2) the extent to which retail customers can choose the tariff to which they are assigned; and (3) the extent to which retail customers are able to mitigate the impact of changes in tariffs through their usage decisions.	(h) Section 2.3.4
	(i) The structure of each tariff must be reasonably capable of being understood by retail customers that are assigned to that tariff, having regard to: (1) the type and nature of those retail customers; and (2) the information provided to, and the consultation undertaken with, those retail customers.	(i) Section 2.3.5
	(j) A tariff must comply with the Rules and all applicable regulatory instruments.	(j) Section 2.3.6
6.18.6	(a) This clause applies only to *tariff classes* related to the provision of *standard control services*. (b) The expected weighted average revenue to be raised from a *tariff class* for a particular *regulatory year* of a *regulatory control period* must not exceed the corresponding expected weighted average revenue for the preceding *regulatory year* by more than the permissible percentage.	As per Clause 5.1.2.3 of the Enforceable Undertaking, Clause 6.18.6 of the Rules does not apply.

	(c) The permissible percentage is the greater of the following: (1) the CPI-X limitation on any increase in the *Distribution Network Service Provider*'s expected weighted average revenue between the two *regulatory year*s plus 2%; Note: The calculation is of the form (1 + CPI)(1 – X)(1 + 2%) (2) CPI plus 2%. Note: The calculation is of the form (1 + CPI)(1 + 2%) (d) In deciding whether the permissible percentage has been exceeded in a particular regulatory year, the following are to be disregarded: (1) the recovery of revenue to accommodate a variation to the distribution determination under rule 6.6 or 6.13; (2) the recovery of revenue to accommodate pass through of charges for transmission use of system services to customers. (e) This clause does not, however, limit the extent a tariff for customers with remotely-read interval metering or other similar metering technology may vary according to the time or other circumstances of the customer's usage.	
6.18.7	(a) A pricing proposal must provide for tariffs designed to pass on to retail customers the designated pricing proposal charges to be incurred by the Distribution Network Service Provider for transmission use of system services. (b) The amount to be passed on to retail customers for a particular regulatory year must not exceed the estimated amount of the designated pricing proposal charges adjusted for over or under recovery in accordance with paragraph (c). (c) The over and under recovery amount must be calculated in a way that: (1) subject to subparagraphs (2) and (3) below, is consistent with the method determined by the AER in the relevant distribution determination for the Distribution Network Service Provider; (2) ensures a Distribution Network Service Provider is able to recover from retail customers no more and no less than the designated pricing proposal charges it incurs; and (3) adjusts for an appropriate cost of capital that is consistent with the allowed rate of return used in the relevant distribution determination for the relevant regulatory year. (d) Notwithstanding anything else in this clause 6.18.7, a Distribution Network Service Provider may not recover charges under this clause to the extent these are: (1) recovered through the Distribution Network Service Provider's annual revenue requirement; (2) recovered under clause 6.18.7A; or (3) recovered from another Distribution Network Service Provider.	Section 3.3 provides an explanation of how TUOS charges are passed on to customers, and ActewAGL Distribution's adjustment for over recovery of TUOS costs in 2016/17. The over and under recovery is shown in Table 3-5. TUOS charges are provided in Table 3-6.

Table A1.2: Checklist of requirements from the Enforceable Undertaking

Enforceable Undertaking requirement	*Coverage in this document*
Control mechanisms ActewAGL's tariffs for alternative control services will be calculated in accordance with the Final Determination (Clause 5.1.2.12) The AER has applied a price cap for alternative control services. For fee based services it has applied a CPI – X factor control mechanism with an X factor of zero in the first year. (p16.8) For annual metering services, the AER has determined fixed charges for each year of the regulatory period (p16.61) which are to be inflated by CPI, except for 2015/16 (p16.26). .	Chapter 4 demonstrates that an X factor of -1.13% has been applied in calculating the price caps for fee based alternative control services. Codes 5.7-513 use an X factor of -0.73. This complies with the AER's Final Decision and the Enforceable Undertaking. Also, annual metering service charges have been escalated by CPI.
Compliance with the standard control services control mechanism. ActewAGL's average revenues for standard control services must be consistent with the AARC formula in Attachment 14 of the Final Decision, (p14.13) and applied according to the Enforceable Undertaking (Clause 5.1.2.8, 5.1.2.9).	Table 3.3 demonstrates that revenue from 2017/18 prices matches allowable revenue calculated in section 3.1 and shown in Table 3.2.
Reporting on recovery of jurisdictional scheme amounts and designated pricing proposal charges Enforceable Undertaking Clause 5.1.2.11	Section 3.4